

STUDY ON TRUCKING OPERATIONS IN INDIA – PROBLEMS & POTENTIAL

**FINAL REPORT
VOLUME - II**



ASIAN INSTITUTE OF TRANSPORT DEVELOPMENT

&

CENTRAL INSTITUTE OF ROAD TRANSPORT

**PRIMARY SURVEYS
OUTPUT TABLES
AND
ANALYSIS**

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EXECUTIVE SUMMARY

Chapters 1,2&3 **Introduction, Historical Perspective and Primary Surveys**

The number of goods vehicles plying across the length and breadth of our country has increased from 1.7 lakh in 1961 to 22 lakh in 1996-97. On account of inherent advantages and the strong user's preference for road transport, its share in goods movement has increased substantially. The economy which was rail dominated has become road dominated, with the share of road transport in total freight traffic having increased from 23% in 1961 to 38% in 1971 and to about 70% at present. However, numerous problems continue to plague the industry like inadequacy of finance, dependence for business on brokers and booking agencies who are unlicensed, multiple checking of vehicles and detentions enroute, lack of wayside amenities, energy inefficiency, problems relating to insurance, legislation and regulation, viability of operations, overloading, etc. There is, therefore, an urgent need to address these problems to facilitate the development of the trucking industry.

In order to have the problems of the industry examined in depth, the Ministry of Surface Transport (MOST) commissioned Asian Institute of Transport Development (AITD) to undertake a comprehensive study on the trucking operations in India. The terms of reference of the study, in brief, were :

- (1) To study the ownership pattern of goods vehicles and viability of operations, examine the measures for formation of fleet. Also, to examine strategies for generating capacity during the next 15 years.
- (2) To examine whether the existing legislation and regulations are conducive to the growth of the industry on efficient lines.
- (3) To suggest measures for technology upgradation and promotion of multi-axle vehicles and also review measures for improving fuel efficiency.
- (4) To examine whether transport by trucks be declared an Infrastructure Industry and suggest methods for mobilisation of resources by transport agencies to finance their infrastructural and vehicular investments.
- (5) To review the existing road taxation levels and to suggest rationalisation measures.
- (6) To review fares and freight rate policies.
- (7) To study the role of brokers and agents or suppliers and to identify the need for bringing these within the purview of legislation.
- (8) To consider the provision for roadside rest areas on main highways and transport nagars on the outskirts of cities.
- (9) To review the existing liabilities of carriers of goods and whether any changes are considered necessary. Is insurance policy available to cover these liabilities?
- (10) To examine the role of road transport under the Multi-Modal Transportation

of Goods System for both imports and exports and identify steps necessary for improving its contribution to international trade.

- (11) To study institutional facilities available for human resource development in the trucking industry, such as training of drivers, conductors, booking clerks, freight forwarders, brokers, etc., and suggest measures to upgrade the training infrastructure.
- (12) To review the management information system and documentation procedures in truck transport operations and suggest measures to improve its quality.

The study was carried out by a Steering Committee under the chairmanship of Shri S. Sundar, former Secretary to the Government of India and its Sub-Committees with assistance from outside experts as required. The methodology adopted for the study included review of literature and secondary data, collection of primary data through field surveys, interviews with government officials, transport operators, drivers, etc. and review of Motor Vehicles Act.

The work of collection of primary data was carried out by the Central Institute of Road Transport (CIRT), Pune. Six regions and 16 locations on the national highways (NHs) and state highways (SHs) spread across the country connecting different cities were selected for the surveys, keeping in view the intensity of traffic. Three types of surveys were conducted :

- a) Roadside Interview Survey
- b) Vehicle Activity Survey
- c) Motor Vehicle Department Officers Survey

The detailed data collected during the surveys along with its analysis has been presented as a separate volume of the study report. The Steering Committee relied largely on the data and analysis of the survey results for its recommendations.

Chapter 4. **Legislation and Regulation**

The road transport sector, including the transport of goods, is regulated by the Motor Vehicle (MV) Act 1988. The main provisions of the MV Act and the problems encountered in implementing them have been reviewed in the following paragraphs:

A permit is required to operate a commercial vehicle. While an intra-state permit is necessary for operating a vehicle within a state, inter-state permit is required for operations between two or more states. Inter-state permits are of two types, namely, counter signature permits and permits under reciprocal agreements, and the national permits. At present, the permits are liberally issued on request. Therefore, quantity regulation which was a feature of the earlier MV Acts does not exist.

As for quality regulations, these relate to roadworthiness of vehicles (fitness certificate), competence in driving (driver licensing), control of emissions (emission norms, inspection and maintenance of vehicles, pollution under control certificates) and observance of other Central Motor Vehicle Rules (CMVR). As far as fitness test is concerned, it is

based on visual inspection system which leaves much to be desired. Similarly, the test for competence in driving is lax resulting in liberal grant of driving licences without ensuring that drivers have the requisite skills to operate heavy vehicles.

A number of measures have been taken to reduce emission caused by motor vehicles. Emission norms were first prescribed in 1992 and tightened further in 1996. However, norms have not yet been prescribed for on-road vehicles built prior to the introduction of emission norms. At present, there is no system in place for inspection, maintenance and certification of these vehicles. The Steering Committee was informed that the Technical Standing Committee constituted by the Ministry of Surface Transport (MOST) had suggested certain parameters for checking of vehicles. This requirement is yet to be incorporated in CMVRs. There are a number of factors affecting the management of pollution control, but our enforcement machinery is neither adequate nor equipped to meet this challenge.

Provisions in the MV Act and CMVRs relating to road safety, such as licensing of drivers, their training, working hours, duty to obey traffic signs; limits on speed and on axle loads; periodical certification of vehicles for fitness are not being implemented effectively. The condition of roads and vehicles, driving skills and traffic enforcement is not satisfactory. Most of the truck drivers are illiterate. Drivers drive for long periods without adequate rest. They do not receive proper training. The driver training schools are insufficient for the growing needs of the industry and the quality of training imparted by these schools is not up to the mark. The main problems relate to lack of infrastructure facilities in terms of availability of test track, driving simulators and other necessary equipment; fake educational and health certificates submitted by the applicants and lack of machinery to check the genuineness of these certificates; possibility of an applicant failing at one RTO office getting licence from another RTO; and existence of fake driving licences.

Provisions relating to the design and technology of the vehicles need to be reviewed in the context of recent technological developments. Maintenance of trucks is neglected and is entrusted to roadside mechanics who are ill-equipped and do not appreciate the importance of fuel efficiency, pollution control and safety aspects. Further, as there are no standard guidelines for building truck bodies, these are not being built according to any specifications and their designs are not vetted by any recognised agency. Road infrastructure is also not in good shape to meet the growing traffic demand.

Section 93 of the MV Act provides for the licensing *inter alia* of agent or canvasser engaged in the business of collecting, forwarding or distributing goods by trucks. It is not clear whether it covers brokers/booking agents, etc. There has lately been mushrooming of unscrupulous brokers/booking agents and there is need for covering them as well under this section.

The state governments have the power to fix fare and freight rates under the MV Act. However, there is no price regulation by the states and the freight rates are decided by the forces of demand and supply.

The MV Act empowers the Motor Vehicles departments of the states to ensure that the vehicles carry loads as per the prescribed limits. However, overloading is common. Weigh bridges are not installed on roads to detect overloading. The provision of off-loading excess weight is not implemented for want of facilities. Provision for compounding the offence of overloading is accentuating the problem.

Under the MV Act, the police have certain powers, such as detaining the vehicle without registration or permit, impounding false documents (registration certificate, licence, permit, certificate of insurance, etc.), booking persons for driving at excessive speed or driving by a person under the influence of alcohol or drugs. Presently, these powers are not being effectively exercised. Further, there is no institutional mechanism for coordination between the Transport Department and the Police Department in the states.

Motor Vehicles department is concerned with the enforcement of the provisions of the MV Act. The skills of officials deployed in the department are not being upgraded commensurate with the upgraded technology in relation to vehicles being introduced from time to time. The technology in terms of use of sophisticated computers for information or communication is conspicuous by its absence. The existing infrastructure for driver testing, fitness testing and pollution control is not adequate. The focus of the MV departments is more on collection of tax revenue than on enforcement of the provisions of the MV Act.

Due to boom in vehicle population, the workload of the MV department has been on the increase. However, the infrastructural facilities and the managerial resources available with the department are limited. There is need to prioritise the work of the MV department and also encourage private sector participation in regulatory work.

As regards insurance, several measures have been taken both by the government and the insurance industry to expedite settlement of claims, such as introduction of Section 140 (No Fault Liability) and Section 163 A (Structured Formula for Compensation), holding of Lok Adalats, etc. However, there are serious anomalies in the structured formula which need to be removed.

Frequent detention of vehicles at checkpoints is adversely affecting the viability of the trucking industry. This involves not only idling of vehicles and loss of productivity but also higher consumption of fuel.

There is multiplicity of permits for trucks operating beyond the home state. For national permits, tax for the states and union territories opted for by the vehicle operator is collected by the home state through demand drafts drawn in favour of the other states. The home state is required to send these demand drafts to the concerned authorities in other states. The present procedure does not enable the states to receive their share of tax in time.

Considering the problems of regulation mentioned above and having regard to other suggestions made by the Steering Committee requiring legislative changes, the Committee recommends that the MV Act be modified on the following lines :

- (1) Section 91 of the MV Act and the Motor Transport Workers (MTW) Act regulate the working hours of drivers. However, the MTW Act is applicable only to those motor transport undertakings where the number of employees is more than 5. Considering that small truck owners with less than five workers dominate the trucking sector, provisions regarding working hours are not applicable to a vast majority of workmen in the trucking industry. Accordingly, Section 91 of the MV Act and the MTW Act should be suitably amended to regulate the working hours of all truck drivers.
- (2) Presently, no educational qualifications are prescribed for drivers. In terms of Section 9(4) of the MV Act, a minimum educational qualification of 10th class pass for transport vehicle drivers should be prescribed in case of new applicants.
- (3) The licence for heavy motor vehicle should be issued to a person only if he has held a driving licence for light/medium motor vehicle for at least two years.
- (4) The infrastructure in terms of driver testing facilities, equipment for vehicle testing, etc. needs to be provided on priority basis.
- (5) Inspection and maintenance programme should be made mandatory for in-use vehicles to reduce pollution levels.
- (6) In the interest of road safety, laying down of specifications for body building and the accreditation of body builders has become essential as discussed in Chapter 11. Suitable legislative changes need to be made to achieve these objectives.
- (7) The intra-state permits and the counter-signature permits/permits under reciprocal agreements for inter-state operations should be dispensed with, as discussed in Chapter 8. A uniform telescopic tax formula should be introduced for inter-state permits.
- (8) Section 114 of the MV Act dealing with off-loading excess weight should be strictly enforced; Section 200 dealing with compounding fees for overloading should be abolished and penalties should be related to excess loads.
- (9) Checking on national highways should only be carried out by Government of India /NHAI and a truck should be subjected to a check only once on the way. Necessary legislative changes should be made in this regard.
- (10) Section 93 of the MV Act should be modified to include brokers/booking agents; it should also mandate their registration/accreditation.
- (11) Section 213 of the MV Act should be modified to ensure that the MV Department is staffed by skilled and qualified people.
- (12) There is need to enhance funding to the MV department to improve their

HRD, modernise their working through computerisation and create suitable infrastructure.

- (13) Lorry receipts should be made negotiable as discussed in Chapter 6.
- (14) Provision for fixing freight rates under Section 67(1) of the MV Act should be dropped since these are determined by the market forces. However, practice of truckers forming cartels and hampering competition would need to be discouraged.
- (15) It is essential to remove the anomalies in the structured formula for compensation to accident victims (Section 163A) in the interest of speedy settlement of the MV insurance claims.
- (16) The benefits of information technology should be available to the goods transport industry. The vehicles plying in the country should be provided with AVL (Automatic Vehicle Location) system or GPS (Global Positioning System) to improve road safety, coordination and control.
- (17) An independent central regulatory authority should be constituted to ensure enforcement of provisions of the MV Act and perform other functions as may be decided by the government.

Chapter 5. **Ownership Pattern and Formation of Fleet**

The small truck owners continue to dominate the sector; 77% of the truck owners surveyed owned only upto 5 trucks. Most of these owners were attracted towards the trucking industry because it was their family business and there was ease of entry and exit.

Given the ownership pattern, the industry does not enjoy the economies of scale. Owners, being small, lack the manpower and other facilities to directly deal with the consignor/consignee and save on the commission given to the intermediaries. The existing structure also makes it difficult to introduce new ideas and achieve the objectives of road safety, technology upgradation, professionalisation of management, etc. In this scenario, steps need to be taken to promote formation of fleet. For this, it is essential to review the Motor Transport Workers Act, 1961, arrange finance for working capital needs of the truck operators and provide them suitable incentives to encourage them to make viable units. The various incentives suggested by the Steering Committee for promoting fleet formation have been discussed in this chapter.

Chapter 6. **Intermediaries in the Industry**

The intermediaries, namely, the booking agents and the brokers, play an important role in facilitating business of truck operators. Section 93 provides for licensing *inter alia* of agent or canvasser engaged in the business of collecting, forwarding or distributing goods by goods carriages. Strict interpretation of the section implies that brokers, transport company, etc. are outside its purview and hence beyond regulation.

Considering that they are powerful agencies in the trucking industry, they need to be brought under the purview of legislation. To facilitate this, the following suggestions are made : (i) Law should provide for registration/accreditation of brokers and booking agents; (ii) States should lay down the condition for their registration; and (iii) A package of incentives needs to be put in place to encourage registration. Rebate in insurance premium should be given when insurance cover is arranged by registered brokers/booking agents, documents issued by them should be acceptable to the banks and they should be granted representative status to liaise with government agencies.

Chapter 7. **Fare and Freight Rate System**

Due to intense competition in the market for road goods services, freight rates are generally negotiable. There is no state at present which has fixed the freight rates. These are determined by the market forces of demand and supply and vary with physical terrain, road surface and volume of traffic in the regions, etc. The CIRT survey reveals that the truck owners do not favour administered freight rate system. It is not considered necessary to regulate freight tariffs by fixation of minimum and maximum rates. However, steps should be taken to ensure that the practice of truck owners forming cartels in important industrial locations is discouraged and competition encouraged.

Chapter 8. **Taxation**

Broadly, there are three kinds of taxes levied on road transport sector viz. union custom duty, excise duty, central sales tax (CST) levied by the central government; motor vehicle tax, passenger and goods tax, sales tax, and entry tax levied by the state governments; and octroi and tolls levied by the local bodies.

These taxes can be studied with reference to three different aspects, viz. those relating to purchase, ownership and operation of vehicles. Taxes on the purchase of vehicles include union excise duty on manufacture of motor vehicles and central sales tax on inter-state transactions levied by the central government. State governments levy a tax on sale of vehicles. Taxes during the period of ownership are usually in the form of an annual MV tax which is levied by the states under their respective Motor Vehicle Taxation Act. Some of the states also levy an entry tax on vehicles brought from other states to compensate for the difference between the sales tax in the state where the vehicle has been brought and the state where the vehicle is registered. Taxes on the operation of vehicles include union excise duty levied on motor spirit and HSD by the central government and sales tax on motor spirit and lubricants levied by the states. Value added tax (VAT) or sales tax is also levied on spares. Motorway charges or other road user tolls are also imposed by the states/centre. Octroi is yet another tax that affects the road transport sector.

The major issues concerning the taxation of motor vehicles are :

- 1) There is a multiplicity of taxes levied on road transport sector.

- 2) The existing tax structure for commercial vehicles has wide variations among the states. There are different bases for computation and different rates leading to differing incidence of taxes per vehicle in different states.
- 3) While some states levy MV tax only once in a year, other states levy this tax on a quarterly basis.
- 4) The combined burden of central and state taxes is substantial. It is about 31% in the price of the vehicle and 56.5% in the operating cost of the vehicle. It adversely affects the competitiveness of our products. No principles of taxation are followed as at present.
- 5) There are a number of barriers for collection of passenger and goods tax, sales tax and octroi. These check-posts interfere with the free flow of traffic.
- 6) Lack of uniformity in motor vehicle tax causes diversion of vehicle registrations to the states where the MV tax is low.
- 7) Octroi is still in place in some states despite recommendations for its abolition by almost every committee set up to examine road taxation in the past. The argument advanced by these states is that octroi gives access to funds on a day-to-day basis which would not be possible with an alternative like a local sales tax.
- 8) At present, there are two categories of permits for operation of commercial vehicles in more than one state, namely, counter-signature permits/permits under reciprocal agreements and national permits. The issue of counter-signature permit is time-consuming.
- 9) Vehicles covered by national permit require authorisation for three or more states apart from the home state; the operator pays the tax of the home state and deposits demand drafts in respect of the composite tax of each other state in permit-issuing transport office; the drafts are to be sent to the concerned state. However, there is usually delay in forwarding the drafts by the home state creating the problems of revalidation of drafts.

There is a long-felt need for rationalisation of motor vehicle taxation. The Steering Committee recommends the following reforms in this regard :

- 1) Uniformity in taxation is a desirable objective but it is difficult to be achieved in a federal state. Efforts should at least be made to bring in parity of tax rates among neighbouring states so that the problem of diversion of registration of vehicles from one state with higher tax rate to another state with lower tax rate is resolved. Such parity could be achieved through a system of periodical reviews and joint discussions on bilateral or regional basis.
- 2) MV tax should be made instrumental in encouraging the use of multi-axle

vehicles. Considering that MAVs are technologically advanced, fuel efficient and environmentally friendly, excise duty on MAVs may be reduced from the current level of 15.125% to 10.125%, the level which was prevalent before 1996.

- 3) The states should amalgamate various taxes like road tax, passenger tax and goods tax, etc. and levy one single composite tax. This will help in reducing cost of collection and will lead to saving of time for the vehicle owners.
- 4) At present, some state are collecting one-time MV tax on personalised vehicles. This method requires to be reviewed in the context of the proposal for introduction of an effective *Inspection and Maintenance Programme* for on-road vehicles to check emission-related aspects. In case of non-transport vehicles, inspection is required after 15 years at present. The Steering Committee, keeping in mind the need for emission control, recommends that renewal of fitness certificate for non-transport vehicles should be mandatory after 5 years and subsequently after every 3 years so that inspection is done on a regular basis at a reasonable interval of time. Accordingly, one-time tax payment will need to be modified to suit the proposed Inspection and Maintenance Programme. As regards transport vehicles, their inspection and certification of fitness should be made mandatory every year.
- 5) With regard to abolition of octroi, states should examine ways and means by which advances can be made to the local authorities to minimise the problem arising from absence of regular cash flows from octroi.
- 6) Intra-state permits should be dispensed with. Likewise, counter-signature permits/permits under reciprocal agreements should be abolished. There should be only national permits for inter-state operations. A telescopic fee structure for inter-state permits is recommended for the consideration of the states and the MOST.
- 7) The payment of composite tax for national permits should be made in an authorised bank in favour of the state concerned and it should be the duty of the bank to transfer the payment to the account of the concerned state. The details could be worked out by the states and the concerned banks.
- 8) The present high burden of tax (31% on the price of the vehicle and 56.5% on its operating cost) adversely affects the competitive position of our products and in the long term will affect the growth of trucking industry. It is suggested that this tax burden should be reduced to a reasonable level. A detailed enquiry is called for in this regard.
- 9) Considering the heavy burden of MV taxes on commercial vehicles, there is need for laying down principles for taxation to serve as guidelines to the states while deciding the tax rates.

Chapter 9. Insurance

The MV Act requires the owner of a motor vehicle or any other person using it in a public place to effect insurance against *third party risks*. The third party insurance is mandatory and the policy is called the Act Only Policy. It is optional to cover the risk of damages to the vehicle due to various perils. This is called *own damage cover*. These two policies together form the ‘comprehensive cover’. *Neither policy covers the risk to cargo carried in the insured vehicle.*

An application for compensation for damages or loss arising out of the motor vehicle accidents may be made under Section 166 of the MV Act. Compensation may be claimed under Section 140 or Section 163A. Section 140 provides for interim compensation to be paid promptly in case of death or permanent disablement arising out of accident. The amount of such compensation is Rs. 50,000/- in case of death and Rs. 25,000/- in case of permanent disablement.

Section 163A provides for payment of compensation (as indicated in the Second Schedule to the MV Act) to the legal heirs or the victim, as the case may be. There is a formula giving the mode of calculation of compensation for third party claims. But there are various anomalies in this formula which need to be removed.

It is the responsibility of the transport operator, as a carrier, to reach the cargo safely to its destination. Generally, transport operator is liable if it is proved that the transporter or his representative is at fault/negligent and/or any criminal act of his workers has caused the loss/damage to the goods carried. This causes financial hardship to the transport operators. *Carrier's Liability Insurance Policy* is available in India to cover the liability of transport operators. However, since premium rates for such insurance are high, this form of insurance has not become popular.

Other problems relate to tardy settlement of insurance claims, bogus claims, frequent increase in insurance premium rates for motor vehicles, uncertainty about claim liability of insurance companies since there is no time limit on filing of claims, etc.

The following recommendations are made to protect the interest of various parties:

- 1) Government should make it mandatory for the consignor/consignee to arrange insurance of cargo to be moved by road. With the proposed recommendation, the risk to the carrier would be reduced and as such it should be possible to reduce the premium for Carrier's Liability Insurance Policy.
- 2) Suggestions for speedy settlement of insurance claims include (i) creating awareness about claim procedures by the insurance industry, (ii) placing time limit on filing of claims and restricting the jurisdiction for filing the claims to the place of accident or place where claimant/defendant resides. This will remove the uncertainty about claims liability of the insurance companies, and

(iii) enforcing the provision under Section 158 in terms of which police is required to collect all records before releasing the vehicle and forward the same to the insurer. Besides, it is necessary to modify the Structured Formula and extend the facilities to claimants with annual incomes more than Rs. 40,000 so that a majority of the claimants make use of this provision.

- 3) At present, GIC with its four subsidiaries holds the monopoly of general insurance business. Government is now opening up the insurance sector. In the interest of encouraging competition, efficient customer service and promptness, government should consider reviving insurance cooperative societies formed by truck owners or members of the industry. This will minimise the possibility of bogus claims and reduce the ratio of incurred claim to premium received. As a result, the need for frequent increase in premium rates will not arise.

Chapter10 **Financing**

Finance was a major problem faced by the goods transport industry till the early 1970s. Flow of funds to the industry improved considerably after Small Road Transport Operators (SRTOs) were made eligible for funding under priority sector lending scheme of the commercial banks and public financial institutions. Under this scheme, truck operators owning less than 10 trucks can obtain finance, generally for purchase of chassis, at reasonable rate of interest. Apart from banks, non-banking finance companies (NBFCs) also finance purchase of trucks. At present, this is the dominant mode of finance for the trucking sector though the interest rates charged by the NBFCs are higher than those charged by commercial banks. To encourage bank lending to the trucking industry, the RBI has recently classified bank credit to NBFCs for on-lending to small transport operators as priority sector lending.

A number of problems are faced by the truck operators in obtaining bank finance. Banks are hesitant to lend because of the fear of default in repayment of loan; no loans are given for meeting the working capital requirement or financing used vehicles or even for body building. Further, the existing eligibility criteria for priority sector lending require that the truck operator owns upto ten trucks; this militates against fleet formation.

The following recommendations are made to tackle the various problems faced by the truck operators:

- 1) Adequate credit should be provided for financing the purchase of used commercial vehicles, providing working capital and infrastructure requirements of the trucking industry.
- 2) The banks should arrange to post an officer at least at the state level to oversee priority sector lending to ensure that adequate funds are made available either directly or through NBFCs to the trucking industry.
- 3) The recent RBI's notification classifying bank credit to NBFCs for on-lending

to the small transport operators as priority sector lending has expanded the scope of the financing scheme. The revised scheme should be implemented on priority basis.

- 4) The present small size of truck operators does not allow them to reap the economies of scale; these accrue to the fleet operators. To promote consolidation and to facilitate fleet formation, it is necessary that the eligibility criteria for priority sector lending is modified and extended to truck operators with fleets upto at least 20 against 10 at present.
- 5) Industry status should be accorded to trucking sector to facilitate commercial borrowings for various purposes and to strengthen this sector.

Chapter 11. Technology Upgradation and Promotion of MAVs

The existing vehicle manufacturers are producing the bare chassis; cabin and the load body is constructed by various wayside body builders. There are no standards prescribed for the cabin fixtures provided by the body builders. Engine placement is inside the cabin resulting in extreme heat, vibration and noise. The designs of the body builders also are not vetted by any recognised agency.

The technology of commercial vehicles needs to be modernised with provisions for power steering, retarders, radial tyres, etc.

The truck operators are known to overload their vehicles beyond the prescribed limits. The 2-axle rigid trucks are continuing transport of oversized high density cargo and even 20-ft containers are carrying loads more than the permissible weight. These need to be replaced with Multi-axle Vehicles (MAVs) which are more productive in terms of load carried and cause less damage to roads.

The following recommendations are proposed :

- 1) Only approved cabin design should be used for fabrication. Appropriate standards should be evolved prescribing minimum heat dissipation from engine inside the cabin along with associated vibration, noise and ventilation provisions. There should be adequate space for first-aid kit, tool box and fire extinguisher which should be made mandatory.
- 2) There is need for the accreditation of body builders for both trucks and buses. They should construct bodies based on standard designs provided by OE manufacturers or designs approved by the testing agencies like ARAI. Only after Inspecting Agencies give Conformity of Production Certificate (COP), the vehicle should be registered.
- 3) For the accreditation of body builders, state level committees should be set up to ensure uniformity in body building and adherence to specifications as approved by chassis manufacturers or testing agencies. At the national level, arrangements be made to audit the work of the state committees.

- 4) As regards upgradation in technology of commercial vehicles like introduction of power steering, retarders, radial tyres, etc., it is suggested that the government should notify the performance standards with a lead time. The technology options should be left to the vehicle manufacturers.
- 5) In view of MAVs lower operating costs and less damage to the road, these should be popularised through measures such as providing tax benefits. There is need to phase out 2-axle trucks carrying 20-ft containers as they invariably exceed the GVW. Priority also needs to be given to adequate maintenance and widening of high-density roads to four-lanes and other main roads to at least two lanes.

Chapter 12. **Energy Conservation, Fuel Efficiency and Productivity**

In India, the transport sector is the second largest consumer of energy next to industry. There have been two major structural shifts that have occurred in the transportation sector. One, there has been a shift from railways to roads in terms of both passenger and goods movement. Two, the inadequate public transport system has led to an increase in the use of personalised transport resulting in an extensive growth of vehicle population. The quality of fuel and its adulteration at retail outlets, vehicle technology, road condition and traffic conditions are other aspects having a bearing on fuel conservation.

The following recommendations are proposed :

- 1) In view of the non-optimal choice of transport modes by users, appropriate transport pricing policy and taxation and subsidisation structure should be used as instruments to channelise consumer demand. Railways may review their present policies and consider providing customised services for movement of freight. They should also tie up with trucking industry for integrated movement of containers and other long haul cargo to achieve efficiency. Necessary measures to promote multimodal transport in the country need to be taken.
- 2) Fuel efficiency depends not only on the quality of fuel but also on the vehicle technology, road and traffic condition, etc. To achieve efficiency in fuel consumption, it is suggested that :
 - Cetane number of diesel be increased in India in line with European specification from 45 to 58.
 - Sulphur content in diesel be reduced .
 - Adulteration of fuel at the retail outlets needs to be checked. The Ministry of Petroleum and Natural Gas should provide licence to some independent testing organisation of good repute who can provide audit at the fuel outlets.

- Manufacturers should consider use of light weight materials for building trucks. The tyre manufacturers should develop energy-efficient tyres.
- 3) MAVs need to be promoted by providing them appropriate incentives (refer chapter 11).
 - 4) Detention of trucks for payment of taxes/checking by state authorities, etc., needs to be reduced for improving fuel efficiency.
 - 5) Appropriate action needs to be taken to improve riding quality of roads and encourage private sector participation in this task to supplement the budgetary expenditure on roads.

Chapter13 **Road Safety**

In India, nearly 70,000 persons are reported to be killed and over 3 lakh injured due to accidents on roads in a year. According to CIRT survey, the heavy commercial vehicles which comprise only 7% of the total vehicles are involved in 50% of the road accidents. About half of the truck accidents occur during the night. The matters of concern include inadequate driver training infrastructure, ease of obtaining driver licence, lack of knowledge of traffic rules, fatigue due to long working hours, consumption of alcohol by drivers, etc.

The following recommendations are made for the promotion of road safety :

- (1) Considering that the driver is an important factor in road accidents, suitable measures should be taken to provide quality drivers. For this purpose, the tests for obtaining driving licence should be made stringent. Besides driving skill, knowledge of traffic rules should also be tested. Working hours prescribed in the MV Act should be strictly enforced. The minimum educational qualification for future drivers may be specified as 10th class pass. State and national level awards along with a cash incentive scheme be introduced for drivers who have an accident-free record during the year. It is suggested that Truck Owners Associations should work out such a scheme for their driver employees.
- (2) There should be provision of deterrent punishment in the MV Act for serious traffic violations like driving under the influence of alcohol/drugs, rash and negligent driving, and jumping of red lights.
- (3) Every state should have good driver training schools with proper infrastructure and experienced instructors. A system of periodic audit of such schools should be introduced. Voluntary agencies may be encouraged to organise orientation programmes for drivers. Driver training programmes, such as the ones started at Chennai by MRF and at Namakkal by Ashok Leyland should be replicated in other parts of the country too.

- (4) Society of Indian Automobile Manufacturers (SIAM) should consider the possibility of providing entertainment as also important information regarding the MV Act and the MV Rules through TV/radio at places where commercial vehicles wait for long hours.
- (5) Vehicle owners need to be encouraged to maintain their vehicles in a better condition. Special care and precautions are necessary in respect of vehicles carrying hazardous goods. It is suggested that every driver of hazardous goods carrier should ensure that he is provided with a Transport Emergency Card and has full information about the hazardous goods being carried by him.
- (6) In case of roads, there is need for the introduction of safety features like (a) safety barriers, (b) provision of traffic signs and road markings, (c) geometric improvements, (d) creation of central verges with hedges with a view to minimising glare, and (e) provision of wayside amenities and rest areas. Traffic calming techniques should be applied on highways within/close to the urban areas and villages in view of the vulnerability of pedestrians and cyclists to accidents. The centre and the states should earmark a certain minimum amount out of the road budget for engineering measures to improve road safety.
- (7) Government should consider introducing road safety as a subject in the curricula of schools and draw up a programme for involvement of the community in road safety.
- (8) Police patrolling on the highways needs to be increased to make safety rules effective. It should be backed by Trauma Care, First-Aid Ambulance and cranes for the removal of damaged vehicles.
- (9) A 'Centre for Accident Studies' should be set up for accident research and investigation at the national level. This will provide essential stimulus to research on road accident prevention.

Chapter 14 **Legal Axle Load Limits and Overloading of Vehicles**

At present, maximum permissible single axle load is 10.2 tonnes and for tandem axle it is 19 tonnes throughout the country. However, majority of goods transport vehicles which are mainly two-axle rigid vehicles, are overloaded beyond the permissible vehicle weights. Container revolution has added to the problem; one often finds large containers being moved on two-axle trucks resulting in overloading. Since the consequences of overloading are serious in terms of damage to the pavements, threat to traffic safety and life of the vehicles, the operators and drivers of the overloaded vehicles are fined. Further, the states have prescribed compounding fees against overloading. These compounding fees vary from state to state.

There have been demands from the transport authorities and the truck operators to increase the permissible axle loads in view of large-scale overloading and actual difficulties being faced in enforcing the existing limits. However, highway authorities

resist the demand fearing accelerated distress to road pavement. It has been brought to the notice of the Committee that only 10-20% network is suitable for the existing prescribed axle loads. It is seen that roads are deteriorating fast and it is not possible to provide adequate funds for strengthening of roads to cope with overloading. Moreover, the country is moving towards privatisation regime for financing the upgradation of main roads. Permitting higher axle loads which would compel the investors to pump in larger investments during the operation and maintenance period than what was required of them in the bids, could lead to avoidable litigation. Moreover, vehicles with higher axle loads are less safe particularly for vulnerable road users, viz. pedestrians and cyclists. It is, therefore, not considered advisable to increase the axle load limits for the present.

In the circumstances, tackling the problem of overloading has assumed critical importance. The following recommendations are made in this regard :

- (1) Manufacturers of commercial vehicles and body builders should comply with the provisions of the MV Act and notification issued by the MOST with regard to safe axle load and maximum GVW while designing and constructing the vehicles. It should be ensured that tyres of appropriate size and ply rating matching the prescribed axle loads are fitted by the vehicle manufacturers.
- (2) Consignors who overload trucks at the point of despatch should also be made liable for overloading offence.
- (3) To facilitate enforcement, a number of weigh-in-motion (WIM) and static weighing stations should be set up on main roads.
- (4) Section 200 of the MV Act dealing with the compounding of the offence of overloading should be abolished and penalties should be related to the excess load.
- (5) The road authorities should carry out axle-load spectrum studies on major roads and take the actual loadings into consideration for design of new pavement and overlays. A minimum axle load of 10% over the prescribed axle loads should be adopted for pavement design. Necessary guidelines on these aspects should be finalised by the Indian Roads Congress.
- (6) A comprehensive study of cost economics of roads and road transport should be undertaken by the government to determine the optimum axle loads that could be permitted on the roads in the country.

Chapter 15. Human Resource Development

The trucking sector provides direct employment in the form of drivers and conductors, as well as auxiliary trade and employment opportunities like brokers, booking agents, people engaged in running garages, loading and unloading operations, wayside facilities, etc. With 22 lakh trucks operating in the country and assuming employment of 2 drivers

or a driver and a cleaner per vehicle, the total employment figure of drivers-cleaners alone works out to about 44 lakh. Appropriate human resources development (HRD) strategies are, therefore, needed to create a competent workforce.

The important recommendations concerning HRD are given below :

- (1) Studies should be undertaken to understand the intricacies of driver behaviour; the findings of these studies can help in designing appropriate training modules for them.
- (2) Driving should be declared a trade and course in driving should be available in ITIs. For the existing drivers, voluntary agencies may be persuaded to arrange demonstrations and video screenings at traffic centres and loading stations. For future drivers, government should identify well-organised goods transport associations and encourage them to run training schools. The driver training schools at Gummidipundi and Namakkal could be taken as models to design course curriculum and develop facilities.
- (3) As regards training of brokers/booking agents, refresher courses as well as correspondence courses should be organised for them while potential brokers could be offered full-time courses by the polytechnics and other such institutions. Such courses should include elements of multimodal transport of goods and interaction with other modes.
- (4) Training should also be imparted to the officials of Regional Transport Authorities (RTAs) on their appointment in order to familiarise them with the various provisions of the MV Act and the Rules framed thereunder. States should also make arrangements for refresher courses for these officials to keep them abreast of the new developments in the field of transport.

Chapter 16 Development of Infrastructure (Wayside Amenities and Truck Terminals)

At present, in India, there are no organised wayside amenities, maintenance and repair facilities and parking spaces along the highways. The indiscriminate parking of trucks on the highways and on the carriageways of towns and cities encroaches upon the space reserved for pedestrians as well as for moving vehicles.

To address this problem, the government, sometime back, sponsored “Truck Operators Highway Amenities Society (TOHAS)” and introduced Passenger Oriented Wayside Amenities scheme. However, these had to be discontinued due to lack of necessary support from the state administration and for want of enthusiasm on the part of truck operators.

Trucks also need a terminal where they can finally end their journey and prepare for the next assignment. Lack of well planned truck terminals has given way to on-street handling of goods and parking resulting in avoidable congestion within the town.

The following recommendation are made :

- 1) Guidelines should be evolved for provision of roadside rest areas for passengers and truck operators on the highways. The layout for rest areas/lay-bys need to be standardised. The rest areas should provide facilities, such as toilets/ wash rooms, restaurants, recreation areas, mini-super market, medicine shop, doctor's clinic, spare parts supply/repairing, garage and parking spaces besides STD booth and a police booth. Provision for rooms for night halt should also be made as per demand. Lay-bys for trucks should provide for parking, toilet and telephones and cater for long truck-trailers also.
- 2) Provision of wayside amenities should become an integral part of road development. In respect of national highways stretches to be upgraded through private entrepreneurs on BOT basis, the land required for these rest areas or lay-bys should be acquired by the government and given to entrepreneurs for development and management during the concession period. For other stretches to be upgraded by the NHAI/Government of India, facilities should be created and franchised for operation and management.
- 3) Truck terminals (transport nagars) should also be provided at the outskirts of cities to relieve congestion inside. These should form an integral part of urban planning.
- 4) Funds for transport nagars should be raised primarily from sale of plots with the government providing incentive in the form of making land available at concessional rates. These funds should be managed by the associations of truck operators.

Chapter17 **Management Information System (MIS)**

An efficient MIS makes available updated, timely and accurate information so that the organisation's objectives are pursued effectively and its decision-making process gets facilitated. The flow of information should be unhindered and the information provided should be precise, clear and complete.

For efficient transport planning and policy formulation, three types of basic data are sought – data on traffic flows, transport costs and the operational data of the relevant mode of transport. Unfortunately, not many studies or surveys have been conducted to generate necessary data on traffic flows or transport costs. Consequently, the available data suffers from serious gaps and limitations.

In order to improve MIS, the following recommendations are made:

- (1) Permanent traffic count stations should be set up at critical points on national highways and state highways to measure traffic flows (including goods carried) and density of vehicles. For obtaining comprehensive data, government should seriously consider making an independent agency like the NCAER responsible

for carrying out the O-D traffic surveys regularly after every five years; this scheme should form part of the budget of NCAER. An Inter-ministerial Group comprising officers of the Planning Commission, Ministries of Surface Transport, Railways, Petroleum and Natural Gas be set up to oversee the surveys and to analyse and publish the data for the use of planners.

- (2) To obtain a clear picture of trucking industry, it is suggested that RTA/DTA and STA should annually compile and computerise data with regard to goods transport vehicle population, form of ownership, number of operators, vehicle fleet by age, carrying capacity, etc. Transport Research Wing of the MOST could then access this data and publish them suitably. The data on registration of vehicles, driving licences, issue of national permits, no objection certificates issued for transfer of ownership, change of residence, road accidents along with vehicle population, etc. could be placed on the National Grid for inter-state access.
- (3) All the unit offices, RTOs, Zonal offices, Transport Commissioners' offices, state governments and the MOST should identify areas for computerisation to be backed up by compatible software packages. The information compiled through these packages should be shared using 'On-line' service.
- (4) Information Technology like HAS and GPS is now available to monitor the movement of vehicles on the highways. These facilities need to be utilised and expanded for the benefit of road transport industry.

Chapter 1

INTRODUCTION

1.1 Background

Road freight transport is a vital albeit a neglected segment of our transport sector. It has vast opportunities for employment, both direct and indirect, involving haulage, manufacture of vehicles and their maintenance. It is estimated that over 20 million people are employed in various segments of trucking operations. Presently, road transport is catering to about 70% of total freight in the country with railways carrying the balance. On account of its inherent advantages and the strong users' preference, freight traffic by road has increased twenty-nine times since 1961. The number of goods vehicles has increased from 1.7 lakh in 1961 to 22 lakh in 1996-97 marking a growth of 7.2 % annually. The burgeoning demand and the massive expansion of road goods transport has been triggered by the country's overall economic and social development. There is no doubt that unfolding of globalisation and the speeding up of the process of economic development will put further pressure on this sector in terms of mobility and distribution. Notwithstanding this, the growth of this sector has not been on planned lines for want of appropriate policy frame-work. There is, thus, a compelling need for policy support if this sector is to meet the growing needs for road transport services efficiently and cost effectively.

1.2 Problems Faced by Trucking Industry

The trucking industry, at present, is facing numerous problems. Typically, the problems relate to the following aspects of the industry:

1.2.1 *Structure of Industry*

Freight operations in India are dominated by small operators performing mainly the haulage function and dependent on others, such as brokers, for business. According to the Central Institute of Road Transport (CIRT) survey (1998), 77% of transport operators own a small fleet of five trucks or less; of these, majority are single truck operators. Hardly, 6% of the trucks are owned by companies with a fleet of more than 20 trucks. The existing structure makes the achievement of objectives of conservation of fuel, environment protection, structured maintenance and promotion of road safety difficult.

1.2.2 *Viability of Operations*

The viability of road transport has not been studied in depth due to very large number of operators and reluctance on their part to provide the requisite data. In the absence of the relevant data, it is not possible to study the profitability of truck operations to establish its role in the growth of economy and restructure the transport companies to further improve their profitability.

1.2.3 *Financing*

The major sources of financing trucks are the Hire-Purchase Companies and the Commercial Banks. Lending is generally for acquisition of new vehicles. Loans for purchase of used vehicles and for infrastructure development are not provided by the lenders. Banks are reluctant to lend directly since there are defaults in the repayment of loans and payment of interest. Extent of bank finance to road transport sector is not known as data published by RBI relates to outstanding loans from year to year and not the loans actually disbursed/sanctioned each year.

1.2.4 *Motor Vehicles Taxation*

The revenue generated from road transport sector by way of direct and indirect taxes has been steadily increasing over the years as shown below :

Year	Amount (Rs. crore)
1950-51	47.4
1960-61	166.9
1970-71	683.2
1980-81	2173.4
1990-91	7631.2
1996-97	18,297.9

Several committees in the past have pointed out high burden of tax on purchase price of vehicles as also on the operating cost. According to a study by the National Council of Applied Economic Research (NCAER) done in 1979, tax element in the operating cost of vehicles in the early sixties was 42%. The corresponding figures for US and UK were around 5% and 17%, respectively. Presently, tax burden in the price of vehicle is estimated at 31% and in the operating cost at 56.5%. This naturally affects the competitiveness of our imports and exports at the time of growing globalisation of markets. Besides, there are wide variations in motor vehicle taxes in different states. There are multiplicity of taxes, varying bases for and levels of tax rates and complicated procedures for computation and collection of taxes. This has resulted in differing incidence of taxes per vehicle in different states. Besides, this results in inconvenience to the operators, obstruction to free flow of interstate traffic involving detention at every check-post, additional fuel cost due to detentions, increased turn-round time leading to underutilisation of vehicles.

1.2.5 *Liability of Carriers*

The Carriers Act came into being in 1865. Since then, the character of the trucking industry and the contours of the economy have undergone significant changes. The Carriers Act needs to be reviewed in the context of the high value of consignments moving by road over long distances.

1.2.6 *Insurance*

Insurance of motor vehicles against third-party risk is a mandatory requirement of Motor

Vehicles (MV) Act. However, the goods carried are not automatically insured. A separate insurance policy has to be taken by the consignor/consignee if the loss/damage to such goods is required to be made good by the insurance company. In turn, insurance company, initiates proceedings for recovery of the claim amount paid, against transport operator under right of subrogation since it is the responsibility of the transport operator as a carrier to reach cargo safely to its destination. This causes avoidable financial hardship to the truck operators. There is the added problem of tardy settlement of insurance claims. This aspect needs to be looked into.

1.2.7 *Overloading of Vehicles*

Overloading of goods vehicles is a common phenomenon in India. This adversely affects the road pavement, is a threat to road safety and reduces the life of vehicles. Though the MV Act is against overloading, the provisions for the compounding of this offence encourage the continuance of overloading.

1.2.8 *Inadequate and Deficient Road Network*

The expansion of road network has lagged behind the growth of motor vehicles. While the road network grew at an average rate of 4.5% per annum, the overall vehicle population has grown by 8 to 10% per annum since 1951. Traffic by road has increased manifold over the years. This has led to congestion on the roads, increase in accidents and lower productivity of vehicles.

1.2.9 *Road Safety*

India's vehicle population is 1% of the global vehicle population. However, its share in road accidents is 6%. Moreover, the number of accidents is on the increase. Lack of training and proper working conditions for the drivers, congestion on roads, absence of a traffic management system, overloading of vehicles and driving under the influence of liquor are some of the important factors contributing to increasing number of accidents.

1.2.10 *Energy Consumption*

Road transport is the largest consumer of petroleum fuel. However, at present, there are no norms for fuel consumption. The replacement of overaged vehicles, timely and adequate maintenance of vehicles, improved driving habits and betterment of roads need to be encouraged and overspeeding need to be curbed to reduce energy consumption.

1.2.11 *Undue Detention of Vehicles*

The vehicles are detained at various check-posts for checking of essential documents or for payment of tax or booking of drivers for violation of traffic rules and regulations. Such detention of vehicles causes avoidable loss of productivity of vehicles.

1.2.12 *Outdated Vehicle Technology*

In the eighties, efforts were made to modernise the automotive industry in the country through foreign collaborations. These efforts were in the area of fuel efficiency, improved suspension system, electronic fuel injection pumps and use of plastics. These improvements, however, were limited mainly to the production of light motor vehicles leaving heavy commercial vehicles employed in the industry untouched.

1.2.13 *Unregulated Booking Agents, Brokers, etc.*

The small truck operators cannot perform the functions of aggregating, handling, delivering of cargo and marketing. They depend on others for these functions. While booking agents accept and store goods and arrange for their transport, brokers and suppliers act as intermediaries between users and booking agents on the one hand and truck operators on the other. They charge hefty commission which is disproportionate to the services rendered by them.

1.2.14 *Lack of Wayside Amenities*

There is lack of adequate wayside amenities for long-haul operators on our road network. Truck drivers have often to drive long hours and consequently need rest, toilet facilities. Even at the petrol pumps on the main roads, toilet facilities are either not available or poorly maintained. Various conveniences required such as drinking water, toilet, food, parking, vehicle repairs, fuel, telephone etc. are not available in an organised way. There are incidences of vehicles parked on the road on a large scale. Besides the wayside amenities, truck terminals are also required at the periphery of major towns so that loading and unloading of inter-city trucks can take place there and these terminals help in reducing congestion and pollution within the city. At present, very few towns have truck terminals.

1.2.15 *Regulation of Industry*

Road Transport in India was first regulated by the MV Act 1914; it dealt with registration of motor vehicles, licensing of drivers and penalty for reckless driving. With the growth of road transport, need for proper regulation was recognised and the MV Act 1939 was passed. It created machinery for administration and control of road transport sector. It set out an elaborate system of permits and created state and regional transport authorities. Amendments were made in the Act in 1956, 1969 and 1988 with the objective of improving the conditions of permits, issue of inter-state permits, enunciating rules for fixing fare and freight by the Regional Transport Authority (RTA), introduction of national permits and curbing drunkenness among drivers.

Other legislations governing road transport are Motor Transport Workers Act 1961, Factories Act 1948, Shops and Establishment Act, Carriers Act and Multimodal Transportation of Goods Act 1993.

1.2.16 *Deficiencies in Regulation*

The MV Act is entirely regulatory in approach and has no development bias; there is a tendency on the part of the states to look at the various provisions of the Act for revenue generation; it militates against fleet formation and modernisation of the trucking industry; procedure for issue of driving licence is lax and endangers road safety. Besides, division of responsibility between central and the state governments has created plethora of regulating agencies on the national highways. Provisions of Motor Transport Workers Act are not being enforced. Carriers Act has lost relevance in the context of high value consignments moving by road. All these Acts need to be reviewed and suitably modified to facilitate fleet formation, reduce the liability of drivers/operators and promote the trucking industry on healthy lines.

1.3 **The Study**

There have been several committees set up by the Government which, over time, have studied the road goods transport and have addressed some of these issues. Their recommendations did not, however, transform into policy initiatives from the Government. Given the importance of trucking industry and its potential for future growth, the Ministry of Surface Transport (MOST) commissioned the Asian Institute of Transport Development to study the trucking operations in India. This study covers all the possible problems faced by the trucking sector. Attempt has been made to collect data on various aspects through comprehensive surveys. This is for the first time that detailed surveys have been conducted in India and the truck owners/operators, drivers, brokers, booking agents, RTOs and MVIs have been interviewed in order to generate database and know the ground realities. This has facilitated the understanding of the related problems and formulation of policy prescriptions for the healthy development of the goods transport industry. The letter authorising the study is at Annexure 1.1. The terms of reference of the study are as under :

1.4 **Terms of Reference (TORs)**

- (1) To determine the ownership pattern of goods vehicles and its relationship with viability of operations, examine the measures for formation of fleet. Also, to examine current policies and strategies for generating capacity to carry the projected freight traffic during the next 15 years.
- (2) To examine whether the existing legislation and regulations are conducive to the growth of the industry on efficient lines. Also to examine whether the existing permit system be continued or be replaced by “System of Registration” as in UK.
- (3) To assess the level of technology presently in use in the industry and to suggest measures to be taken to upgrade or modernise the vehicles including multi-axle vehicles. An allied issue is to rationalise fixation of gross vehicle weight (GVW) for multi-axle vehicles (MAVs) by the manufacturers. Also to study the impact of overloading of 2 axle vehicles on roads and the measures necessary for promotion of MAVs. The feasibility of standardising the body building of trucks will also be examined with a view to improve safety on road as well as increase the payload of the vehicle.

- (4) To examine whether transport by trucks be declared an Infrastructure Industry and whether it be given any fiscal or financial benefit. To review hire-purchase schemes etc. and to suggest methods for mobilisation of resources by transport agencies to finance their infrastructural and vehicular investments.
- (5) To review the existing road taxation levels, policies and collection systems by the states. Also, to suggest measures for rationalisation of the existing taxation system.
- (6) To review fares and freight rate policies and parameters for its determination adopted by different states. An attempt will be made to work out input costs, including fixed and variable, in the operation of trucks covering both light and heavy commercial vehicles.
- (7) To review various measures for improving fuel efficiency of commercial vehicles and its impact on cost of operations.
- (8) To study the role of brokers and agents or suppliers and to identify the need to bring these within the purview of legalisation. To examine whether a separate cadre for traffic control and regulation is feasible.
- (9) In the context of congested roads in urban areas, truck terminals have been set up at the outskirts of several cities. This has helped in containing congestion on city roads. It is proposed to study the experiences of 2-3 cities in this regard to popularise the concept of truck terminals. Also to consider the provision of roadside rest areas to improve safety. This infrastructure could be set up with private investment provided the operations are viable. The study may suggest measures to promote private investment in this infrastructure facility.
- (10) To review the existing liabilities of carriers of goods and whether any changes are considered necessary. Is insurance policy available to cover these liabilities?
- (11) To examine the role of road transport under the multi-modal transportation of goods system for fast movement of goods, both imports and exports, and identify steps necessary for improving its contribution to international trade.
- (12) To study institutional facilities available for human resource development in the trucking industry, such as training of drivers, conductors, booking clerks, freight forwarders, brokers, etc., identify the deficiencies in the existing set-up and suggest measures to improve/upgrade the training infrastructure having regard to the requirements of various personnel in the road transport industry. Considering the vast employment potential under various trades offered by the road transport industry, feasibility of introducing vocational courses at senior school level may also be studied. Also to examine whether the existing labour laws are realistic and appropriate.
- (13) To review the management information system and documentation procedures in truck transport operations and suggest measures to improve its quality.

1.5 Study Approach

For the purpose of carrying out the study, the Asian Institute of Transport Development

constituted a Steering Committee under the chairmanship of Shri S. Sundar, former Secretary to the Govt. of India, in order to guide the work. It had members drawn from the Ministry of Surface Transport, Planning Commission, Transport Commissioners of selected states, Central Institute of Road Transport (CIRT), Deptt. of Industrial Development, Society of Indian Automobile Manufacturers (SIAM), representative of the General Insurance Corporation, representative of All India Motor Transport Congress (AIMTC). The composition of Steering Committee is at Annexure 1.2. The Asian Institute of Transport Development (AITD) provided the secretariat with Shri K.L.Thukral working as project co-ordinator assisted by Ms. Shazia Malik, Shri D.P.Gupta also extended support. In all, the Committee had twelve meetings.

In order that the study may benefit from all the major players in the trucking sector and for in-depth study of the issues, six Sub-Committees were constituted by the Steering Committee. The composition and TORs of each Sub-Committee are at Annexure 1.3. Each Sub-Committee presented its report to the Steering Committee and the latter discussed these reports and finalised its own views on the various TORs.

The Central Institute of Road Transport (CIRT), Pune, was engaged by AITD for conducting primary surveys at select locations throughout India which included interviewing truck owners, drivers, brokers, booking agents and RTOs/MVIs.

1.6 **Methodology**

The Steering Committee noted that the basic data on trucking industry was not available. Hence the CIRT was commissioned for primary surveys. The Committee took note of the data generated by CIRT and also reviewed the secondary data. It had discussion with government officials, transport companies, transport operators and their association, drivers, etc. for basic understanding of the issues involved. The MV Acts of some selected countries were reviewed. The Steering Committee relied heavily on the reports/recommendations received from the various Sub-committees.

The framework of the study is briefly explained below:

a) ***Data Collection***

The data collected include the following :

i) ***Literature Survey***

The reports of various expert groups on road transport and relevant government publications (Annexure 1.4) were reviewed. In addition, a number of occasional/technical papers, publications prepared by major consultants/ research institutions at home and abroad were also perused. The literature survey revealed that there were hardly any studies done in the trucking sector and those that were available did not deal with the problems comprehensively. Likewise, no study had been done on the various problems facing the truckers,

namely, MV Insurance, rationalisation of various taxes paid by the trucking industry, financing of working capital needs, safety standards for truck bodies, technology issues, management information system, etc.

ii) ***Field Visits and Primary Data Collection***

It was felt necessary that field surveys be conducted across the country through structured questionnaires which could address the various issues raised in the terms of reference as well as generate data for the trucking sector. Hence, detailed surveys on identified routes were carried out of truck owners, drivers, brokers, commission agents and RTOs/MVIs by CIRT. The locations identified for the surveys and the samples surveyed are given in the table below:

Table 1.1 :Locations with Sample Size

S.No.	States with location	Owners	Drivers	Brokers, Booking Agents	RTOs/ MVIs
1	Uttar Pradesh(Ghaziabad), Haryana(Faridabad) and Delhi	202	399	60	4
2	Gujarat (Ahmedabad), Rajasthan (Jaipur)	222	411	66	9
3.	Madhya Pradesh (Indore), Maharashtra (Mumbai)	150	398	39	10
4.	Karnataka (Bangalore), Tamilnadu (Namakkal, Chennai)	200	390	60	11
5.	Andhra Pradesh (Hyderabad, Ichchapuram, Vijayawada) Orissa (Cuttack, Bhubaneshwar)	223	417	59	11
6.	West Bengal (Kolkata, Siliguri), Assam (Guwahati)	206	378	63	10
	Total	1203	2393	347	55

The survey was carried out on national and state highways connecting different cities mentioned in the table, keeping in view the intensity of traffic. The entry and exit points of the cities were taken as the survey locations. The details of the survey results have been dealt with in Chapter 3.

iii) ***Interviews with Government Officials***

State level interviews were held with the transport secretaries/commissioners of major states to review the existing provisions of MV Act. The shortcomings in the existing legislation and the changes that are called for to improve the performance of trucking operations, were also identified. A questionnaire based on this was sent to all the Transport Commissioners in the country for their views. A copy of the questionnaire is at Annexure 1.5.

iv) ***Interviews with Transport Companies and Road Transport Operators***

The Chairman and some members of the Steering Committee held meetings at Jaipur, Hapur, Pune and Mumbai with the regional associations of truck operators and major truck operating companies to ascertain the main problems faced by the sector. The persons interviewed included truck operators, booking agents, brokers, container operators and those involved in the movement of specialised cargo such as POL, hazardous chemicals, etc. Consultations were also held with the All India Motor Transport Congress (AIMTC) from time to time.

v) ***External Consultation on Major Issues***

To get a clear picture of the various complex issues concerning motor vehicle taxation and the motor vehicle insurance, the services of Dr. M. Purohit, Professor at the National Institute of Public Finance (NIPFP) and Mr. B.G. Patki, Adviser, New India Assurance Company, were requested to prepare detailed status papers on the issues involved.

vi) ***International Experiences***

The regulatory and legislative aspects governing the trucking operations in some European countries, Japan, USA., Australia, Malaysia, and Thailand were reviewed during the study. This facilitated the review of our Motor Vehicles Act and Central Motor Vehicle Rules (CMVRs).

b) ***Data Analysis***

Data analysis was done in two stages; (i) Data obtained from the primary surveys was fed in the computer and the inferences were drawn from it; (ii) Information collected from the various secondary sources as well as through interviews with the Government officials and transport companies/operators were analysed. The analysis threw up several policy issues on various aspects of the working of the trucking operations in the country.

After the data was analysed and reviewed, the *issues and constraints* concerning the goods transport in India were identified. These were discussed in detail first by the Sub-committees and then by the Steering Committee. The report contains the final recommendations of the Steering Committee on the various issues.

Chapter 2

ROAD GOODS TRANSPORT IN INDIA – HISTORICAL PERSPECTIVE

2.1 Introduction

Road transport in India has witnessed significant growth during the past five decades. The rail-dominated economy has become the road-dominated economy. In 1950-51, the railways carried 89% of total goods traffic and roads carried only 11%. Today, the scenario is changed. The recommendations of various committees set up by the government to determine modal shares of rail and road in respect of both passenger and freight traffic have gone awry. For example, the National Transport Policy Committee (NTPC) in its report submitted in 1980 had recommended that at least 67% of the freight traffic should move by rail by the turn of the century. However, against this, today road transport carries over 70% of the freight traffic and this share is likely to increase further in future, having regard to capacity constraints of the railways and the marked preference of users for road transport.

2.2 Growth of the Trucking Sector

The growth of the road goods industry is evident from the growing number of trucks over the years as indicated in Table 2.1. The number of goods vehicles which was 82 thousand in 1951 and 3.43 lakh in 1971 increased to 13.56 lakh in 1991 and further to 22.60 lakh in 1996-97. This number is expected to double itself in another ten years.

Table 2.1: Total Registered Goods Vehicles in India
(in thousand)

Year (as on 31st March)	Goods Vehicles	Annual Growth Rate
1951	82	—
1961	168	7.4
1971	343	7.4
1981	554	4.9
1991	1356	9.4
1992	1514	11.6
1993	1603	5.8
1994	1691	5.5
1995	1794	6.1
1996	2031	13.2
1997	2260	11.2

Source: Motor Transport Statistics-1997

However, data on vehicles actually plying on roads is not available.

As per the RITES study on Road Traffic Flows (1998), the number of trucks is expected

to rise to 26.90 lakh by the turn of the century and to 28.70 lakh by 2005. Projections have also been made by the Working Group on Road Transport for the Ninth Five-Year Plan; their projections are based on the trend data for 1966-96 and the assumption of differential growth rates (6%, 6.5% and 7%). While the light commercial vehicles (LCVs) are projected to grow in the range of 10,31,000-14,22,000 by 2002 and further to 17,13,000 - 30,91,000 by 2007, the corresponding growth of heavy commercial vehicles (HCVs) is estimated at 20,41,000 - 25,18,000 and 28,22,000 - 41,48,000, respectively. Year-wise details of fleet projections are given in Annexure 2.1. These projections indicate the potential growth of road transport sector.

2.3 Freight Traffic Handled by Road

The rapid growth in the number of trucks is indicative of the increase in the volume of freight handled by trucks vis-a-vis other modes, especially the railways. Table 2.2 gives the growth of the freight traffic handled by road and rail.

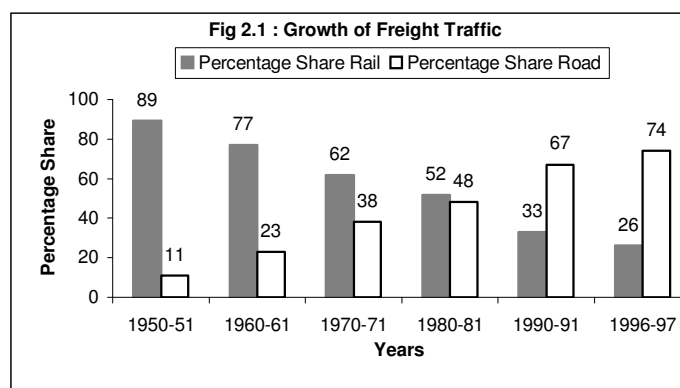
Table 2.2: Growth of Freight Traffic

(billion tkm)		
Year	Rail	Road
1950-51	44(89%)	5(11%)
1960-61	88(77%)	27(23%)
1965-66	117(72%)	46(28%)
1970-71	127(62%)	77(38%)
1975-76	148(62%)	89(38%)
1980-81	159(52%)	145(48%)
1985-86	206(42%)	286(58%)
1990-91	243(33%)	503(67%)
1995-96	274(26%)	762(74%)
1996-97	280(26%)	807(74%)

Source: (1) Indian Railways- Year Books

(2) Study on Road Traffic Flows in the Country (1998)

The above estimates clearly indicate the substantial shift of freight movement from rail to road. As seen in Figure 2.1, the modal share of rail has been constantly decreasing since 1950-51.



The Working Group on Road Transport for the Ninth Five-year Plan (1997-2002) estimated that the freight traffic will be in the range of 1276-1700 billion tkm by the terminal year of the Plan and it was likely to be in the range of 2054-3480 billion tkm by 2007. The shift of freight movement from railways to roads has taken place despite the rail's advantages in terms of bulk freight movement, carrying potential, economical land-use etc. Reasons contributing to this shift would appear to be :

- The rating policy of railways is commodity-based and, for certain commodities, like iron and steel, cement, freight rates by rail are more than that by road.
- Change in the nature of goods moved. It is not raw material alone but semi-finished goods which are also placed on longer hauls.
- Centres for production of major bulk commodities like fertilizers, POL, steel are now spread through out the country. This has resulted in reduction in lead for movement of these commodities.
- Railways discourage less than train load. Moreover, only end-to-end through running of freight trains meeting rake-load movement of bulk commodities are given preference.
- Trucks are more easily available than railway wagons.
- Railways lack flexibility in movement and do not provide door-to-door service.

It would be in overall national interest that the share of traffic by rail should increase. This should be possible through a combination of appropriate measures such as transport pricing, taxation and other instruments; it would help us to conserve energy and reduce pollution on the one hand and provide satisfactory level of service to the shippers on the other hand. This would also demand change in the attitude of the Railways to become customer friendly and provide some assurance for timely movement of goods. It is also to be recognised that due to socio-economic growth of the country, there will be overall increase in freight traffic demand and even with shift of some of the present road traffic to rail, there will still be increase in traffic by road transport, thus straining the existing network of roads. Further, with the diversification of the economy, the share of high value low volume traffic is bound to increase. And this traffic would need to be met by roads of high quality and efficient inter-modal container services (rail for line-haul and road for feeder services). Necessary measures to promote multimodal transport need to be taken so as to optimise the investments and improve overall transport efficiency.

2.4 Commodity Movement – Railways to Road

Today, over 95% of the rail freight traffic consists of rake loads of around 11 commodities. The small volumes of both short lead and long lead and even some bulk commodities have substantially shifted to road, with railways either not considered convenient or not in a position to provide timely and reliable movement. The following two examples would give an idea of the change in mode preference, commodity-wise from rail to road during the years 1978-79 to 1986-87. This trend is still persisting in favour of road, although the exact figures for each commodity are not available.

2.4.1 *Agriculture*

For the success of the Green Revolution in the late sixties, the transport sector played an important role carrying seeds, fertilizers, etc. to be supplied to the farmers and also for the movement of the final products to the consuming centres. The growth rate in agriculture sector in the Seventh Five-year Plan (1985-90) was 3.4% which increased to 3.9% in the Eighth Five-year Plan (1992-97). Overall growth of agricultural production was somewhat subdued in 1997-98 compared to the high growth rate of 9.3% in the year 1996-97.

Although the transport of agricultural products is being normally done through the railways, the road sector's importance is slowly gaining ground as can be observed from the following table:

Table 2.3: Commodity Movement by Rail and Road (%)

S. No.	Commodity	1978-79		1986-87	
		Railways	National Highways	Railways	National Highways
1	Fruits and vegetables	26.0	74.0	22.5	77.5
2	Agricultural products	69.6	30.4	57.6	42.4
3	Foodgrains	90.8	9.2	76.3	23.7
4	Bamboo, Timber, wood	66.2	33.8	46.9	53.1

Source : Working Paper (mimeo), IIM, Ahmedabad, 1989

The pattern of foodgrains movement shows a shift from rail to road. The road share has increased gradually by 14.5 per cent in this period. The movement of wood, timber and bamboo, by road sector, has also shown substantial increase from 33.8% to 53.1% during the period.

2.4.2 *Industry*

The road transport has played a vital role in the industrial development of the country since independence by carrying raw materials to industrial centres and finally moving finished products to the markets. The sectoral growth rate including mining, quarrying, construction, etc. was 7.5 % in the Seventh Plan (1985-90) which increased to 8% in the Eighth Plan (1992-97).

As in agriculture, there has been a major shift of industrial goods movement from rail to road as shown in the table below:

Table 2.4: Commodity Movement by Rail and Road (%)

S. No.	Commodity	1978-79		1986-87	
		Railways	Roads	Railways	Roads
1	Non-ferrous Metals	47.1	52.9	33.6	66.4
2	Chemicals and Drugs	48.7	51.3	28.0	72.0
3	Iron & Steel	84.2	15.8	72.2	27.8
4	Mineral Oils	88.7	11.3	82.8	17.2
5	Cement	89.9	10.1	83.7	16.3
6	Limestone & Dolomite	94.4	5.6	84.3	15.7
7	Coal	95.2	4.8	90.6	9.4
8	Iron Ore	99.9	0.1	98.5	1.5

Source : Working Paper (mimeo), IIM, Ahmedabad, 1989

2.5 Potential of the Trucking Sector

Despite the growing importance for the road goods transport, the existing status of the trucking sector is not a happy one. Administrative and physical barriers to easy mobility coupled with lack of infrastructure and modernisation in technology and industry set-up, have considerably reduced opportunities for exploiting the full potential of this sector. Liberalisation of the Indian market has resulted in the reorientation of the industrial and economic policies, with all sectors trying to keep pace with modern technologies and exchange information and ideas with other countries of the world. In this scenario, the trucking industry cannot be allowed to lag behind. It will not be in national interest to deny to the trucking industry the benefits of liberalisation and modernisation.

Chapter 3

PRIMARY SURVEYS

3.1 Introduction

During its preliminary discussions, the Steering Committee noted that reliable and detailed data on various aspects of trucking industry was not available. While data on registered motor vehicles is collected and compiled by the MOST serious data gaps exist in respect of ownership pattern of vehicles, nature of operations, fleet strength, fleet utilisation, cost of operations, age profile of vehicles, output of trucks in terms of tonne carried, tonne km performed, steering duties of drivers, vehicle speed etc. It was only in 1994 that a limited survey was conducted by CIRT to obtain information on some of these parameters. It was one time survey and the information has not been updated. It was, therefore, considered necessary that field surveys be conducted in different locations across the country through structured questionnaires. The work of surveys was assigned to CIRT, Pune. It designed separate questionnaires for drivers, truck owners, brokers, booking agents and officials of State Motor Vehicles departments having regard to the issues related to each term of reference as well as the requirement of the data for the study.

The survey formats were critically examined by the Steering Committee and were revised, wherever necessary. These questionnaires were tested through a pilot survey; the actual field surveys were launched in the second week of June, 1998 and completed in the first week of July, 1998.

The survey was conducted in 6 regions at 16 locations across the country. In each region, 2 to 3 locations were selected. The details of locations, sample size, etc. have been given earlier in Chapter 1. Compared to the 1994 survey, the 1998 survey was comprehensive in that the latter covered 16 locations against only five covered in 1994. The sample size was larger at 3998 against 1242 in the previous survey. A novel feature of the 1998 survey was that it was followed by a survey on vehicle activity.

3.2 Types of Surveys

Basically, three types of surveys were conducted:

- a) Roadside Interview survey
- b) Vehicle Activity survey
- c) Motor Vehicle Department survey

3.2.1 *Roadside Interview Survey*

The roadside interview survey was carried out for the truck drivers and door-to-door survey was conducted for truck owners, booking agents and brokers. The primary objective

of the survey was to obtain data on various aspects connected with trucking operations. The large volume of data thus obtained was made available to the various sub-committees for formulation of their suggestions/recommendations.

The roadside survey of drivers was conducted mainly to collect information on the following aspects;

- * ***Driver profile***
 - age
 - educational qualifications
 - income
 - rest period availed
 - driving experience
 - wayside amenities, etc.
- * ***Vehicle profile***
 - make of vehicle
 - age
 - type
 - specifications (2-axle, multi-axle)
 - cabin capacity
- * ***Vehicle operation data***

3.2.2 ***Owners' Survey***

The truck owner's questionnaire was designed keeping in view the following parameters;

- * ***Owners profile***
 - number of trucks owned
 - years in business
 - financing of truck
 - type of operations
 - annual vehicle utilisation
- * ***Vehicle data and maintenance***
 - vehicle category
 - maintenance problems, etc.
- * ***Permit system and regulation***
 - nature of permit etc.
- * ***Freight rates***
- * ***Staff***
- * ***Insurance***
- * ***Roads/Routes***

3.2.3 *Booking Agents' Survey*

In order to understand the role of freight agents in the structure and operations of the freight industry, structured interviews of booking agents and brokers were also undertaken in all the regions.

Since most of the loads are placed through booking agents, their role becomes a pivotal one in the operations of this industry. Agents also run warehouses and provide other supporting services to truck owners. The questionnaire for survey of booking agents was based on the following variables :

- * ***Booking agent profile***
 - number of years in business
 - category of firm
 - amount of capital invested
 - type of services rendered
 - liability for loss/damage to goods, etc.
- * ***Freight rates***
 - fixation of freight rates
 - commission to brokers
 - profit margin, etc.

3.2.4 *Brokers' Survey*

The survey of brokers was conducted on similar lines as that of booking agents.

3.3 *Vehicle Activity Survey*

This survey was conducted in order to observe time utilisation of freight vehicles accurately. The objective was to find out en route problems of drivers/owners, such as detention at checkpost, checking by flying squads, road condition and wayside amenities. This survey was conducted on 3 corridors, namely, Mumbai-Delhi, Delhi-Calcutta and Calcutta-Chennai. Details of the minutest activity of the trucks were recorded. The actual steering duties of drivers, vehicle speed on different stretches and observations on road surfaces, road markings, traffic signs were also recorded.

In this survey, the enumerators travelled aboard the vehicles throughout the trip and recorded all the activities of the vehicles. The following information was collected:

- vehicle data
- maintenance particulars
- driver details
- cleaner details
- goods details
- insurance details
- particulars of load

* ***The information about the trip especially***

- the loading place and loading time
- quantity
- loading destination
- unloading time, etc.

was also collected. The information on the official/unofficial incidental expenses at the Octroi, RTO, Police checkpoints was also collected.

* ***The en route observations included***

- starting time
- halting time
- km reading
- starting location
- halting location
- reasons for halting
- details of expenditure incurred
- parking place
- availability of wayside amenities.

3.4 ***Motor Vehicle Department Survey***

This survey was aimed to know the views and suggestions of the Motor Vehicle (MV) department officials on the following aspects:

* ***General profile***

- Registrations and permits of trucks and their suggestions on it
- Issue of driver's licence
- Issue of Fitness Certificate for trucks
- Suggestions on improvement in enforcement

* ***Road safety***

- Documentation of accident details
- Recording of fatal accidents on driving licences
- Co-ordination between MV department, Police, Road construction and maintenance authorities and other departments.
- Driver training institutes in their respective states

* ***Overloading***

- Checking of overloading of trucks
- Implementation problems of MV Act on overloading
- Suggestions on curbing overloading

* ***Emission control***

- Applicability of emission norms to trucks in their respective states
- Pollution Under Control (PUC) Centres
- Suggestions on control of emissions

3.5 **Data Analysis**

The detailed data obtained through primary surveys is presented in 158 Tables given in Volume II of the report. The result of the analysis of data done by CIRT is given in the form of 'Inferences' below the respective Table. The major findings of CIRT's vehicle activity survey are at Annexure 3.1.

It is interesting to note that changes have taken place in the structure of trucking industry, albeit slowly. This is evident from a comparison of the major findings in respect of various parameters as per CIRT survey, 1998 and their previous survey of 1994. Statement at Annexure 3.2 sums up the position.

Chapter 4

LEGISLATION AND REGULATION

4.1 Background

Motor Vehicles were introduced in India during the closing years of the 19th century. In 1914, the first Indian Motor Vehicles Act was passed and was made applicable to what was then the British India. Some princely states followed suit with local modifications. The rapid growth of motor vehicles posed a threat to the British owned railway companies. Thus the government felt the need to regulate passenger and goods motor transport vehicles to prevent them from competing with the railways. With this prime objective, the second All India Motor Vehicles Act, 1939 was passed which came into force in 1940; it created Regional and Provincial Transport Authorities which were authorised to grant permits for stage carriages and for public and private carriers. With regard to co-ordination between rail and road transport, the Act empowered Provincial Governments to prohibit or restrict long distance movement of goods by road and transport of specified classes of goods by public or private carriers. Under the provisions of the Act, goods vehicles were not allowed to operate outside the region in which they were registered. This Act was in force for almost 50 years, though there were a number of amendments in between. During 1988, a major qualitative change was attempted and the Motor Vehicles Act, 1988 came into being. This is presently in vogue along with Central Motor Vehicles Rules, 1989 framed thereunder.

The main features of the Motor Vehicles Act, 1988 are :

- (i) Rule-making powers given to the Central Government to bring uniformity in matters of construction of vehicles, emission standards and fees for various services.
- (ii) Driver licensing made stricter.
- (iii) Permit granting system was liberalised.
- (iv) Powers given to the Central Government to prescribe safety standards for auto components.
- (v) Measures for controlling vehicular emission.
- (vi) Provision for the constitution of Safety Councils to improve road safety.
- (vii) Introduction of 'no fault' compensation for road victims.

4.2 Present Scenario of Regulation

While the Motor Vehicles Act, 1988 and Central Motor Vehicles Rules, 1989 are Central legislations, their enforcement is the responsibility of the state governments. The Act prescribes conditions for regulation of all types of road transport, viz, passenger transport in public and private sectors, tourist transport, contract carriages and goods transport. Goods transport is predominantly in the private sector. The present scenario of regulation of trucking industry is broadly described below:

4.2.1 ***Quantity Regulation***

At present, there is no quantity regulation in respect of goods vehicles. As per Section 80 of the Motor Vehicles Act, 1988, any person can apply for any kind of permit at any time and the Regional Transport Authority *shall not* ordinarily *refuse* to grant permit. With this policy of liberalisation of permits, the quantity regulation that existed in the earlier Acts is no more relevant.

4.2.2 ***Quality Regulation***

There are provisions in the MV Act which deal with quality regulation. The existing quality regulations include roadworthiness of vehicles (fitness certificate - Section 56 of the MV Act), competence in driving (driver licensing - Section 9 of the MV Act), control of emissions (emission norms, inspection and maintenance programme of vehicles, pollution under control certificates) and observance of other CMV regulations. As far as fitness test is concerned, it is based on visual inspection system which leaves much to be desired. Similarly, competency test for drivers is lax, resulting in liberal granting of licences. Consequently, in the existing set-up, competency test per se does not ensure the availability of skilled drivers to operate the vehicles. *There is a need to review the licensing system and competency test of drivers* to make these stringent. For pollution control, law was not stringent till 1996. As a result, pollution control in the case of a large number of vehicles plying on our roads is not in place. Besides, sufficient manpower is not available in Motor Vehicle departments to match the increasing workload to enforce these quality regulations. Thus, the quality regulations are not being strictly enforced.

4.2.3 ***Price Regulation***

The state governments have the powers to fix fare and freight rates as per Section 67 (1) (d) and Section 79 (2) (iv) of the MV Act. The state governments, however, feel that the matter should be left to the market forces as far as goods freight rates are concerned. The reason for leaving it to the market forces is that the states do not have any system for input cost study on a regular basis. Thus, there is no price regulation by the states and the freight rates are decided by the forces of demand and supply. It is common knowledge that freight rates fluctuate from season to season. Sometime, Route Associations, Brokers' Associations, Owners' Associations, decide upon mutually agreed freight rates within their respective jurisdictions. However, this practice is prevalent in specific areas only and *there are no freight regulations prescribed by the state governments*.

4.2.4 ***Labour Regulation***

The hours of work of any person engaged in operating a transport vehicle shall be such as stipulated in the Motor Transport Workers (MTW) Act, 1961. Based on this provision, Section 91 of the MV Act, provides for 8 hours of work for the drivers. However, these provisions are not enforced strictly in the trucking industry; it is common knowledge that

drivers work for long time beyond stipulated hours without rest. The hours of work of the drivers, their rest periods, weekly off, etc., have a major impact on the road safety. The provisions of Section 91 of the MV Act are not enforced by the Motor Vehicles department and it is presumed that this is the responsibility of the Labour Department. Lack of co-ordination between Labour Department, who have enacted MTW Act and Transport Departments of the states is responsible for poor implementation of both the Acts. Majority of the owners of goods carriages do not maintain any record of the duty hours of drivers and other employees. Further, the MTW Act is applicable only when the undertaking employs 5 persons or more. Considering the present ownership pattern, this is a major limitation.

4.2.5 *Safety Regulation*

Safety depends upon the condition of vehicles in the hands of competent and skilled drivers. The other prerequisites of road safety are well-designed roads and strict enforcement of provisions of the MV Act. Most of the truck drivers are illiterate and do not receive proper training from motor driving schools. The mechanism to regulate motor driver training schools provided in the MV Act is neither being implemented nor attention is given to upgradation of such schools licensed by the state governments. The sum total of the result of state government policies is that its own training schools are not being upgraded and private licensed schools are not being regulated as per the provisions of the Act. While this is the situation with regard to drivers driving the trucks, the condition of the vehicles is also poor. The design of the vehicles is not updated and preventive maintenance is neglected to save money. In fact, the entire maintenance of the trucks is entrusted to roadside mechanics who are by and large illiterate and ill-equipped and do not appreciate the importance of fuel efficiency, pollution control or safety aspects. Coming to the road infrastructure, it is in a bad shape since this sector has been starved of funds for a long time. The road deficiencies and lack of enforcement of safety regulations endanger road safety. The large number of road accidents and fatalities speak for the ineffective implementation of safety regulations.

4.2.6 *Environmental Regulation*

The CMV Rule No.115 prescribes the limits for emission of carbon monoxide (CO), oxides of nitrogen (NO_x), hydrocarbons and suspended particulate matter (SPM), etc. from motor vehicles. Of late, the environmental problems have assumed great importance all over the world. Major environmental problems especially those related to air pollution are partly due to emissions from automobiles. A number of measures have been taken to reduce emission caused by motor vehicles. Central government has the power to lay down emission levels for motor vehicles. Emission norms were first prescribed in 1992. Stricter norms were prescribed for all categories of vehicles in 1996. These would be made more stringent with effect from 1st April, 2000. The tightening of emission norms has brought about better technology in automobile sector. But the problem of on-road vehicles built prior to the introduction of emission norms is rather serious. No emission norms have been prescribed for these vehicles. While it has also been mandated that all motor vehicles on road shall possess a valid "Pollution Under Control Certificate" and the enforcement agencies of the states are taking appropriate

measures in this regard, testing of pollution is not carried out effectively. At present, there is no system in place for inspection, maintenance and certification of these vehicles. The Steering Committee was informed that the Technical Standing Committee constituted by the Ministry of Surface Transport (MOST) had suggested certain parameters for checking of vehicles. This requirement is yet to be incorporated in CMVRs. *There are a number of factors affecting the management of pollution control, but our enforcement machinery is neither adequate nor equipped enough to meet this challenge.* The licences granted to the private sector to check pollution levels and issue PUC certificates have not produced satisfactory results so far because the benchmark for emission checking by PUC centres, as the qualifications of persons handling the PUC equipment and the calibration of equipment itself need to be upgraded. As such, the environmental regulation is followed more in breach.

4.2.7 Regulation of Brokers/Agents

Section 93 of the MV Act provides for the licensing *inter alia* of agent or canvasser engaged in the business of collecting, forwarding or distributing goods by trucks. The wording of the section seems ambiguous. Strict interpretation would imply that it does not cover brokers/booking agents etc. There has been mushrooming of unscrupulous brokers/booking agents. There is a need to include brokers/booking agents within the scope of this section to pave way for their regulation.

4.2.8 Regulation of Axle Loads

Sections 113 and 114 of the MV Act empower the Motor Vehicles departments of the states to ensure that the vehicles carry the loads within the prescribed limits. Due to unhealthy competition obtaining in the trucking industry, overloading is a common occurrence. Further, weighbridges are not available in sufficient numbers to detect the offence of overloading; the provision of off-loading excess weight is not implemented for want of facilities. Lack of will on the part of the authorities to enforce the provision ‘offload the excess weight at owner’s risk’ as well as the provision of compounding the offence of overloading have resulted in the relevant regulation being only on paper. Overloading has, in fact, become the order of the day.

4.2.9 Regulation by Police Authorities

Besides the officers of Motor Vehicles department, the police officers also check motor vehicles. The specific areas in which police authorities have a role to play are :

- When theft of a motor vehicle takes place
- When vehicles are involved in accidents
- In verifying personal antecedents of drivers, conductors, etc., as and when need arises
- Regulation of traffic

Under the MV Act, the police have some powers such as detaining the vehicle without registration or permit, impounding false documents (registration certificate, licence, permit, certificate of insurance etc.), booking persons for driving at excessive speed or driving by a person under influence of alcohol or drugs. Presently, these offences are not being paid sufficient attention. Further, there is no institutional mechanism for coordination between the Transport Department and the Police Department in the states. As a result, the concern of the police authority is only to ensure that the provisions of the Indian Penal Code (IPC) are not violated. It is only through coordination between these two departments that enforcement of both the MV Act and the IPC is possible to ensure effective traffic management, road safety, etc. The punitive clauses for various offences also need a relook.

4.2.10 *Focus on ‘Revenue’, rather than on ‘Regulation’*

Motor Vehicles department is concerned with the enforcement of the provisions of the MV Act. The management practices of this department are age-old. The skills of officials deployed in the MV department are not being upgraded commensurate with the technology of vehicles being introduced from time to time. The technological skills need to be substantially improved. The technology in terms of use of sophisticated computers for information or communication is conspicuous by its absence. The necessary infrastructure for driver testing, fitness testing, pollution control is hardly available. These departments are seen mainly as revenue earning sources and contribute nearly 10% of the state’s tax revenue. Thus, the focus of these departments is on collection of tax revenue from motor vehicles and not on enforcement of the various provisions of the Act..

Trucking Industry is a service industry; it serves the transport needs of the manufacturers and the trading community. The working of the MV department has the potential to contribute towards either the success or the failure of the trucking industry. The present institutional focus being on ‘revenue’, important functions, such as mobility, safety, fuel conservation, environmental protection, etc., do not get adequate attention. In short, the regulatory mechanism has fallen far short of expectations.

4.2.11 *Insurance*

Third-party liability risk cover is mandatory under the MV Act. Under the third-party policy, the insurer provides indemnification to the insured against all sums which insured shall become liable to pay in respect of damages to third-party property, death/bodily injury to any person arising out of the use of motor vehicles. *However, the MV Act does not make it compulsory to insure the cargo carried in the vehicles* for which a separate policy is required to be taken.

Another important aspect of MV insurance is the tardy settlement of accident claims. Several measures have been taken both by the government and the insurance industry to expedite claim settlement, such as introduction of Section 140 (No Fault Liability), Section 163 A (Structured Formula for Compensation), holding of Lok Adalats, etc. There is a table on the

Structured Formula fixing the mode of calculation of compensation for the third party in case of fatal accidents and injury claims arising out of accidents. This provision was introduced in 1994. This has not become popular on account of various anomalies in the formula which have been discussed in detail in Chapter 9.

4.3 Major Issues

The MV Act provides rules for the issue of drivers licence, registration of vehicles, issue of permits, and fitness certificates, enforcement, road safety, prevention of overloading, emission control, insurance of vehicles, etc. All these were reviewed. Besides, issues like technological upgradation, strengthening of Transport Departments and the permit system were examined in the context of emerging needs of the road transport industry. The methodology followed included eliciting views of the officers of the MV departments through a questionnaire, personal interviews with selected transport commissioners and case studies of the MV departments in Rajasthan and Gujarat to understand the present working methods and the problems faced by these departments. The findings of the survey with respect to the above activities are discussed below :

4.3.1 *Registration of Vehicles*

Analysis of survey results brings out that there are problems faced by the MV departments with regard to registration of trucks such as variation in GVW of vehicles allowed by states (for example, GVW allowed by Nagaland is much higher compared to other states) re-registration of vehicles when 'No Objection Certificate' (NOC) is not forthcoming from the earlier registration authority; manual maintenance of records which is becoming a major problem due to shortage of manpower; absence of computerisation network amongst RTO offices is responsible for issue of fake registrations.

4.3.2 *Issue of Fitness Certificates*

The vehicle fitness scheme is a road safety measure which is designed to encourage owners to maintain their vehicles and to ensure that the most important safety related items are inspected periodically as provided in the Act. Inspection of vehicles includes seats, lighting equipment, steering and suspension, brakes, tyres and wheels, horn, exhaust system and emissions, mirrors, fuel system and registration plates. Section 56 of the MV Act read with CMVR 63(3)(e) provides that an authorised testing station for vehicle fitness work is expected to maintain in good condition the equipment and apparatus for undertaking test pertaining to exhaust gas, smoke emission, brake system, head lights, wheel alignments, compressors, speedometers and other like components. The infrastructure for fitness certificate work is inadequate. Presently, it is based on visual inspections and common judgement – there is no worthwhile equipment to check roadworthiness of vehicles. There is neither adequate parking space nor sufficient space for testing. There are many fake fitness certificates, as there is no mechanism to check them.

4.3.3 *Grant of Permits*

Survey results reveal that there is a dominant preference for national permits; around 68% of the truck owners had national permits, the balance 32% had state permits for their trucks. Monitoring of the expiry dates of permits; delay in despatching 'demand drafts' deposited by the national permit holders with their home state (refer para 4.3.12) and lack of effective mechanism to detect fake permits are other problems faced by the MV department. The present procedure does not ensure timely receipt of composite tax in respect of national permits by the states other than the home state.

4.3.4 *Driver Licensing*

Majority of the officers interviewed stated that the infrastructure for driver testing is not adequate; the driver training schools are insufficient for the growing needs of the public and the quality of training imparted by these schools is not up to the expected level. Seekers of driving licences are required to undergo medical tests and enclose the medical report with their applications. In reality, many drivers do not undergo such tests and spurious medical reports are enclosed with the applications for licence to satisfy the legal provisions.

Problems faced by the RTOs/MVIs with regard to driving licences include shortage of staff which cannot cope with the large number of applications for driving licences; lack of infrastructure facilities in terms of availability of test track, driving simulators and other equipment; fake educational and health certificates submitted by the applicants and lack of machinery to check genuineness of these certificates; possibility of an applicant failing at one RTO office getting licence from another RTO; existence of fake driving licences; and lack of means to check forged signatures on licences in the absence of list of authorised signatures being available with the checking authorities.

Transport Departments of different states have felt the need for technological upgradation for the issue of driving licences. The case study of Rajasthan shows that issuing of driving licenses through computerisation could solve the problem of fake licensing. In this context, it is worth mentioning the action taken by the Transport Department of Delhi Government. It has arranged for microfilming of the available record of commercial driving licences from 1992 onwards and has placed it on the computer. Commercial licences which come for renewal can easily be verified from computerised record and only the ones where the particulars given in the licence and renewal application match with the record, are renewed. Where either of the records are not available or particulars in the microfilm are different, or where more than one licence is issued on the same number, the applicants are subjected to rigorous test of driving competence on the vehicles for which the licence is sought to be renewed and only those who pass the test are granted renewal. Thus, the department has ensured that all the commercial licences renewed or freshly granted since mid-1995 are genuine with regard to the documentation and also that the holders of the licences newly granted or granted after passing the test of driving competence are actually competent to drive.

4.3.5 *Safety*

Survey results brought out that Transport Department did not have any information on the accident prone drivers, that many of the accidents were caused because of overspeeding, that there was no data on accident analysis available in the department. It was also observed that driving licences were not endorsed for the major offences committed by the driver.

4.3.6 *Emission Control*

Majority of officers informed that the trucks were subjected to emission control norms in their respective states. However, the number of PUC centres were not adequate to meet the demand for this facility. Although there is a system of monitoring the PUC centres through surprise checks, the system needed improvement.

4.3.7 *Overloading*

Overloading has become a regular feature of the freight industry. The majority view was that the vehicles should have inbuilt mechanism for control of overload. Checking vehicles for overload is rendered difficult for want of portable equipment. The present enforcement is oriented towards revenue collection. It does not focus on quality. There is no parking space for detained vehicles. The police stations are not giving permission to park these vehicles in their premises. A large number of officers of Transport Departments suggested that penalty had to be enhanced to curb overloading. The recommendations of the Steering Committee in this regard are given in Chapter 14.

4.3.8 *Problems Concerning Enforcement*

As per present practice, MVIs are expected to perform all functions by rotation. To improve the quality of regulation, there is need for specialisation in Motor Vehicles department with respect to work relating to accidents, pollution, fitness certificate, driver licensing, etc.

4.3.9 *Coordination*

A large number of the officers mentioned that there was no co-ordination between their department and other departments, such as Police, PWD, Municipal Corporation, Urban Development Authority, State Transport, etc. This resulted in poor safety, poor traffic control, severe congestion on roads, etc.

4.3.10 *Streamlining/strengthening of Motor Vehicle Departments*

The MV departments perform both technical and non-technical functions. The non-technical work includes assessment of motor vehicle tax and tax collection, issue of driving licences, conductors' licences, permits for transport vehicles and check-post duties. The technical work includes fitness certificate work of motor vehicles, enforcement of the provision relating to

hours of work of drivers from road safety point of view, effective control over the authorised testing stations through regular visits, audit of vehicles inspected and approved for fitness certificates and to ensure that the equipment kept by the authorised testing stations is in working condition and tests are being conducted with the help of this equipment, audit of motor driving schools to check whether these perform their duties properly while imparting training to the persons who seek motor driving licences. It is observed that this technical staff is used almost all over India, by the MV departments for non-technical work. In the process, real technical work suffers. Consequently, the enforcement of this Act has become lax. In the interest of effective enforcement of the various provisions of MV Act, state governments need to strengthen their MV departments so that the twin objectives of revenue generation and enforcement of regulation could be achieved.

4.3.11 *Detention of Motor Vehicles*

The smooth flow of goods carriers is hampered by frequent stoppage of vehicles for one reason or the other at various check-points. Detention of vehicles is causing substantial wastage of productivity of the trucking industry and is adversely affecting its viability. Broadly, the detention is one of the following kinds:

- (i) ***RTO checking***
Vehicles are detained for checking the essential documents such as registration book, driving licence, permit, etc. Detentions take place either at specified RTO check posts or on the way.
- (ii) ***Checking for payment of commercial taxes***
Vehicles are also detained for checking the payment of taxes such as sales tax, octroi and other local taxes. These checks are generally done by the respective agencies at separate points resulting in more than one detention for this purpose.
- (iii) ***Police checking***
Vehicles are also detained for booking the drivers for violation of traffic rules and regulations.
- iv) ***Border post checking***
Vehicles are also detained at state borders before these are allowed entry from one state to another. At border check-posts, normally transport vehicles are checked. There should be strict enforcement only at state borders; vehicles need not be detained at other check-posts within the state.

4.3.12 *Delay in Forwarding Tax (Demand Drafts) for National Permit Vehicles*

At present, tax for the states and union territories opted by the vehicle operator is collected by the home state through demand drafts drawn in favour of respective Transport Authority who sends these to the respective authorities. It is observed that these demand drafts are not sent promptly. Many of these do not reach the appropriate authorities during the validity period of

six months. The result is that these have to be revalidated and the concerned states or union territories do not get the tax amount in time although vehicles of other states continue to ply on their roads.

4.4 Present Spectrum of Activities of Motor Vehicle Department

Presently, the Motor Vehicle Department is engaged in the following activities :

- (i) Collection of taxes
- (ii) Issue of driving licences
- (iii) Issue of conductor licences
- (iv) Registration of vehicles and transfer of ownership
- (v) Issue of fitness certificates for transport vehicles
- (vi) Issue of permits for transport vehicles
- (vii) Enforcement work
- (viii) Checking of vehicles at border check-posts
- (ix) Attending to accident vehicles involving fatalities and serious injuries
- (x) Other miscellaneous work

Due to boom in vehicle population, the workload of the MV department has been on the increase. However, the infrastructural facilities and the managerial resources available with the department are limited. There is need to prioritise the work of the department on the following lines :

1. *Transport vehicles* require special attention of the MV department for the following reasons:
 - ***Contribution to tax revenue***
Transport vehicles are an important source of revenue generation and make maximum contribution to the tax collected by the state governments.
 - ***Large share in road accidents***
Analysis of vehicles involved in accidents (sample size 30,000) revealed that lorries and buses were involved in 45% of the accidents, though they formed only 7% of vehicles; 2-wheelers which constituted nearly 68% of the vehicles were involved in only 7% of accidents. The cars and jeeps were involved in 8% of accidents while they formed 12% of total vehicle fleet. Thus, there is need for a larger focus on the transport vehicles for safety management and related matters.
2. In the case of *non-transport vehicles*, instead of trying to perform all functions for these vehicles, the MV department should act as a facilitator and regulator. The case studies of the Management of MV departments for Rajasthan and Gujarat, done by CIRT, presented at Annexure 4.1 and 4.2, show the need to improve the quality of their working in terms of technological upgradation, manpower planning and engineering measures. At present, there are vast differences in management practices and manpower policies/approaches between various states.

In the light of these findings, the MV departments have to think in terms of major structural changes in their functioning and make use of private enterprise to carry out some of their functions. If the common basic obligations viz., to serve, to deliver, to charge at reasonable rates and to avoid discrimination are ensured by the MV departments, then using private enterprise does not negate public interest. The philosophy should be *to get work done* rather than *doing* the work by themselves.

4.5 **Participation of Private Enterprise in Regulatory Work**

With the unprecedented growth of automobiles, the workload of the MV department has increased tremendously. In order to lighten the work load of the MV department, it is important that the private enterprise be encouraged to take over some of the regulatory work. The registration work with regard to *non-transport* vehicles which account for nearly 88% of the total vehicles, can be entrusted to the dealers; a control mechanism has to be put in place to ensure that the stipulated procedures are followed by the dealers. Some states like Delhi have already experimented with such innovations; other states could learn from the experience of Delhi. Likewise, work of Pollution Under Control Certificate may be farmed out to private sector.

For Fitness Certificate work, Section 56 of the MV Act, 1988 has provided for *Authorised Testing Stations* to issue certificates of fitness for transport vehicles. The CMVRs 63 to 73 provide detailed instructions about these authorised testing stations. The MV department should act as a facilitator for establishing adequate number of authorised testing stations to test the roadworthiness of vehicles, since due to budgetary constraints, the department cannot invest so much money in infrastructure development and its periodic maintenance. Accordingly, the Steering Committee recommends that private sector participation should be encouraged to reduce the work load of the MV department.

4.6 **Proposed Modifications to the MV Act**

The main objective of reviewing the MV Act is to evaluate its compatibility with the changes that have taken place in recent times and its role in facilitating free flow of transport without hindrance, promoting driving skills and ensuring efficient goods transport system. Accordingly, this study focusses only on some selected provisions of the Act and the rules framed there under.

4.6.1 ***Minimum Educational Qualifications for Drivers***

Presently, there are no educational qualifications prescribed for issuing professional driving licence since most of the drivers are illiterate. A debate is on in the country whether the driver requires general education or only skills of driving. The recent changes in technology, transport environment, accident scenario, shortage of adequate road space, public expectations, etc., necessitate looking into this problem afresh.

Professional drivers need to have basic knowledge of legal aspects of operations, technological aspects of the vehicle, legal and regulatory restrictions on the roads, general awareness of environment, cost of operation, implications of overloading the vehicle and various other issues related to operations. It is universally accepted that education is an effective way for human development in every aspect of life. The backbone of the road transport is the driver, especially the professional driver. Hence, formal education is considered absolutely necessary. It is, therefore, proposed to have 10th class as the minimum necessary educational qualification for all transport vehicle drivers. This minimum qualification should be for future drivers and not for the existing drivers who already hold driving licences. During the last 50 years, literacy standards have improved in the country and there is need to attract more and more literate men to the profession of driving. Accordingly, it is suggested that the law should fix minimum educational standard for drivers for healthy development of the trucking industry.

4.6.2 *Dispensing Permit System for Trucks operating in Home State*

Permit regulation to control the movement of passenger and goods transport were introduced in the MV Act, 1939, to protect the interests of the then railways which were owned and operated by the Britishers. After independence, the rigid provisions for grant of permits to goods vehicles were relaxed. Initially, the operations of goods carriages were restricted to regional area consisting of a district or a few districts in a state. The goods carriage operator was not allowed to operate in all the regions of the state without countersignatures of adjoining Regional Transport Authority (RTA). By 1970, RTAs started granting permits for goods carriage for the entire area of the home state.

Under the Act, inter-state operations of goods carriages were controlled by grant of counter-signature permits and permits under Reciprocal Transport Agreements. When the demand for permits for adjoining states increased, the system of zonal permits was introduced by creating East, West, North, South and Central Zones. For zonal permits, STA's were allotted quota. In 1975, national permit scheme was introduced by allotting quota to the states for national permits. Subsequently, quota system was abolished and national permits were granted freely to all the applicant operators.

With the liberalisation of permit scheme in 1988, any one can apply for permit of any kind at any time and RTAs shall not ordinarily refuse to grant it. In keeping with the liberalisation policy, it is suggested that the requirement of permits for goods carriages for the home state should be dispensed with as a first step. Likewise, the counter-signature permits should be abolished because of the procedural problems associated with their issue. However, the permit requirement for inter-state operation by way of national permits may continue for the time being. It can also be reviewed in due course having regard to the emerging requirements of trade and industry.

4.6.4 *Transport Vehicle Drivers' Licences*

As per Rule 16(1) of Central Motor Vehicles Rules, 1989, motor driving licences were given in form No. 6 for the following category of transport vehicles.

- Invalid carriage
- Light motor vehicle
- Medium goods vehicle
- Medium passenger motor vehicle
- Heavy goods vehicle
- Heavy passenger motor vehicle

As a result of a recent amendment, all these categories are now to be treated as *transport vehicles* for the purpose of granting motor driving licences. As a consequence of this amendment, holder of a motor driving licence for any one of the above categories of vehicles, is entitled to drive all types of transport vehicles including heavy motor vehicles. The new provision is, however, likely to endanger road safety. The grant of driving licences for medium and heavy motor vehicles needs to be made stricter compared to those for light motor vehicles.

Keeping in mind road safety considerations, it is proposed that transport vehicles should have the following sub-categories for purposes of grant of driving licence :

Category	GVW Limit
Light motor vehicle	not more than 7,500 kg
Medium motor vehicle	7500 kg - 12000 kg
Heavy motor vehicle	12000 kg and above

In the interest of road safety, the Steering Committee considers it essential that due weightage should be given to driving experience in the grant of licences for commercial vehicles. The licence for heavy motor vehicles should be issued to a person only if he has held a driving licence for light or medium motor vehicle for at least two years. Provisions in the MV Rules may be amended accordingly.

4.6.5 ***Regulation of Hours of Work of Drivers***

The working hours of drivers are regulated through the MTW Act. Based on these provisions, Section 91 of the MV Act gives details about the prescribed hours of work for drivers. It has been observed that the provisions in this regard are not being enforced. As the MV department is responsible for road safety, there is need for regular monitoring of the work hours of drivers, their rest periods, weekly off and other working conditions. Strict enforcement of the provisions may improve safety. It is recommended that the MV department should pay adequate attention to the working conditions of the drivers who are the kingpins for the trucking industry. This would require amendment of the MTW Act so that the provisions regarding hours of work are applicable to all transport undertakings including those employing less than 5 persons. Strict enforcement of these provisions will also help in creating additional employment opportunities for the prospective drivers.

4.6.6 ***Improving Working of the MV Departments***

Enforcement by a strong regulating agency is a pre-requisite for implementing the provisions of the MV Act. Presently, the MV department works on bureaucratic lines and, quite often,

the basic objective of the department is not realised. There are many grey areas in its functioning. The MV department does not give adequate attention to aspects such as mobility, safety, environment protection and wayside amenities on the highways for transport vehicles. In terms of Section 213 of the MV Act, government has already prescribed qualifications for appointment of technical officers of the MV department. These provisions should be reexamined to ensure that the department is staffed by skilled and qualified personnel.

4.6.7 *Regulation of Brokers*

The MV Act should be modified to contain the definition of brokers and booking agents and it should mandate the provisions for their registration or accreditation. The subject has been discussed in detail in Chapter 7.

4.6.8 *Insurance*

At present, there is no legal compulsion for the consignors/consignees to insure their goods moving by road. In keeping with the requirement of multimodal transport system, trucking industry in India should have arrangements for insurance of cargo booked for transport. Lorry receipt should be c.i.f. document designed in the form of multimodal transport document. The Steering Committee strongly recommends that transport companies should be encouraged to issue insurance together with lorry receipt. In any event, cargo moved by road should be automatically insured by consignor/consignee/transport company.

In the interest of speedy settlement of insurance claims, it is essential that government should modify the structured formula by removing anomalies and extending the compensation table to cover a larger number of claimants. The suggestions in this regard have been discussed in Chapter 9.

4.6.9. *Liability for Overloading*

Besides the transport operators, such consignors who overload or allow overloading of vehicles should be held guilty for the offence of overloading. Suitable legislative amendments may be made in this regard.

4.6.10 *Abolishing Compounding Fees for Overloading*

Sections 113, 114, 194 and 200 of the MV Act are relevant in this regard. Overloading of vehicles is causing accelerated damage to roads and is a constant threat to traffic safety. For tackling overloading, there has to be strict enforcement of axle loads and Gross Vehicle Weight (GVW) limits. Section 200 of the MV Act regularises the overloading offence. For overloading to be stopped, this section may be deleted. The government may set up weigh stations at critical locations on national highways and state highways and levy deterrent penalties for overloading. The penalty levels for this offence should be uniform throughout the country; the rates may be fixed by the Central Authority. The checking on national highways should only be carried out by the Government of India/NHAI and a truck should be subjected to check only once. Necessary legislative changes should be made for this purpose.

4.6.11 *Environment Protection*

The emission norms are applicable only to new vehicles; there are no such norms for the on-road vehicles although these are mainly responsible for air pollution. It is suggested that these vehicles should be required to undergo periodic fitness certification which will reduce pollution levels. Accordingly, a vehicle Inspection and Maintenance Programme should be made mandatory for the on-road vehicles. At present, revalidation of the fitness certificate of a transport vehicle is required after every two years. In the case of non-transport vehicles, it is required after 15 years. The Steering Committee, keeping in mind the need for emission control, recommends that renewal of fitness certificate for non-transport vehicles should be mandatory after first 5 years and subsequently after every 3 years, so that inspection is done on a regular basis after a reasonable interval of time. In case of transport vehicles, renewal of fitness certificate should be on annual basis.

Government should evolve an appropriate institutional and regulatory framework for an effective enforcement mechanism for prescribed emission norms. In this connection, the government should also evolve a scrappage policy for old and highly polluting vehicles. Ultimately, control of emission would be possible only through cleaner fuel and improved automobile technologies. The ministries of Petroleum and Natural Gas, Surface Transport and Industry should continue to give high priority to these requirements.

4.7 **Other Suggestions**

(i) *Lorry Receipt should be made Negotiable*

Lorry receipt issued by transport companies is at present not accepted by banks for making advance payment to the consignors. Indian Banks Association has a scheme of approving certain transport companies whose receipts could be negotiated. The Steering Committee recommends that lorry receipts issued by registered transport companies/brokers/booking agents should be made negotiable, subject to certain conditions. The details in this regard have been discussed in Chapter 7.

(ii) *Need for Allocation of more Funds*

Presently, the expenditure of Transport Department is around 2 - 4% of the total revenue collected by it. The RTO offices do not have the requisite forms, computer stationery, furniture and other equipment. While the task of regulation is becoming increasingly complex due to boom in motor vehicles, the capabilities of the regulating machinery are at standstill. Functions like road safety, environment protection, mobility and automation are neglected due to inadequate staff and shortage of funds. The HRD component in the budget of the MV department is conspicuous by its absence. Hence, there is need for allocation of adequate funds for HRD, computerisation and creation of infrastructure facilities by providing necessary equipment and the required workforce.

(iii) ***Computerisation to be given Top Priority***

The progress of computerisation in the MV departments has been tardy. Fake licences, permits, taxation certificates, and registration certificates are the order of the day, causing considerable loss of revenue to the state governments. There is an urgent need to give priority to the computerisation of departmental records. Computerisation in one state or in one district cannot help the situation. This programme can be beneficial only when all the RTO offices in the country are connected through an effective network. This task needs to be taken up on priority basis. The Steering Committee feels that leaving this task to states alone will either result in tardy progress or development of different systems which may not be compatible with one another. Accordingly, it is suggested that computerisation of RTOs, sharing of this information using online services should be funded by the MOST.

(iv) ***Use of Information Technology***

Information technology is being extensively used in commercial vehicles both for goods and passenger movement in the Western world. A beginning needs to be made in India too. To start with, there is need for mandatory fitment of suitable systems like AVL (Automatic Vehicle Location) and GPS (Global Positioning System). The drivers should be able to get information regarding climate and road conditions well in advance during their journey so that they can take proper precautionary measures. Many developments are taking place in the field of transportation management, such as highway radio broadcasting, to inform the drivers about the route, precautions to be taken and availability of motels, petrol filling stations, repairing facilities, etc. There is an urgent need for application of ITS (Intelligent Transport System) making use of information technology which has great potential for road transport administration. Separate task groups may be constituted to follow up these measures.

(v) ***Constitution of a Central Authority***

The prime objective of transport policy is to ensure uninterrupted and free flow of traffic across the country. The inter-state traffic by road has grown rapidly over the years and so have the detentions due to multiplicity of taxes, multiplicity of check-posts, etc. Each state has developed its own code of taxation suiting its requirements; procedure for collection of taxes differs from state to state. Even in the case of national permit scheme, the composite fee for which is fixed the Transport Development Council, some states are charging a fee different from the prescribed fee. All these factors create problems for the truck operators.

The Steering Committee, after indepth discussions with academicians, transport operators and their associations came to the conclusion that taxes on inter-state routes be determined by a central authority which should be constituted by the central government. In so far as intra-state routes are concerned, the state should be free to determine the tax rates.

A review of the reports of the various committees set up by the government in the past for rationalisation of the MV tax brings into focus the fact that the idea of a central authority is germane to their reports. As early as in 1966, the Committee on Transport Policy and Coordination (Tarlok Singh Committee) alluded to the need for central government legislation for bringing about uniformity in the levels of motor vehicle tax in the states. The recommendation was repeated by the Keskar Committee : it recommended the constitution of a central authority for laying down uniform principles of taxation and licensing, etc.

It may be recalled that a central authority (Inter-state Transport Commission) was set up by the Government of India in 1958 under the MV Act for developing, coordinating and regulating operations of transport vehicles engaged in inter-state operations. Its functions included inter-alia (i) specifying conditions attached to an inter-state permit; (ii) assisting the states in the conclusion of reciprocal agreements; and (iii) fixing maximum and minimum fares and freight rates. Unfortunately, the Commission could not function satisfactorily on account of limited powers granted to it and was abolished in 1988.

In the transport sector, in many countries of the world, independent regulators have been set up to ensure healthy development of industry, promote competition and ensure adherence to legal provisions. A similar regulatory authority is necessary for India. This authority could be an independent statutory regulatory authority, outside the government, on the lines of Telecom Regulatory Authority or Central Electricity Regulatory Commission. Its basic function would be to ensure enforcement of the provisions of the MV Act and Rules framed thereunder. The authority may look after the following activities :

- i) Review the MV Act and the Rules framed thereunder on a continuous basis and suggest modifications to ensure growth of road transport sector on healthy lines.
- ii) Lay down norms of emission for various categories of motor vehicles and ensure their compliance.
- iii) Lay down standards for safety and technology upgradation for various categories of vehicles, wayside amenities on national highways and regulation of traffic safety.
- iv) Evolve an inspection and maintenance scheme for various categories of vehicles.
- v) Audit the functioning of drivers training schools and vehicle testing centres to ensure compliance with the various provisions of the MV Act.
- vi) Issue of national permits with uniform rates of fees.
- vii) Lay down principles for issue of inter-state/national permits, fixation of fees and sharing of fees between states.
- viii) Determine uniform and deterrent penalties for overloading of vehicles to be levied throughout the country in order to discourage the practice of overloading.
- ix) Eliminate or at least reduce detention of vehicles on the highways on the lines of railway operations.
- x) Laying down principles of taxation and to suggest measures to reduce disparity in motor vehicle taxes levied by different states.

In the interest of development of trucking industry on modern lines, it will be necessary to set up one central authority and make state transport authorities the implementing agencies of the directions of this central authority.

4.8 Recommendations

Considering the problems of regulation mentioned above and having regard to other recommendations made by the Steering Committee requiring legislative changes, the Committee recommends that the MV Act be modified on the following lines :

- 1) Section 91 of the MV Act and the MTW Act regulate the working hours of drivers. However, the MTW Act is applicable where the number of employees is more than 5. Considering that small truck owners with less than five workers dominate the trucking sector, provisions regarding working hours are not applicable to a vast majority of workmen in the trucking industry. Accordingly, the MV Act and the MTW Act should be suitably amended to regulate the working hours of the truck drivers.
- 2) To check drivers' duty hours and overspeeding, *tachograph* should be made mandatory for all trucks.
- 3) Presently, there are no educational qualifications for drivers. In terms of Section 9(4) of the MV Act, government may prescribe minimum educational qualification of 10th class pass for transport vehicle drivers.
- 4) The infrastructure in terms of driver testing facilities, equipment for vehicle testing, etc. needs to be provided on priority basis.
- 5) The licence for heavy motor vehicle should be issued to a person only if he has held a driving licence for light/medium motor vehicle for at least two years.
- 6) The intra-state permits and the counter-signature permits/permits under reciprocal agreements for inter-state operations should be dispensed with. A uniform telescopic fee structure should be introduced for inter-state permits.
- 7) Section 114 of the MV Act dealing with off-loading excess weight should be strictly enforced and deterrent penalties may be considered against overloading and these should be related to excess loads.
- 8) Section 200 of the MV Act dealing with compounding of overloading offence should be abolished.
- 9) Apart from the operators, regulation of consignors is also necessary to curb overloading. They should be held responsible for violating the load limits. Necessary legislative amendment in this regard may be put through.
- 10) Section 213 of the MV Act should be modified to ensure that the MV department is

staffed by skilled and qualified people. Appropriate institutional arrangement should be made to cater to their training needs.

- 11) Section 93 of the MV Act should be modified to include brokers/booking agents; it should also mandate their registration/accreditation.
- 12) Lorry receipts should be made negotiable as indicated in Chapter 6.
- 13) Provision for fixing freight rates in Section 67(1) of the MV Act should be dropped since these are determined by the market forces of demand and supply. However, the practice of truckers forming cartels need to be discouraged.
- 14) Insurance of cargo to be moved by road should be made mandatory in keeping with the requirement of multimodal transportation system.
- 15) Section 163A of the MV Act deals with the structured formula for compensation to accident victims; it is necessary to remove anomalies in the formula in the interest of speedy settlement of the MV insurance claims.
- 16) A time limit for filing accident insurance claims and restricting the jurisdiction of Motor Accident Claims Tribunal is necessary to remove uncertainty about the claims liability of the insurance companies.
- 17) The benefits of information technology should be available to the goods transport industry. The vehicles plying in the country should be provided with AVL (Automatic Vehicle Location) system or GPS (Global Positioning System) on a mandatory basis to improve road safety, coordination and control.
- 18) Inspection and maintenance programme should be made mandatory for in-use vehicles to reduce pollution levels.
- 19) The work of regulation cannot be carried out by the government machinery all by itself. There is need to encourage private sector participation in this activity.
- 20) The expenditure on the MV departments is 2 to 4% of the revenue earned by them. There is need to enhance funding to the MV department to improve their HRD, modernise their working and create suitable infrastructure.
- 21) Computerisation of the MV departments and their networking should be given top priority. This task should be funded by the central government.
- 22) Presently, the MV departments are focussing their attention on tax collection as their prime objective. Non-revenue functions of the departments are taking a back seat. There is need to delink 'revenue-collecting' functions from other functions of these departments.
- 23) An independent central regulatory authority should be constituted to ensure enforcement of provisions of the MV Act and perform other functions as mentioned in the chapter.

Chapter 5

OWNERSHIP PATTERN AND FORMATION OF FLEET

5.1 Background

The trucking industry is largely unorganised. Reliable and detailed data on different aspects of the sector, including the ownership pattern, is not available. One time data was collected through special surveys conducted by CIRT, Pune, in 1994 for the study *Road Goods Transport Industry in India - A Study of its Structure and Organisation*. The major findings of the survey were:

- Majority of goods transporters in India are small operators owning one or two trucks. In some cases, the small operators own between 5 to 10 trucks. The trucks are not registered in one name presumably to avoid income-tax, labour legislation, etc.
- The small operators are involved only in the physical movement of goods and depend on the booking agents and other fleet operators/ transporters for obtaining business. Some are attached to major transport companies, brokers and vehicle suppliers. They do not generally come in direct business contact with the users.

Another detailed survey was conducted by CIRT for AITD in 1998 in connection with the present study, 'Trucking Operations in India'. The relevant findings connected with truck owners are as follows:

(i) *Number of Trucks Owned*

The survey results show that 77% of the truck owners surveyed have upto 5 trucks. The percentage distribution of truck owners owning between 6-10, 11-15, 16-20 and more than 20 trucks are 10%, 4%, 3 % and 6%, respectively. The above analysis confirms the fact that the small owners continue to dominate the sector. It is reported that many of these small operators are attached to the transport companies.

(ii) *Number of Years in the Trucking Business*

The analysis shows that around 56% of truck owners surveyed are in this business from 1 to 10 years, 30% for 11 to 20 years and 15% are in this business for the last 21 years or more.

(iii) *Factors Motivating Truck Ownership*

The survey results reveal that more than 50% became truck owners since they were employed in this business and thought of purchasing a truck as they felt it was lucrative

business. Other reasons given by the truck owners were that it was their family business and there was ease of entry and exit. Besides, this business called for relatively less investment; time and attention required was not large and it supplemented the income of the entrepreneur.

(iv) ***Benami Ownership of Trucks***

The analysis of the data reveals that very few transport operators admit of owning even up to six trucks. It has also been found that while the same person may expand the fleet by adding successive trucks, he prefers buying additional truck(s) and applying for loan in the name of another person than in his own name. This is primarily done to avoid the application of the Motor Transport Workers Act.

(v) ***Engaging Drivers by Owners***

Around 13% of the owners either drive the vehicle by themselves or engage drivers; and around 87% of the owners hire a driver to drive their vehicle.

(vi) ***Locating Freight for the Truck***

Of the total samples, around 44% owners locate the load by themselves probably because they do not want to pay the commission amount which, in normal circumstances, is given to the brokers for getting the load.

A rapid appraisal survey was also conducted to find out the status of different categories of operators. Associations, medium and large size operators throughout the country were interviewed. The following facts came to light:

- Small truck operators (owner-cum-operator) own one or more than one truck but up to the limit of 5 trucks.
- Medium-size fleet operators operate with a fleet size of about 40 to 50 trucks.
- Large-size fleet operators operate with more than 50 trucks.

The medium and large size fleet operators charter trucks to the extent of 10 to 12 times of their own fleet. They get the supply either through lorry suppliers or directly from single truck owners. In terms of goods consignment notes (GCN), they currently account for as much as 87% of the business; their corresponding share of business in this category currently was 80% in 1994. Large fleet operators have a network of branches in various cities and, therefore, are able to account for a large market share. Survey revealed that big fleet operators handle about 12% to 15% business in their own trucks and the balance by hiring trucks from small truck operators either on their own or through brokers. Though this finding gives a semblance of fleet operation, the fact remains that it is only in a specific sense of moving goods under the name of large transport companies; the negative aspects of small ownership still persist. These

operators are not able to provide adequate and timely maintenance to their trucks. They do not enjoy the economies of scale either.

5.2 Productivity of Truck Operators

The productivity of truck operators depends directly on their fleet size, its utilisation, availability of adequate maintenance infrastructure, trained manpower, freight structure, etc. Given the scattered nature of the industry, it does not enable it to enjoy the economies of scale. Truck operators being small, they lack the manpower and other facilities to directly deal with the consignor/consignee and save on the commission given to the intermediaries. The existing structure also makes it difficult to introduce new ideas and achieve the objectives of road safety, technology upgradation, professionalisation of management, etc. The survey results and the discussion with people engaged in the trucking operations reveal that the productivity of the system will improve considerably if efforts are made towards formation of viable units among operators so that they do not restrict themselves to haulage function alone, as at present, but also undertake various allied transport activities.

With an eye on improvement of productivity of truck operators, various committees were set up by the government to examine the subject and make recommendations. These expert committees included the Study Group on Transport Planning (1955), the Committee on Transport Policy and Co-ordination (1966), the Road Transport Taxation Enquiry Committee (1967) and the Study Group on Viable Units (1967). These committees considered a single truck firm as not viable, and some even held the view that a viable unit should consist of at least ten trucks. The study groups also suggested that appropriate incentives be provided to individual single-truck owners to organise themselves into either registered associations or co-operative societies for availing of common facilities like servicing and repair of vehicles, booking and forwarding of goods, etc. to ensure efficient and economic operation and avoid exploitation by middlemen.

5.3 Formation of Fleet

The post-Independence era witnessed some efforts on the part of the government to bring about formation of viable units in the road transport industry. In the early fifties, the need for formation of viable units amongst goods operators was stressed by the Planning Commission when it recommended that incentives should be given to them to form viable units of goods vehicles by granting them permits for a period of five years. The Planning Commission, in the First Five Year Plan, reiterated the policy of forming larger units of operators and observed that only a large organisation, with adequate financial resources, could provide the workshop and other facilities essential for rendering efficient and economic operations. According to the Commission, it was desirable for the existing private operators to amalgamate, wherever possible, into big viable units to enable them to achieve better returns and maintain better standards of operation. In the Second Five Year Plan, it was again stated that inadequate development of road transport during recent years could be attributed, among other reasons, to the fact that the majority of private operators were small individual truck owners without resources, who could not expand their operation on sound business lines. In pursuance of the recommendations

contained in these Five Year Plans, some state governments provided, in their Motor Vehicles Rules, for preferential treatment to viable units in the matter of grant of permits.

5.4 **Promoting Fleet Formation**

In order to promote formation of fleet, it is essential to review the existing Motor Transport Workers Act arrange finance for working capital needs and provide suitable incentives to achieve the goal. In this regard, the following suggestions are made.

- ***Modification of Motor Transport Workers (MTW) Act, 1961***

The MTW Act *inter alia* provides for :

- Fixation of working hours of drivers of transport vehicles to not more than eight hours in any day and 48 hours in a week.
- Half an hour break after every five hours of work except when the motor transport worker is not required to work for more than 6 hours on that day.

Despite the clear rules and regulations laid down in the Act, the survey results reveal, as indicated below, that the legislative provisions have been consistently violated :

- 66 % of drivers drive continuously for more than 9 hours in a day; 20% of the drivers drive for more than 12 hours in a day. Only 30 % of the drivers drive for 5-8 hours continuously in a day.
- Regarding rest between two driving spells, only 6 % of the drivers take rest for more than 8 hours between two driving spells. In all cases, one driving spell is equivalent to 72 hours or more.

The root cause for violation of law is that 77 % truck owners are small operators; they do not come under the purview of MTW Act, 1961. Section 3 of the Act explains that the provisions of the Act are applicable to employees of only those motor transport undertakings which have employed five or more motor transport workers. Since almost all the small operators are registered under the Shop and Establishment Act, the provision of the MTW Act has been challenged in courts of law by various operators.

The restricted nature of the MTW Act has had an impact on the ownership pattern of the sector. If this Act is modified suitably and made applicable to all the units of the trucking sector, the tendency towards false registration of vehicles, presently done in other's name so as to avoid being subjected to the provisions of the MTW Act, will be checked.

- ***Simplified Income Tax Procedure***

Under the Income Tax Act, earnings beyond a certain minimum are taxed by the government. If the annual earnings are within the non-taxable limit, no tax is to be paid. The trucking industry, at present is informal in nature and is characterised by single owner/operator. It has often been seen that these single truck operators, in order to avoid income tax, register their vehicles in other person's name belonging to their family, etc. This way, the income basically earned by them gets distributed on paper in the name of various people in whose names the vehicles are registered. This exempts them from filing income tax returns. Further, due to wrong registration, as mentioned above, the data collected and analysed also does not give the correct picture of ownership pattern in the industry.

Vide Section 44 AE of Income Tax Act, the government has introduced special provision for computing profits and gains of business of plying, hiring or leasing goods carriages of assessee who own not more than ten such vehicles. In the case of heavy goods vehicles, the profit is deemed to be Rs. 2000/- per month or part of a month during which the vehicle is owned in the previous year. In case of other such vehicles, the profit is computed at Rs. 1800/- per month. This is a good incentive for the small truck owners. To promote fleet formation, the Steering Committee recommends that this provision should be extended to assessee owning upto 20 vehicles.

- ***Financing Working Capital Needs***

The low profitability of small operators, especially those with one or two trucks, is partly due to their low net freight realisation; this is a consequence of the relatively high margins retained by transport companies and agents on freight bookings. As a result, the operators are left with inadequate funds to finance working capital. In the absence of loan funds for the purpose, either from the banks or the non-banking financing companies, operators are forced to approach transport companies and agents for advances which are adjusted against their future truck hire earnings. This perpetuates dependency; operators remain under financial crunch and are unable to expand and add to their trucks. It is recommended that the working capital should be made available through the banks to cooperatives or fleet owners of 20 or more vehicles as it will give them financial independence. This will eventually have a positive impact on their economic condition and will facilitate increase in the number of trucks owned by them.

- ***Incentives Necessary for Fleet Formation***

There is need to bring together the small operators. Despite the recommendations of various committees and, in particular, those of the Study Group on Viable Units set up by the Ministry of Shipping and Transport in 1967, that appropriate incentives be provided to individual single truck owners to organise themselves into either registered

associations or co-operatives, little progress has been made in this regard. State governments, by and large, have not extended any incentives for this purpose and in a few states where transport operators' co-operatives were set up, the results have not been encouraging. Incentives need to be provided to the truck operators to make viable units, thereby increasing the ownership level. The incentives can be provided in the following form:

- 10-15 per cent rebate in the Motor Vehicles Tax for a transport company or cooperative unit having 20 or more vehicles for a period of 5 years,
- rebate in insurance premium for a transport company or a cooperative unit as above,
- the same facilities which are available to big fleet owners regarding supply of tyres should be made available to a transport company/cooperative unit as above,
- availability of spare parts at controlled prices to transport company/cooperative unit as above,
- preference in licensing of booking agents,
- provisions for easy availability of land, etc. for building workshops and warehouses to transport company/cooperative unit as above,
- the present limit of ten trucks for availing of credit facilities under priority sector lending through financial institutions needs to be enhanced to 20, and
- The lorry receipt issued by a registered transport company/booking agent, etc. should be treated as negotiable instrument.

Chapter 6

INTERMEDIARIES IN THE INDUSTRY

6.1 Introduction

The trucking industry has a number of intermediaries who play a useful role in the provision of efficient transport services. These include the booking agents (also called transport suppliers or transport contractors) and the brokers. These players basically perform the function of middlemen for the truck owners majority of whom are unorganised owning just one to two trucks. While broker is a person (or a group of persons) who takes commission from the truck owners and ensures the supply of trucks to the transport contractor, booking agent is a person engaged in the business of collecting, forwarding or distributing goods carried by goods carriages. In addition, some of these agencies also provide finance and godown facility. They usually operate from ports, project sites and mega production centres. To cater to this type of road transport, many of the conventional transport companies have created a separate division, namely, 'contractor division'. Both the transport contractors and the contractor divisions compete among themselves to acquire contracts for transportation of cargo of major consignors. The survey conducted by CIRT in 1998 reveals that in certain cases (around 44%), the small operators themselves take up multiple role of a transporter, broker and booking agent. This is done to save on the commission due to these agencies and reduce the cost of operation.

Booking agents/transport contractors, and brokers are at present an unregulated lot. Since these players determine the freight rates and act as powerful agents of the trucking industry, it is important that their role and the possibility of bringing them within the purview of legislation or under associated bodies is examined. This would help in evolving the code of conduct for their modus operandi.

6.2 Settlement of Freight Charges

The freight rate structure in goods road transport is determined at different levels. The transport contractors or the contractor divisions quote and settle the freight rates with the consignors. These are negotiated rates and are valid for a given period of time. The truck owners depend on brokers, who have day-to-day arrangements with them, for obtaining goods for transportation. The brokers arrange the goods for the truck owners from the booking agents at the prevailing market rates for which they charge their brokerage which ranges from Rs.200/- to Rs.400/- per vehicle per trip. It has been observed that the freight charges paid to the truck owners have no relationship with the rate settled between the consignor and the booking agent. Also, since the freight is arranged through brokers, the freight rate at which the truck owners operate is also settled by the brokers and the booking agents.

It has also been observed that in certain cases there is an agreement between a broker and a truck owner for a stipulated period during which the former arranges guaranteed freight at rates fixed in advance. The payment of freight charges to the truck owner is done in two

parts : 20-30% of the gross freight charge is paid before the commencement of journey and 70-80% after the delivery of the cargo, called *pahunch* in common transport parlance. This is an acknowledgement of the receipt of goods by the consignee recorded on the document (bill/invoice) issued by the transport contractor at the originating point. The “pahunch” may be paid either at the destination or, in certain cases, at the originating point, on his return. A recent study undertaken by Indian Foundation of Transport Research & Training (IFTRT) on truckers reveals that while in 10% of the cases payment of balance freight charges is made promptly to the owner on submission of *pahunch*, 70% of the cases suffer delays. It is also reported that at the destination points or nearby, some of the transport contractors have set up their own separate windows where they provide instant cash to the truck owners on payment of a certain amount as discount. The persons engaged in this business of discounting *pahunch* are called *Angarias*. It is reported that *Angarias* collect around Rs. 200/- to Rs. 600/- on a freight amount of Rs. 10,000 for 15 days to 60 days, depending upon the credit rating enjoyed by the transport contractor.

6.3 Observations from the CIRT Survey

A. *Brokers*

(i) *Category of brokers*

Majority of the brokers have been in the business for above eight years and are sole proprietors indicating that new entrants are few in number. This business has developed as a family business rather than as an organised industry.

(ii) *Qualifications of brokers*

As regards level of education of the brokers, the survey indicates that 64% of the brokers are educated up to matriculation level and only 36% are graduates. This low level of education is responsible for lack of professionalism in the organisations.

(iii) *Adherence to delivery conditions by vehicle operators*

Majority of the brokers (45%) ensure the transport of goods on faith only. Nearly 35% will give the loads only to the known truck operators which clearly explains the informality obtaining in the trucking industry. On the other hand, the truck owners also approach the brokers for truckloads without any written agreement.

(iv) *Advocacy of licensing system*

Majority of the brokers (55%) advised that there should be a licensing system to operate this sector in an organised manner. Nearly 56 % said that licensing is required with minimum infrastructure to be specified by the Motor Vehicles department.

(v) *Role performed by brokers*

Though the brokers claim that their role in providing rest rooms, vehicle parking facilities and liaising with enforcement authorities, etc. is valuable, the survey results

show that the drivers were actually not getting these facilities; the role of brokers is limited to locating the loads, fixing the freight rates and ensuring cash advance against freight charges.

(vi) ***Liability undertaken by a broker***

The liability of the broker towards the truck owner is mainly for ensuring the payment of freight charges. The broker does not have any responsibility in case of damage or loss of goods.

(vii) ***Problems faced by brokers***

The common problems faced by brokers include delay in payment of freight charges (74%), refusal of payment of freight charges to truck owners (26%) and the undependable truck owners (15%). In the perception of brokers, there should be a legislation for timely payment and penalties for delay in payment. While 46% of the brokers said that they were not facing any problems from truck owners, 42% complained that there were problems of delay in delivery.

(viii) ***Commission to brokers***

The commission to the brokers is paid either as a fixed sum or a fixed percentage of the freight charges depending upon the agreement with the truck operator.

(ix) ***Unhealthy competition among brokers***

Majority view was that there was unhealthy competition among brokers. The brokers felt that unhealthy competition among them could be reduced by regulation, i.e. through a system of registration of brokers.

(x) ***Willingness to become members of an association***

Around 56% of the brokers indicated their willingness to form an association.

B. ***Booking agents/Transport suppliers***

(i) ***Category of booking agents***

Majority of the booking agents (60%) are in the business for more than 8 years and are sole proprietors. Like brokers, they also seem to have developed this trade into a family business.

(ii) ***Educational qualifications***

46% of the booking agents are matriculates while 44% are graduates. Thus, around 90% of them are at least matriculates and above.

(iii) ***Advocacy for the licensing system***

As per the survey response, 56% of the booking agents said that licensing is required with minimum infrastructure to be specified by the MV department.

(iv) ***Willingness to become members of an association***

Around 57% of the booking agents indicated their willingness to form an association.

(v) ***Role performed by booking agents***

The role performed by the booking agents is much better compared to that of the brokers. They are providing the communication facilities, rest rooms, local assistance, liaising with enforcement authorities, locating loads and fixing freight rates.

(vi) ***Liability undertaken by booking agents***

There is practically no liability on the part of the booking agents for any loss or damage of goods. The liability is limited only to timely delivery of goods.

(vii) ***Commission to booking agents***

Commission to the booking agents is given either as a fixed sum or as a fixed percentage of the freight charges.

(viii) ***Adherence to the delivery conditions by the booking agents***

The booking agents believe that the vehicle operators would abide by the delivery conditions. Some of them give loads to the known operators only.

(ix) ***Unhealthy competition among the booking agents***

Majority of booking agents (73%) accept the fact that there is unhealthy competition among booking agents since there is excess availability of vehicles compared to loads offered.

(x) ***Suggestions to reduce the unhealthy competition among booking agents***

According to booking agents, for reducing unhealthy competition among them either the freight rates should be fixed (48%) or a licensing system should be worked out (30%).

It is evident from the survey results that the growth of intermediaries is not taking place on healthy lines. Unhealthy competition among these agencies has rendered the trade unattractive for the new entrants. It is also observed that both brokers and booking agents have no written document to abide by. They function on word of mouth which often results in their dealing only with known operators. It is also interesting to note that while the only liability of the broker is to ensure payment of freight charges by the booking agents

to the truck owners, nearly 74% brokers have complained of delays in payment. A feasible solution to these problems would be to bring both the brokers and the booking agents within the purview of legislation. These agencies, as revealed by the survey, are willing to accept their registration and licensing.

6.4 Regulation of Brokers and Transport Contractors

The MV Act 1988 defines a *driver*, *goods carriage*, and *owner* of a motor vehicle. However, the *Act does not define a broker, transport company, transport contractor or angaria*. Obviously, the Act seems to be restricting itself to the manufacture and the control of transport vehicles. Operation of road transport activities has been left out except that Section 93 provides for licensing *inter alia* of agent or canvasser engaged in the business of collecting, forwarding or distributing goods by goods carriages. Strict interpretation of the section would imply that it does not cover broker or booking agent. There has been mushrooming of brokers and booking agents. However, at present, these agencies are not being regulated.

Analysis of the survey data reveals that registration and licensing are essential to regulate the brokers and booking agents. Their regulation will cast some duties on them. For example, a registered broker would be expected to ensure that driver of the vehicle fixed by him has a licence, that owner has a valid permit etc. As such, it is essential that licensing rules are framed and enforced by the respective state governments.

Section 93 should be recast to include brokers. To popularise registration among the brokers and booking agents, the following suggestions are made: (i) Law should provide for their registration/accreditation. (ii) States should lay down the condition for their registration. (iii) A package of incentives needs to be put in place to encourage registration. Rebate in insurance premium should be given when insurance cover is arranged by registered brokers/booking agents; documents issued by them should be acceptable to the banks and they should be granted representative status to liaise with government agencies.

At present, there is no recognised negotiable instrument in the trucking sector. Lorry receipt issued by transport companies or booking agents/brokers is not accepted by banks for making advance payments to the consignors. The Indian Banks Association (IBA), however, has evolved a scheme of approving certain transport companies/transport contractors whose lorry receipt is negotiable. For granting such approval, the IBA requires that the transport company/transport contractor should own at least seven heavy vehicles. There is, however, no stipulation that these seven vehicles be fit and in operating condition. The members of the Steering Committee deliberated on this aspect at length and recommended that the lorry receipt issued by duly constituted transport company or registered booking agent/broker should be made negotiable and for this purpose, lorry receipt should be standardised in consultation with the Reserve Bank of India (RBI).

6.5 Status of Associations of Brokers/Booking Agents

- There are a number of associations (of owners/operators, etc.) operating at taluka, district and state levels. But there is no nodal agency to co-ordinate their activities effectively either at the state level or at the national level.

- The survey results reveal that most of the associations are un-organised without having a proper structure. They are busy in sorting out their day-to-day problems rather than playing a key role in projecting the problems faced by their members collectively. Most associations are functioning from ill-equipped premises in congested localities in the cities, barring only a few like Ahmedabad Truck Owners Association, State Lorry Owners Federation, Tamilnadu, etc.
- Almost all associations are ill-managed. It is desirable that they should employ one or two educated professionals/transport specialists to be able to provide better services to their members.
- Another important factor is infrastructure. It should be made incumbent for the associations to have the minimum infrastructure to maintain database and to act as a forum for exchange of ideas.

6.6 **Recommendations for Registration**

Considering the key role played by brokers and booking agents in trucking operations, it is essential that they are regulated through the process of registration. For this, it is necessary that the MV Act is modified to define the brokers and booking agents and mandate their registration. With regard to registration of brokers and booking agents, the following suggestions may be considered:

- 1) States should lay down the necessary conditions for registration, such as minimum turnover, financial soundness, income tax assessee status of the person, providing minimum security deposit or a fidelity bond as decided by the government.
- 2) Brokers/booking agents should have minimum infrastructure, including office space, standardised documentation system. They should maintain the essential data such as the commodities transported by their fleet, provide storage, communication and rest room facilities and also minimum equipment to handle any vehicle breakdown, etc.
- 3) Registered brokers/booking agents should be accorded representative status to liaise with government agencies.
- 4) While generally the law does not require a broker to carry insurance for either cargo or for public liability, many international brokers and logistic companies are providing both. As an incentive for registration, government should lay down that rebate in premium will be given if insurance cover on goods is provided through registered brokers/booking agents.
- 5) Transport users have been demanding that lorry receipt should be made negotiable on line with railway receipt and shipmaster's bill of lading. To encourage registration, government may stipulate that lorry receipt will be treated as negotiable only if it is issued by a registered broker/booking agent.

Chapter 7

FARE AND FREIGHT RATE SYSTEM

7.1 Introduction

Freight rates have a direct bearing on the distribution cost of goods and, therefore, it has implications for the economy. Given the structure of the Indian market and the industry, the freight rates have always been decided by market forces of supply and demand. Rates have shown an increase of almost 30 to 40% in the peak seasons and have dropped substantially during slack seasons. Due to intense competition in the market for road goods services, freight rates are generally negotiated. Despite the provision in the MV Act regarding fixing of fares and freight, no definite mechanism has been evolved for their determination and enforcement. Consequently, at present there is no state which has fixed the freight rates.

7.2 Fare and Freight Policy

Section 67(1) of the Motor Vehicle Act, 1988 gives power to the state governments to issue directives to the STAs regarding fixing of freight and fare rates. Under Section 79(2)(iv) of the Act, the Regional Transport Authority (RTA) granting a public carrier permit, may provide that goods shall be carried at specified rates. However, states neither have an objective basis for fixation of freight rates nor any separate agency for enforcing freight rates.

Since the industry is dominated by single truck operators, goods booking agents and brokers play a crucial role in the fixation of freight rates. The truck owners depend on them for goods for transport. The broker arranges the goods from the booking agents for the truck owner. The freight rate at which truck owner operates is settled by the broker and booking agent. The freight fixation mechanism has already been discussed in Chapter 6.

7.3 Facts about Freight Rates

In order to have a clear picture of variation in freight rates, the freight rates for 9-tonne payload truck from Mumbai to various states over three months, namely, June, July and October, 1998 were studied. Annexure 7.1 provides the details.

An analysis of the freight rates reveals the following facts:

- Freight rates are highly inconsistent and keep varying frequently; forces of demand and supply determine the freight rates on a particular day. Heavy cargo movement between points or shortage of trucks leads to enhanced freight rates.
- Rates for various destinations are not determined strictly on the basis of distance. Rates per km vary from destination to destination, depending upon the availability of trucks for that destination, availability of return load and utilisation of the vehicle.
- Rates in October 1998 were considerably higher than in July 1998 without any substantial increase in input costs. Major factors for these variations are irregular cargo movement, natural calamities and shortage of vehicles.

- Trucks originating from Mumbai and going to Northern States including Delhi, Haryana, Punjab and Himachal Pradesh did not return to Mumbai. It was reported that these were moving the apple crop from Himachal Pradesh and Jammu and Kashmir to other Northern States. With the cargo movement from Mumbai to Northern States slowing down for want of adequate number of trucks, there was an increase in freight rates. Similarly, freight rates for moving goods from Mumbai to Guwahati saw a phenomenal increase due to shortage of vehicles.

Besides seasonal fluctuations, freight rates are also subject to fluctuations resulting from boom or depressed conditions in the economy which occur in certain cycles. The depression in the economy in 1998 also had its impact on freight rates. As a result, seasonal fluctuations have not been prominent during this period as can be seen from Figure at Annexure 7.2.

7.3.1 *Observations from Primary Surveys*

The primary surveys were conducted through interviews with owners, brokers and booking agents. They were asked questions relating to the existing freight rate system and their opinion was solicited on an administered freight rate system. An analysis of the responses on whether freight rates were adequate to cover costs showed that 46% of the owners felt that they were adequate while 53% felt that they were inadequate. A region-wise analysis showed that in the Northern, Western and Central regions, 77%, 67% and 65% owners respectively found the freight rates adequate. On the other hand, only 33%, 22% and 19% owners found them adequate in the Southern, Eastern and North-Eastern regions, respectively. This would indicate that profitability of operators in the Northern, Western and Central India is comparatively better than that of their counterparts in Southern, Eastern and North-Eastern India. This may be due to better availability of freight traffic in the former group of regions.

To the query as to how the hire charges for trucks were arrived at, 93% of the brokers stated that these were negotiable while 5% said that these were fixed; 83% of the booking agents stated that these were negotiable and 14% said that these were fixed. This shows that the hire charges of trucks are largely market-driven depending upon the availability of freight and the trucks.

7.3.2 *Observations from Case Studies*

Case studies were done for the established transport companies to understand the dynamics of the freight rate system through interviews with owners and senior managers. Inferences drawn on the basis of these interviews are as follows:

- Freight rates were totally market-driven depending upon demand and supply. The intense competition in the market always kept freight rates competitive.
- The freight rates at different places were determined by the nature of demand for that area. For example, in the apple harvest season in Himachal Pradesh, truck operators got a much higher freight rate. Therefore, to get business of transportation of apples at higher rates, truck operators sent their trucks to Himachal Pradesh even at a lower freight rate. As a result, a consignor was able to get concessional rate if he hired a truck for Himachal Pradesh during the apple season.

- The freight rates were dependent upon seasonal variations and accessibility of a particular area. For example, during the rainy season, when roads and bridges in Assam were damaged, an operator willing to move freight to that area was able to command a much higher payment, clearly due to the risk involved.
- Private industrial producers had a freight rate contract system on a yearly basis with transport companies through a quotation system. These rates had to be honoured irrespective of the market conditions and input cost hike. A transport company hired a truck at a higher freight rate to honour its contract; this was accepted as a part of business.
- Minor hikes in input costs were absorbed by the operators due to extremely depressed market conditions prevailing during 1998. But major hikes in input costs could not be offset even by operational increase in freight rates .
- It was universally agreed by the truck owners that the fare and freight rate system should not be administered and should be left to the market forces since it would be difficult to enforce a controlled freight rate system.

7.4 Data on Freight Rates

Unlike freight rates of railways, air transport, shipping, etc., there is no institutional arrangement for collection of road freight rates on a regular basis. At present, the Economic Times and the Financial Express publish data on freight rates from Mumbai to several destinations in the country. It was however, pointed out to the Steering Committee that the published freight rate data represented only one-way freight charges; it did not take into account the rates charged by the truckers on the return journey.

7.5 Conclusions and Recommendations

Over the years, there has been a major shift in goods traffic from rail to road transport. As a result, there has been significant increase in the number of operators which has enabled the industry to cater to huge emerging demand. This has strengthened the competitive nature of the market. At present, the freight rates are totally determined by market forces of demand and supply. In an industry where a large number of small, medium and large operators are operating all over the country, it would be practically impossible to ensure adherence to a maximum and minimum freight rate. It is presumably for this very reason that states have not provided for fixation of freight rates. However, the practice of truckers forming cartels particularly in important industrial locations would need to be discouraged and competition encouraged.

After indepth discussion, the Steering Committee came to the conclusion that there was no need to regulate freight tariffs by fixation of minimum and maximum rates. Accordingly, it recommended that the relevant provisions contained in Section 67(1) and Section 79 (2)(iv) are redundant and may be dropped from the Act. As regards, the objective of ensuring reasonable return to the transport operators, it suggested that associations of brokers and transport owners should fix the commission payable to brokers for the services rendered by them. This will avoid exploitation of truck owners and provide them with reasonable profit.

Chapter 8

TAXATION

8.1 Introduction

Taxation of road transport has two purposes: to charge road users for the costs they impose on the road system and on other users (marginal costs) and to raise revenues for the government (pure taxation). In designing the tax system, these functions need to be considered separately because different principles apply in each case.

The problem to be solved in designing road user charges, corresponding to marginal costs, arises from the limitation of tax instruments available for this purpose and from further limitations that arise from possible conflicts between policy objectives or from existing distortions (absence of marginal cost pricing in other sectors).

Accordingly, the cost recovery mechanism has been based on what is popularly termed “two-part” tariff principle which seeks to recover fixed costs by imposition of taxes on vehicles registration, licence, etc. (first part) and variable costs by use-related levies such as fuel taxes, sales taxes on spare parts, etc. (second part). Since there is substantial proportionality between road use costs caused by different vehicles and input requirements for these vehicles, taxes on inputs, vehicle purchase have always appeared to serve as an adequate base for charging for road use. Purchase taxes, though not varying with the activity that causes road costs, have the desirable characteristics of being able to discriminate between vehicles. Further, fuel taxes appear very attractive instruments as fuel is a reasonably good measure of distance driven.

Pure taxation element basically attempts to realise policy objectives by supplying the government with revenue in the face of a narrow tax base. Argument from a narrow tax base is most valid for taxing consumers on personal transport not intermediate goods and services such as transport used by producers. But experience has shown that this element has been used to mobilise revenue for the general revenue in a much more significant way than what can be termed fair. In this context, it may be useful to recall the comment of the Motor Vehicle Taxation Enquiry Committee (1950) which pointed out that : ‘There can obviously be no “fair basis” of taxation of the motor vehicle user and no “scientific scheme of taxation designed to ensure the provision of and development of cheap, rapid and efficient transport for the various categories of users by the means best suited for the kind of traffic involved” if each taxing authority in India is merely concerned with collecting as much revenue as possible from the motor vehicle user’.

8.2 Motor Vehicle Taxation

The Constitution of India has followed the Government of India Act 1935 with regard to the pattern of division of powers of motor vehicle taxation between the centre and the states. The jurisdiction of government for the levy of this tax is given in the Seventh Schedule of the

Constitution. The powers of the central government are enumerated in list I and those of the states in list II. List III is the concurrent list which gives tax powers to both the centre and the states and the principles to levy taxes on motor vehicles. These lists are given at Annexure 8.1. The major taxes levied on road transport sector are given below :

- Union custom duty, excise duty central sales tax (CST) levied by the central government
- Motor vehicle tax, passengers and goods tax, sales tax, and entry tax levied by the state governments; and
- Octroi and tolls levied by the local bodies

All these taxes, levied by different tiers of the government can be studied with reference to three different aspects, namely, those relating to purchase of vehicles, ownership of vehicles and operation of vehicles.

8.2.1 *Taxes on the Purchase of Vehicles*

These taxes are levied on the acquisition of vehicles and include once for all payments of union excise duties and sales taxes. The union excise duty is levied by the central government on manufacture of motor vehicles. The rate of excise duty varies according to the type of the vehicle; it is presently 16% on commercial vehicles.

Central government also levies a central sales tax (CST) on the inter-state transactions. Under this category, 4% tax is levied if the vehicle is sent by the manufacturer/dealer from one state to another. However, the manufacturers/dealers normally send the vehicles on stock transfer and avoid payment of this tax.

States realise revenue in two forms : fees and motor vehicle taxes. The fees are the revenue realised in anticipation of functions. The various fees are :

- Fees for registering motor vehicles
- Fees for obtaining driving licences
- Fees on transfer of ownership of motor vehicles
- Fees on trade certificates issued to manufacturers, dealers and repairers of vehicles
- Fees on permits for plying transport vehicles; and
- Fees on issue of certificates of fitness for transport vehicles

Motor vehicle tax is realised by different states in different ways on the basis of different uses, such as private vehicle, public vehicle. Since motor vehicle tax is a state subject, every state is free to make rules and regulations in this regard.

Moreover, state governments also levy a tax on the sale of vehicles. The rate of tax varies from one state to another. Some of the states also levy an entry tax to compensate for the difference between the sales tax in the state and that prevailing in the other states where the vehicle is registered and from where it is brought to the state concerned within a specified period.

8.2.2 *Taxes on Ownership of Vehicles*

These taxes include recurring charges levied on vehicles during the period of ownership, usually in the form of an annual MV tax. In respect of cars and other personalised vehicles, this is charged as one time tax. Motor vehicle tax is levied by the states under their respective MV Taxation Acts. The tax rates vary according to the type of vehicle (such as motors, cabs, taxis, stage carriages) or laden weight, or price of vehicles. Generally, permits of private carriers are taxed at higher rates than those related to public carriers.

The passenger tax and goods tax are levied respectively on passengers and goods carried by road. Both these taxes are similar in nature and fall on the same base and are paid ultimately by the same group of people. Some of the states levy both these taxes while others have merged the two and levy one single tax. Some of the states, in addition to this tax, levy surcharge on this tax. The rates of this tax, indicate considerable variation in the states. It varies according to the nature and use of vehicles.

8.2.3 *Tax on the Operation of Vehicles*

Taxes on the use of vehicles include union excise duty levied on motor spirit and HSD by the central government. Presently, the union excise duty on motor spirit is levied at the rate of 24%; the rate is 16% on HSD. In addition, a cess of Re 1 per litre on motor spirit and diesel is levied to raise funds for road construction. Sales tax on fuel (motor spirit) and lubricants is levied by the states. VAT or sales tax is also levied on spares or on general maintenance and running cost. Motorway charges or other road user tolls are also levied by the states.

Octroi is yet another tax that affects the road transport sector. It yields substantial revenue in six major states. Octroi is generally based on quantity or weight (specific tax) or sometimes the value of the commodity (ad valorem tax) entering a local area. It is assessed and collected at the point of entry by stopping the vehicle. However, the tax being mostly specific, there are many rate categories. The point of assessment and collection being the entry point of a local area, it causes arbitrariness in assessment and delays in transportation. It also encourages corruption.

8.3 **Existing Motor Vehicle Tax Structure**

The existing tax structure for commercial vehicles, presented in Annexure 8.2, shows wide variations among the states. There are different bases for computation and different rates leading to differing incidence of taxes per vehicle in different states. In fact, it is difficult to make comparison of rates levied on different types of vehicles in different states. First, there are different schemes for classification of vehicles. Second, there is no uniformity in the basis of various levies. Third, there is an involved procedure for collection of taxes. Fourth, there are multiplicity of taxes : besides MV tax, there is passenger and goods tax, union excise duties, sales tax on vehicles and on components, taxes on fuel, octroi and fees of different types. Finally, there is a one-time levy in some states and, in others, there is an annual/quarterly tax.

8.3.1 *MV Tax on Transport Vehicles*

In the case of passenger transport vehicles, like stage or contract carriage, the seating capacity forms the basis of levying tax. The basis has been extended to cover authorised standees as well. Some states, for example, Madhya Pradesh, Orissa and Rajasthan also include the distance which the vehicle is permitted to ply as an additional element for determining the quantum of tax. There is another system also – routes are divided into 3 categories, A, B & C; with a different rate of tax for each of them. This system is prevalent in Uttar Pradesh. The period of payment also varies : some states charge the tax quarterly while others charge it annually.

The tax on goods transport vehicles is primarily based on weight, registered laden weight (RLW) or unladen weight (ULW). Besides difference in tax base, there are state-wise variations in the rates of MV tax as can be observed from Table 8.1.

These variations have led to wide disparities in the incidence of tax per vehicle per annum, the highest being in Haryana (Rs. 48105). In the adjacent state of Punjab, it is Rs. 26383, Rajasthan Rs 19186. Madhya Pradesh Rs 47091. In southern states, Tamil Nadu has a high of Rs. 32215 while in Kerala it is Rs. 29399. (refer Annexure 8.3)

8.3.2 *Entry Tax*

In addition to motor vehicles tax and passengers and goods tax, the states also levy entry tax. It is usually levied on commodities brought into the state. In addition, some states levy tax on motor vehicles entering the state. It is levied in Andhra Pradesh, Delhi, Karnataka, Madhya Pradesh and West Bengal. At present, the entry tax on motor vehicles ranges from 3% for trucks, buses chassis, jeeps and tractors to 14.5% for motorcycles, scooters and motor cars. Delhi also levies entry tax but the scope is limited to motor vehicles. The rate depends upon the period of use of vehicles in the other states and the amount of tax paid therein.

8.3.3 *Passenger Tax*

Passenger tax is *not* charged by all the states. While it is levied in the states of Assam, Bihar, Gujarat, Haryana, Maharashtra, Uttar Pradesh, it is *not* levied in Andhra Pradesh, Karnataka, Kerala, Nagaland and West Bengal. In some states such as Madhya Pradesh, Orissa, Punjab and Rajasthan, it is merged with the MV tax. It is generally related to bus fare. There are state-wise variations in its rates as well as in the manner of its levy. For example, in Maharashtra and Gujarat, it is levied at the rate of 17.5% on basic fare. While in Uttar Pradesh, it is 16% on basic fare with a surcharge of 23.72%. In Himachal Pradesh, it is 40% on basic fare with a surcharge of 20%.

8.4 *Characteristic Features of the Existing Tax System*

Taxes on motor vehicles are widely used to regulate and control the vehicles. They are also used to raise resources. As a result, they are characterised by the following features:

Table 8.1: Motor Vehicle Tax as on 31.03.97

S.No.	State	Stage Carriage		Goods Vehicles	
1.	Andhra Pradesh	Distance upto 100km 101km - 160km 161km - 240km 241km - 320km >320km	Rs.191 PS PQ Rs.267 PS PQ Rs.342 PS PQ Rs.401 PS PQ Rs.438 PS PQ	Trucks upto 15,000kg	Rs.2174 PQ
2.	Assam	Passenger Bus other than mini bus	Rs.100 PS PY	Upto 1000kg Every Addl 500kg or part thereof	Rs.840 PY Rs.210 PY
3.	Bihar	33 pass. Every Addl pass.	Rs.3485 PY Rs. 53 PY	RLW Above 4001-8000kg 8000kg Addl. 250 kgs or part thereof	Rs.838.5-1662.5 Rs.1662.5 plus Rs.136.5
4.	Gujarat	Upto 20 pass. Every Addl. pass.	Rs.540 PY Rs. 20 PY	RLW 4501 - 6000kg 6001 - 7500kg 7500kg Every Addl. 250kg or part thereof	Rs.2490 PY Rs.3070 PY Rs.3070 PY Rs.165 PY
5.	Haryana		Rs.150 PS Max tax is 35000PY	ULW 1001kg to 4000kg Above 4000kg	Rs.660-Rs.1200 PY Rs.1500 PY
6.	Himachal Pradesh		Rs.500 PS PY Max. Rs.25000	ULW 601kg - 4000kg 4001kg and above	Rs.444-1368PY Rs.2000 PY
7.	Karnataka	Above 12 Pass.	Rs.425 PS PQ	LW 3001 - 5500kg 5501 - 15000kg Every Addl. 250 kg or part thereof	Rs.3200 PY Rs.4800-7200 Rs. 75
8.	Madhya Pradesh	Distance upto 80km Addl. 10km or part thereof	Rs.1380 PS PY Rs.120 PS PY	RW 4001 - 5000kg 5001 - 17000kg Addl. 1000kg or part thereof	Rs.3388 PY Rs.4048-Rs.11000 PY Rs.660
9.	Maharashtra		Rs.71 PY per permitted pass.	RLW 3001 - 4500kg 4500 - 16500kg Every Addl. 500kg or part thereof	Rs.2190 PY Rs.3080 - Rs.9360 Rs.410 PY
10.	Orissa	Distance Upto 160km 161km - 240km 241km - 320km Above 320km Addl.for every standee	Rs.143 PS PY Rs.163 PS PY Rs.204 PS PY Rs.245 PS PY Rs.152 PS PY	LW 2001kg - 5000kg 5001kg - 10000kg 10001 - 13000 13001 - 16200 Addl.500kg or part thereof	Rs.2038 PY Rs.3144 PY Rs.4469 PY Rs.6500 PY Rs.213 PY
11.	Punjab	Upto 52 seater	Rs.26000 PY	ULW upto 2000kg 2000 - 3000 kg 3001 and above	Rs.660 PY Rs.840 PY Rs.1210 PY
12.	Rajasthan	More than 45 seats upto 80km 81-160km 161-240km 241 & above	As per cost of chassis 0.6% 1% 1.6% 2.0%	As per cost of vehicle Rs.1.75 lakh - 4 lakh >4 lakh	0.75% 3.5%
13.	Tamil Nadu		Rs.275 PS PQ	LW 3001 - 5500kg 5501 - 9000kg 9001 - 12000kg 13001 - 15000kg Every Addl. 250kg or part thereof	Rs.885 PQ Rs.1355 PQ Rs.1775 PQ Rs.2300 PQ Rs.50 PQ
14.	Uttar Pradesh		NA	ULW 3001 - 4000kg 4001 - 5000kg Every Addl. 1000kg or part thereof	Rs.1034 PY Rs.1210 PY Rs.484 PY
15.	West Bengal	33 seats Every Addl. seat	Rs.2475 PS PY Rs.40 PY	GVW 2000 - 4000Kg 4001 - 16250kg Every Addl.250kg or part thereof	Rs.625 PY Rs.1365-6500 PY Rs.250 PY

PS: Per Seat, PQ: Per Quarter, PY: Per Year, Pass:Passenger, LW: Laden Weight, ULW: Unladen Weight

8.4.1 *Fiscal Importance and Buoyancy*

The yield from all the taxes on road transport vehicles taken together has increased considerably over the years as shown in Annexure 8.4. Revenues from motor vehicles tax have increased from Rs. 107.7 crore in 1970-71 to Rs. 356.3 crore in 1980-81 and further to Rs. 4117.34 crore in 1996-97. Passengers and goods tax has gained prominence too. The growth of revenue from this tax shows that the yield went up from Rs. 60.5 crore in 1970-71 to Rs. 239.6 crore in 1980-81 and to Rs. 1662.62 crore in 1996-97. The annual growth rate of this tax is quite high in most of the states; it ranges from 14% to 22%. Notwithstanding the increase in the yield of both these taxes (motor vehicle tax and passenger and goods tax) and the increase in their growth rate, their combined yield indicates decline in their share in the state's own tax revenue from 11.7% in 1970-71 to 10.4% in 1980-81 and further to 8.2% in 1995-96; presently, it is hovering around the 1995-96 level.

The fiscal significance of the above two taxes viz. motor vehicles tax and passenger and goods tax is presented in Annexures 8.5 to 8.9. It is observed that the share of these taxes varied across states. During 1996-97, the lowest share (2.31%) was observed in the state of Tripura. In the case of Jammu and Kashmir, its contribution was 26.13%, the highest among the states. In most of the states, its proportion in the own tax revenue was less than 10%, with some exceptions such as Andhra Pradesh (11.37 per cent), Arunachal Pradesh (12.78%), Haryana (14.99%), Himachal Pradesh (19.35%), Madhya Pradesh (15.48%), Manipur (12.11%), Meghalaya (11.19%) and Mizoram (18.44%). In the remaining states, the share of these taxes in own tax revenue was between 6% to 9%.

The buoyancy coefficient of the motor vehicles tax computed for last 10 years for major states (see Annexure 8.10) indicates the response of motor vehicles tax with respect to the state income (SDP). The coefficient for all states was less than unity (0.87). Similar situation prevailed in most of the states, except Assam (1.48), Bihar (1.23), Haryana (1.08), Madhya Pradesh (1.33), Kerala (1.13), Orissa (1.53) and Tamil Nadu (1.01) where the increase in revenue was more than unity. These results suggest that there is potential for growth and the scope and buoyancy of the tax can be improved, if it is efficiently administered across the states.

8.4.2 *Barriers to Inter-state Movement*

An important feature of the prevailing tax system is the existence of a large number of barriers for passenger and goods tax, sales tax and octroi. The importance of these barriers for the sales tax lies in the fact that the documents received by these check-posts help the transport department to monitor the flow of goods into the state and also make an assessment of the tax. These check-posts, however, interfere with the free flow of traffic within a state and cause harassment to a large body of dealers, majority of whom are not liable to pay tax. In fact, studies undertaken on the efficiency of the check-posts in different states reveal that the existence of the check-posts is not contributing significantly to the checking of tax evasion. On the contrary, the larger the number of checkposts, the higher is the wastage resulting from the stoppage of traffic. The operation of a large number of checkposts interferes with free movement

of goods within a country. Hence, it is a sound policy to keep the number of check-posts down to the barest minimum.

8.4.3 *Cascading Effect*

Taxes on the road transport sector have a cascading effect due to their having been levied at the earlier stages. As the taxes on inputs and semi-finished products are substantial, they affect the final price considerably. The cascading effect is maximum on trucks (58.9%) and less on cars and scooter (51.6% and 50.9% respectively). The tax incidence on 'TELCO' truck worked out for the four metropolitan cities (viz. Mumbai, Kolkata, Delhi and Chennai) indicates that the maximum tax (about 65.8%) is borne by the consumers of Mumbai followed by those of Kolkata, Delhi and Chennai where consumers paid tax of 62.0%, 56.3% and 63.6% in the total price respectively.

8.4.4 *Incidence of Taxes*

The combined burden of central and state taxes, (refer Annexure 8.4) is substantial. In 1970-71, the combined burden of these taxes on road transport was Rs. 683 crore; the burden of taxes levied by the central government was almost twice that of the states. Over the years, this burden of taxes and fees has been increasing continuously. In 1996-97, the overall burden of these taxes was of the order of Rs. 18,298 crore (central and state). The burden of central taxes is presently around 1.4 times that of the states since the revenue from state taxes has increased rapidly during the period.

Among the central taxes, the maximum amount was contributed by the union excise duty on motor vehicles and accessories (30.14%) motor spirit (19.93%) and HSD (19.63%). Among the state taxes, the motor vehicles tax, sales tax on motor spirits and lubricants and taxes on passenger and goods contribute to the tune of 53.62%, 24.71% and 21.65%, respectively. The incidence of total central taxes was 58.04% and that of the state taxes 41.96%.

In order to compare the tax structure in different states, we take cognizance of their combined burden. The estimates of combined incidence of tax on passenger vehicles and goods vehicles in different states in 1996-97 (Annexure 8.3) shows that the average burden is around Rs. 25,200 per vehicle per annum. Many of the states especially the North-Eastern states levy substantially lower taxes. The average burden per commercial vehicle in Tripura, Manipur and Mizoram is Rs. 2,280, Rs. 2,653 and Rs. 4,469, respectively. Similarly, in Goa, the average burden of taxes is around Rs. 8650 and the corresponding figure in West Bengal is Rs. 7040. A comparative analysis of the combined burden of a few passenger and goods vehicles is shown in Annexures 8.11 and 8.12.

According to a World Bank Study (World Bank, 1989), the position in regard to incidence of taxes on vehicles is most unsatisfactory in India. Vehicle taxation in India is road damage related but levied on the basis of gross vehicle weight rather than on potential axle loads resulting in under taxation of 2-axle trucks compared to those with more axles. Since the

former is a major source of revenue to the states (accounting for one-fifth of the revenue from road users), there is need for its rationalising/restructuring it to ensure that the tax burden is distributed fairly among different types of vehicles according to the PCUs (passenger car units) as well as the road damage caused by each type of vehicle according to the equivalent standard axle (ESL). This would require a very detailed enquiry. A useful exercise would be to rationalise the tax structure in such a way so to reduce the burden of taxation on the operating cost. “If transport is regarded as a service, a more proper way of assessing the tax burden would be to determine the extent to which the tax enters into the cost of such service i.e. the fares and freight charged”(Motor Vehicle Taxation Enquiry Committee, GOI, 1950). Committees in the past have emphatically pointed out the high burden of taxation on vehicles *per se* as well as on the operating cost. The Road Transport Taxation Enquiry Committee (GOI, 1967) had indicated that for vehicles “in all 43% of the ex-factory price or 34% of the final price for the consumer goes for taxes and duties”. Such a calculation did not take into account the tax element in the cost of material of which truck bodies were made. Taking into account all the elements, the study by NCAER (1979) had found the burden to be around 65%. As for the tax element in the operating cost, the Road Transport Taxation Enquiry Committee (GOI, 1967) came up with a figure of 35.2%. The NCAER’s figure was higher at 42%. The corresponding figures for the US and UK were 5% and 17%, respectively, in the early sixties. Our own estimates of the tax burden in the price of the vehicle is 31% and in the operating cost 56.5%. A high tax burden would naturally affect competitiveness of our products especially in the context of growing globalisation of markets. While it may not be reasonable to expect this burden to come down to levels obtaining in the advanced countries, rationalisation should necessarily lead to a tax burden of about 15 to 20% - which is close to the figures emerging out of optimal tax exercises conducted in the context of developing countries (Newbery and Stern, 1987, Ray, 1993). While it is expected that the adoption of VAT on a much larger scale than at present would reduce the cascading effect to some extent, there is a widespread feeling that the burden would continue to be substantial. However, a detailed study of the various related issues would be necessary for making a more meaningful assessment.

8.5 Rationalisation of Motor Vehicle Taxes

In view of the varying structure of base, rates, nature and the types of taxes levied in different states, it is important that we aim at having a tax system which is : (i) neutral, (ii) efficient in allocation of resources, (iii) administratively expedient and (iv) avoids cascading in the economy. Keeping these objectives in view, we present below reforms in the rates, the basis and the types of taxes presented above.

The first attempt at rationalisation of motor vehicle taxes was made by the government on receipt of the report of the Indian Roads Development Committee (Jayakar Committee) in 1927. The committee had suggested : (i) compounding of local imposts into one Provincial Tax, and (ii) abolishing of tolls altogether. Following these recommendations, tolls were abolished in most of the states on private cars, but were retained on commercial vehicles. Government of India appointed various expert committees to examine the tax structure and make recommendations for rationalisation thereof for the healthy growth of the road transport sector. The committees set up included the following :

- (i) Motor Vehicle Taxation Enquiry Committee (1950)
(Dalal Committee)
- (ii) Road Transport Reorganisation Committee (1959)
(Masani Committee)
- (iii) Committee on Transport Policy and Coordination (1966)
(Tarlok Singh Committee)
- (iv) Road Transport Taxation Enquiry Committee (1967)
(Keskar Committee)
- (v) National Transport Policy Committee (1980)
(Pande Committee)

The major conclusions/recommendations of these committees are set out at Annexure 8.13. Briefly, all the committees have stressed that the approach to the motor vehicle taxation should be such that would foster rapid development of the road transport sector. These committees have also highlighted the disparities in the basis and rates of taxation in different states, multiplicity of taxes, etc. They have unanimously recommended major simplification in the tax procedures and have favoured single-point taxation especially in the case of inter-state traffic. With regard to the issue of uniformity in the rates of taxes prevailing in different states, there are elements of similarity though the emphasis differs. While the Tarlok Singh Committee recommended that the taxation of motor vehicles throughout the country should be regulated by the central government, the Pande Committee pointed out the need for uniform basic rates between states so that the incidence of taxation in the neighbouring states is comparable.

No action seems to have been taken by the government for introducing reforms in the area of motor vehicle taxation. The tax policy has created bottlenecks and impediments in the growth of transport sector particularly road goods transport. The Steering Committee had the opportunity of meeting the representatives of trucking industry, both of transport companies and of individual operators. The operators were particularly irritated over inter-state variations in tax rates and the procedure for its collection. The representatives of All India Motor Transport Congress and other transport associations suggested that existing system of granting national permit with endorsement of different states should be abolished and that there should be only two categories of permits, namely, intra-state and inter-state permits. Generally, a truck operator seldom moves out of a particular zone; his operations are restricted to three-four states. But loading/unloading operations do not take place in all these states. As such, payment of equal amount of tax for all the states seems illogical. The cost of inter-state permit should be fixed by the central authority, the constitution of which has been discussed in Chapter 4.

8.6 **Proposals for Rationalisation of Motor Vehicle Taxes**

After a great deal of deliberation, the Steering Committee came to the conclusion that the present system of motor vehicle tax needs to be streamlined/rationalised. Different rates of MV tax in different states have created imbalance in the economy giving rise to unhealthy competition among the states. This needs to be checked through legislative measures.

The various recommendations for rationalisation of taxes could be grouped under the following heads:

- ***Uniformity in Tax Structure***

Lack of uniformity in motor vehicle tax causes diversion of vehicle registrations to the states where the tax rate is low. One possible method is that the rates are fixed by the central government instead of by the state governments. This would, however, require amendment of the Constitution transferring the subject from the state list to the central list.

Considering that the state governments have limited avenues for raising resources which include sales tax, land revenue and MV tax, the take-over of the power of taxation by the centre is expected to be strongly opposed by the states. Even if one considers inter-state operations for the purpose of uniformity, one has to appreciate that a large number of commercial vehicles registered for intra-state operations also enter inter-state operations, making it difficult to segregate the two operations. As such, uniformity in motor vehicle tax although desirable, is not practical in a federal system. Therefore, efforts should be made to at least bring in parity of tax rates in neighbouring states, so that the problem of diversion of registration of vehicles from one state to another is resolved. Such parity could be achieved through the mechanism of periodical reviews and joint discussions on bilateral or regional basis which could be arranged through the proposed central authority mentioned in Chapter 4.

- ***Uniform Basis for Levying Taxes***

There are different practices with regard to the basis of motor vehicle tax followed in the various states as already discussed in para 8.3.1 and brought out in Table 8.1. This has created problems for the transport operators. There is need for a general agreement on following uniform norms. The following norms could be usefully adopted by the states.

- (i) Stage carriages have different seating capacities and sizes. For these vehicles, the norm could be the seating capacity along with the authorised number of standees;
- (ii) Contract carriages are required to be engaged as a whole; hence a lumpsum tax depending on the registered seating capacity of the vehicle would be suitable.
- (iii) Small vehicles i.e. those which are used on a hire basis like taxis and 3-wheelers, should have a flat rate for the sake of convenience of making payment.
- (iv) In respect of goods vehicles, which are expressed in terms of GVW, the basis for levy of tax should be the same since such GVW will be recorded in the registration certificate of each vehicle. Such rates would also be applicable

to the trailer independent of prime-movers. When any prime-mover is independently registered, the rate of tax should be based on its maximum propulsion capacity.

A suggestion has been made that the MV tax must be ad valorem. The reasoning is that to have buoyancy of the tax system, it would be useful to resort to a tax system that is based on the cost of vehicles with additional factor of occupancy or length of routes or goods dispatched. However, the Steering Committee felt that this would result in higher taxes on vehicles like multi-axle vehicles. Considering that multi-axle vehicles (MAVs) are technologically advanced, fuel efficient and environment-friendly, these vehicles ought to be taxed somewhat lightly relative to two-axle vehicles. For example, excise duty structure may provide an incentive for purchase and use of MAVs and articulate vehicles. In line with this, excise duty on MAVs may be reduced from the current 15.125% to 10.125%, which level was prevalent before 1996. Further, the MV tax should also provide incentives for having such vehicles.

- (v) In respect of goods vehicles operating under national permit scheme and tourist vehicles under the All India Tourist Permit scheme, the basis for the tax should continue to be a composite fee in lieu of all taxes payable per plying state/UT, as at present.

- **Combined Road Tax, Passenger Tax, Goods Tax, etc.**

Rajasthan and Andhra Pradesh have already amalgamated various taxes successfully. This has helped in reducing cost of collection and has also led to saving in time for the vehicle owners. More importantly, tax revenues realised have not suffered after such amalgamation. The Steering Committee would accordingly recommend the states should amalgamate various taxes and levy one single tax to reduce their cost.

- **One-time Tax**

At present, some states are collecting one-time MV tax on personalised vehicles. This has advantage in terms of saving in time as also in the cost of handling tax payers, etc. The system of one-time tax payment was examined by the Steering Committee in the context of tighter emission norms announced by the government. These norms are applicable to new vehicles. There are no norms for on-road vehicles which are contributing substantially to air pollution. The Committee understands that the government is considering the introduction of an effective Inspection and Maintenance Programme for on-road vehicles to check emission-related aspects. At present, revalidation of the fitness certificate of a transport vehicle is required after every two years. In the case of non-transport vehicles, it is required after 15 years. The Steering Committee, keeping in mind the need for emission control, recommend that renewal

of fitness certificate for non-transport vehicles should be mandatory after 5 years and subsequently after every 3 years, so that inspection is done on a regular basis after a reasonable interval of time. In case of transport vehicles, renewal of fitness certificate should be on annual basis. Accordingly, one-time tax payment will need to be modified to suit the proposed Inspection and Maintenance Programme.

- ***Local Taxes***

As for local taxes, these too vary significantly from state to state. The *obnoxious* octroi is still in place in some states including the more progressive ones like Maharashtra. Despite recommendation for its abolition by almost every committee set up to examine road taxation in the past, the recommendation has not found favour – on the plea that octroi gives access to funds on a day-to-day basis which would not be possible with an alternative like local sales tax. States must consider this problem carefully and examine ways and means by which advances can be made to the local authorities to minimise the problem arising from absence of regular cash flows. It is heartening to note that Rajasthan has done away with octroi. Some states levy an entry tax as a substitute for octroi. This is an account based levy collected as a per cent of the turnover. This has an advantage over octroi because vehicles are not detained under this system. The yield from entry tax has shown much higher growth than the sales tax revenue of the state concerned. In Karnataka, for example, the revenue from sales tax has increased at the rate of 20% while the yield from entry tax has increased by 35%. The growth of revenue from entry tax in Madhya Pradesh has also been impressive.

It has been reported by All India Motor Transport Congress that a truck moving in 4 to 5 states spends on an average Rs. 10,000 to Rs. 15,000 towards levies of the local bodies in a month (about 4 to 5 trips). It is suggested that a critical study should be done to assess the incidence of various local taxes.

- ***Lease Tax***

The state governments should seriously consider withdrawing lease tax levied on pure financial transactions of commercial vehicles. Similarly, sales and turnover taxes levied on transactions under hire-purchase and lease of vehicles be withdrawn. These measures would give a boost to the leasing of vehicles.

- ***Cap on Tax Burden***

The present high burden of tax, i.e. 31% on the price of the vehicle and 56.5% on its operating cost, affects the competitive position of our products. It is essential that measures should be taken for rationalisation of taxes so that the tax burden is limited to 15 to 20%. However, a detailed enquiry is called for before a final decision is taken in this regard.

- ***Single Agency***

A single agency should be entrusted with the task of collecting the MV tax, the passenger/goods tax and even fees for the national permits. This would greatly reduce the time spent at different counters set up for the purpose.

- ***Pollution Abatement Incentives***

Considering the high concern for pollution control, some incentives could be built into the tax system for promotion of non-polluting vehicles. The structure of the tax on motor vehicles in most of the countries follows differentiation on the basis of fuel, use of catalyst or use of leaded or unleaded petrol. It is therefore, recommended that built-in fiscal incentives be promoted for pollution abatement.

- ***Tax Incentives for Attaining Policy Objectives***

Motor vehicle taxes could be used to encourage the plying of multi-axle vehicles (MAVs). It is common knowledge that overloading of 2-axle vehicles causes excessive damage to the road. Transportation of heavy loads without causing excessive damage to the road pavements can be best achieved by using MAVs, as these can distribute the load on more axles thereby causing comparatively less damage to the road pavements. Besides, these vehicles are fuel efficient, economical and eco-friendly.

Tax policy could also be used to achieve noise reduction and higher revenue from expensive vehicles. The tax rate could be inversely related to noise pollution and positively to the value of vehicles, exception being made in the case of MAVs.

- ***Levy of Entry Tax***

It is noticed that there is diversion of sale of vehicles and payment of motor vehicle taxes to states where the rate of sales tax is low. At the time of registration, entry tax should be levied to equalise the amount of MV Tax. This will discourage people from registering in a state where the rate of sales tax is low.

The reforms suggested above would make available a rational and efficient tax system for the transport sector. At the state level, these reforms would be extremely helpful to the free flow of inter-state traffic. At the local level, it would provide autonomy to the local bodies and give them a buoyant source of revenue. It is felt that the suggested reforms would pave the way for healthy growth of road transport in the country.

- ***Evolving Principles of Taxation***

Entry 35 in the Concurrent List requires the government to lay down the principles of taxation. However, no attempt has been made so far either by the central government

or by the state governments in this regard. Considering the heavy burden of MV taxes on the commercial vehicles, there is need for laying down principles for taxation to serve as guidelines to the states while they are deciding on tax rates. Various reports of the expert committees set up by the government in the past have alluded to these principles. Some of the general principles which may be considered are :

- To give due consideration to the capacity to pay
- To ensure reasonable rate of return for the operator and to provide funds for growth and expansion.
- To evolve parity in tax structure between the states
- To make sure that the amount of tax is related to the cost of operation, fuel and freight rates, vehicle utilisation, road construction programme, etc.
- To bring down the number of taxes to the minimum by combining two or more taxes, such as passenger and goods tax.
- To set up a single agency for collection of various taxes.

The Steering Committee have separately recommended the setting up of an independent central authority (Chapter 4); its functions include laying down principles for taxation. Meanwhile, the central government and the state governments may like to keep in mind the above mentioned principles while proposing taxes.

8.7 Inter-state and National Permits

Vehicles that operate within a state are required to obtain a permit by paying the motor vehicle tax of the state. Where vehicles operate in more than one state, there are two broad categories, namely (i) counter-signature permits and permits under reciprocal agreements (ii) the other is national permit introduced by Government of India in 1975 for movement between home state and three or more other states. In the case of counter-signature permit, the operator is required to pay the tax of the home state as well as the tax of other state. For national permit, he pays the tax of home state and also provides demand drafts at the rate of composite tax of each other state. Transport Development Council recommended that UTs and small states might charge composite tax of Rs. 3000/- and bigger states Rs.5000/- for each state other than the home state, on a uniform basis. In practice, this recommendation is not being strictly followed by all the states. Also, there is considerable delay in forwarding demand drafts to concerned states. This creates problems of revalidation of drafts as well as arrears of revenue due to non-realisation of drafts in time.

The Steering Committee suggests that intra-state permits and counter-signature permits/ reciprocal agreement permits should be abolished. There should be only national permits for all inter-state operations. This will have the following advantages :

- (i) The time consuming process of issuing counter-signature permit will be removed.
- (ii) Payment of MV tax by the operator at one counter; this will save his time.
- (iii) It will protect the interest of the operators who ply in less than three states.

The Committee also recommends a telescopic fee structure for inter-state permits as follows:

Item	Permit fee
Home state plus one other state	Rs. 8,000 + home state tax
Home state plus two other states	Rs. 14,000 + home state tax
Home state plus three other states	Rs. 20,000 + home state tax
Home state plus four to eight other states	Rs. 25,000 + home state tax

The proposed permit fee is only indicative and is for consideration of the state governments and the MOST.

8.8 **Payment Arrangements for National Permit Fee**

As already mentioned, vehicles covered by national permit authorisation is required for 3 or more states apart from the home state and motor vehicle tax has to be deposited through bank drafts. The drafts of the composite fee are deposited in permit issuing transport office and such drafts collected during the month are sent to the Transport Commissioners of the concerned states. There is, however, delay in forwarding the drafts by the home state and receiving these drafts at the headquarters of the concerned state, creating the problem of revalidation of drafts as well as arrears of revenue due to non-realisation of drafts in time. To remove these difficulties, the Steering Committee suggest that the payment in respect of composite tax should be made in authorised banks in favour of the state concerned and it should be for the bank to transfer the payment to the account of the concerned state. The detailed procedure in this regard could be worked out by the states and the select banks.

8.9 **Recommendations**

The Steering Committee recommends the following reforms in the area of taxation:

- 1) Uniformity in taxation is a desirable objective but it is difficult to be achieved in a federal state. Efforts should at least be made to bring in parity of tax rates among neighbouring states so that the problem of diversion of registration of vehicles from the state with higher tax rate to another state with lower tax rate is resolved. Such parity could be achieved through a system of periodical reviews and joint discussions on bilateral or regional basis.
- 2) M.V. tax should be used to encourage the use of multi-axle vehicles. Considering that MAVs are technologically advanced, fuel efficient and environmentally friendly, excise duty on MAVs may be reduced from the current level of 15.125% to 10.125%, the level which was prevalent before 1996.

- 3) The states should amalgamate various taxes like road tax, passenger tax and goods tax etc. and levy one single tax. This will help in reducing cost of collection and will lead to saving of time of the vehicle owners.
- 4) At present, some state are collecting one-time MV tax on personalised vehicles. This method requires to be reviewed in the context of the proposal for introduction of an effective *Inspection and Maintenance Programme* for on-road vehicles to check emission related aspects. In case of non-transport vehicle, inspection is required after 15 years at present. The Steering Committee, keeping in mind the need for emission control, recommends that renewal of fitness certificate for non-transport vehicles should be mandatory after 5 years and subsequently after every 3 years so that inspection is done on a regular basis at a reasonable interval of time. Accordingly, one time tax payment will need to be modified to suit the proposed Inspection and Maintenance Programme. As regards transport vehicles, their inspection and certification of fitness should be made mandatory every year.
- 5) With regard to abolition of octroi, states should examine ways and means by which advances can be made to the local authorities to minimise the problem arising from absence of regular cash flowing from levy of octroi.
- 6) Intra-state permits should be dispensed with. Likewise, counter-signature permits/ reciprocal agreement permits should be abolished. There should be only national permits for all inter-state operations. A telescopic fee structure for inter-state permits is recommended for the consideration of the states and the MOST.
- 7) The payment in respect of composite tax for national permits should be made in an authorised bank in favour of the state concerned and it should be the duty of the bank to transfer the payment to the account of the concerned state. The details could be worked out by the states and the banks.
- 8) The present high burden of tax (31% on the price of the vehicle and 56.5% on its operating cost) adversely affects the competitive position of our products. It is suggested that this tax burden is reduced to a reasonable level. A detailed enquiry is called for in this regard.
- 9) Considering the heavy burden of MV Taxes on the commercial vehicles, there is need for laying down the principles for taxation to serve as guidelines to the states while deciding on tax rates.

Chapter 9

INSURANCE

9.1 Introduction

Section 146 of MV Act (1988) requires every owner of a motor vehicle or any other person using a motor vehicle at a public place, to effect insurance *against third-party* risks by taking an insurance policy. The objective is to ensure the insurance of all vehicles, which are to be used in public places, so that if a third party suffers any damage due to the use of the said vehicle, he should be able to get damages for the same straight-away from the insurance company and the recovery of such damages does not depend upon the financial condition of the driver/owner of the vehicle.

9.2 Types of Insurance Policies

Motor insurance policy has two elements of different risks coverage. One is *Third Party Liability* Risk; it is necessary and required by the MV Act. A policy covering this risk is called *Act Only Policy*. Another is covering the *risk of damages to the vehicle* due to various perils which is called the *Own Damage cover*. *Act Only plus Own Damage Cover* makes a *comprehensive cover*.

For the purpose of motor insurance, motor vehicles are divided into the following three groups :

1. Private cars
2. Two wheelers
3. Commercial vehicles

Commercial vehicles are further subdivided into :

- a) Goods carrying vehicles
- b) Trailers
- c) Vehicles used for carrying passengers for hire or reward
- d) Miscellaneous and special types of vehicles

9.3 Liability in Respect of Act Only Policy

The basic motor policy is an *Act Only Policy* which complies with the mandatory requirement of the MV Act. Here the MV Act lays down the legal liability in the case of third-party property damage. It does not cover the cargo carried in the insured vehicle. Under *Act Only Policy*, the insurer provides indemnification to the insured against all sums including the claimant's cost and expenses which the insured shall become legally liable to

pay in respect of (i) damages to the third party property caused by use of motor vehicle – the liability on this account is limited to Rs.6000/-; (ii) death/bodily injury to any person arising out of use of motor vehicle. In respect of injury to driver, cleaner, coolies (upto 6 Nos) etc. in a truck, the insurance policy covers workmen compensation only. It is optional to file claim either under the Workmen Compensation Act by virtue of employer-employee relationship or under the MV Act.

The claims of accident victims are processed by the Motor Accident Claims Tribunals constituted by the state governments under Section 165 of MV Act. These tribunals deal exclusively with MV claims arising out of the *Act liability*.

9.4 Liability in Respect of Comprehensive Policy

The liability of the insurance company in respect of third party claims has already been examined in para 9.3. As regards Own Damage Cover, the insurer is responsible to the insured for loss or damage to the vehicle insured. The claims for damages to the vehicles are assessed by the licensed surveyors under the Insurance Act and settled by the concerned insurance company.

9.5 Insurance Claims

Prior to 1988, claims were required to be filed within 6 months of the accident. There was also a defined territorial jurisdiction for filing such claims. However, both these restrictions were removed by the MV Act 1988. An application for compensation arising out of an accident from the use of Motor Vehicle, may be made under Section 166. The relevant provisions for award of compensation to the victims of MV accidents are given below:

9.5.1 Liability without Fault

Government amended the MV Act in 1988 and introduced Section 140 to provide for compensation to be paid promptly in case of death or permanent disablement arising out of accident. The amount of interim compensation payable is Rs.50,000/- in case of death and Rs.25,000/- in case of permanent disablement. The claimant shall not be required to establish that the accident was due to wrongful act or neglect or default of owner(s) of the vehicle or any other person.

9.5.2 Payment of Compensation on Structured Formula Basis

Section 163A was introduced in 1994 and provides for payment of compensation, as indicated in the Second Schedule to the MV Act, to the legal heirs or the victim, as the case may be. There is a table giving the mode of calculation of compensation for third party fatal accident/injury claim arising out of accidents. As under Section 140, in this case also, no neglect is required to be proved by either party.

The first column of the table gives the age group of the victim of accident; the second indicates the multiplier and the subsequent ones give the amount of compensation in thousands of rupees, depending upon the annual income, payable to the heirs of the deceased victim. The multiplier varies from 5 to 18 depending upon the age group to which the victim belonged. A copy of the table given under Schedule II to the MV Act is given at Annexure 9.1.

It is observed that there are various anomalies in the formula; these have been brought out by the Supreme Court in the famous case of UP Road Transport Corporation (UPSRTC) versus Trilok Chand. A copy of the judgement is given at Annexure 9.2. Briefly, the anomalies are as follows:

- i) Calculation of compensation and the amount worked out suffer from several defects. For example, against item No.1, for a victim aged 15 years, the multiplier is shown to be 15 and the multiplicand as Rs.3000/-. The total should be $3000 \times 15 = \text{Rs. } 45000$ but the compensation has been worked out at Rs.60000/-. Similarly, against item No. 2, the multiplier is 16 and annual income is Rs.9000/-. The total should have been Rs.144000/- but is shown to be Rs.171000/-. To put it briefly, the table abounds in such mistakes. Neither the tribunals nor the courts can, therefore, go by the ready reckoner. At best, it can only be used as a guide.
- ii) Multiplier varies from case to case. Selection of multiplier in all cases is solely dependent on the age of the deceased. However, this may not be the right choice in all cases. For example, if the deceased, a bachelor, dies at the age of 45 and dependents are his parents, age of parents would also be relevant in the choice of the multiplier.
- iii) The Structured Formula covers victims with the maximum annual income of Rs.40,000/-. In its present form, victims with annual income more than Rs.40,000/ cannot get relief under this formula.

It is, therefore, necessary to modify this formula by removing the lacunae pointed out above and covering the claimants in higher income groups with overall limits of compensation so that a majority of the claimants make use of Section 163A. The formula should be so framed that a just and fair compensation is paid promptly in the case of victims of road accidents.

As per Section 163(B), the claimants are allowed to claim compensation either under Section 140 or Section 163A but not under both. It was brought to the notice of the Steering Committee that there was no finality to the payment under Section 163A since the Act was silent on this issue. It was pointed out that honourable High Court of Gujarat has allowed the claimant to claim under other sections as well, although compensation was claimed under Section 163A. It is, therefore, necessary to lay down that payment under the formula is the final discharge of all liabilities under the MV Act. If some of the claimants

are not happy with the compensation payable under Section 163A, then an application for compensation will have to be filed in the civil courts where principle of fault is to be observed.

- ***Introducing Flat Rate of Compensation***

As in the case of railways and airlines, the amount of compensation payable to the victim of fatal accidents should be fixed and the compensation paid to them in a time-bound manner. In case of claims exceeding such fixed amounts, insurance company should ask for income certificate to verify the income of the claimant to determine the claim amount. At present, no cross-checking of income is done. As a result, some of the claimants are producing fake income certificates and claiming compensation far in excess of the financial cost of the damage/loss. The issue, whether flat rate of compensation be paid, needs to be examined by GIC in consultation with the MOST. The Steering Committee was informed that Government of India has constituted a Committee to examine this issue and their recommendations are expected shortly.

9.6 Carrier's Liability for Loss/Damage to Goods Carried

Transport carrier's business, inter alia, depends on how effectively he manages the transit risk. Primarily, the loss due to any damages caused to the cargo during transit is suffered by the owner of the goods, namely the consignor or consignee. Every time the goods are transported, the risk of loss or damage to the cargo exists. In the process of risk management, a separate insurance policy is to be taken by consignor/consignee; the loss or damage to the insured cargo is made good by underwriters. However, insurance companies initiate proceedings for the recovery of claim amount paid, against the transport operator under the right of subrogation since it is the responsibility of the transport operator as a carrier, to send the cargo safely to its destination.

Generally, transport operator is liable if it is proved that the transporter or his representative was at fault/negligent and/or any criminal act of his servants had caused the loss/damage to the goods carried. *Carrier's Liability Insurance Policy* is available in India to cover the liability of the transport operators and it can be used as a risk management process by them.

9.6.1 Salient Features of Carrier's Legal Liability Insurance Policy

Under this policy, the insurance company agrees to indemnify the insured against his legal liability for actual physical loss of or damage to goods directly caused by fire and/or accident to the vehicle while such goods were actually transported in the said vehicle, provided, fire or accident had arisen on account of negligence of the insured or negligence/criminal act of his servant and a claim in respect thereof has been admitted under Comprehensive Motor Insurance Policy covering the vehicle. It may be noted that such a policy only covers the loss/damage to cargo arising from the fire, explosion and due to vehicle having met with an accident.

The loss/damage to cargo due to any other reasons/perils is not covered. However, extension to this basic cover is available as a wider cover for which additional premium is to be paid. The wider cover includes:

- Damage by fire, burglary, riot and strike and malicious damage, shortage of contents due to theft, pilferage of cargo any time whilst in the custody of carrier
- Flood or water damage
- Breakage, leakage due to improper handling, etc.

The premium rate structure is vehicle-wise and is related to various factors like age of the vehicle, its licensed carrying capacity, per event indemnity proposed, annual turnover, etc. The approximate annual premium for a vehicle upto 5 years old, 11 tonnes carrying capacity with per event indemnity, say about Rs.10 lakh, is estimated at around Rs.3,330/- for basic cover and additional Rs.8,000/- to Rs.9,000/- for wider cover. Basic cover can be availed of without difficulty. However, the underwriters follow a cautious and prudent approach in case a wider cover is desired and proposed.

It would be useful to understand the reasons for high premium rates for Carrier's Legal Liability Policy. It is well-known that goods road transport in India is unorganised; the records are not properly maintained/available and hence the proper evaluation of the risk becomes problematic for the underwriter. Besides, there is a very small market for the Carrier's Legal Liability Insurance. In view of this, it was represented to the Steering Committee that underwriters are not in a position to reduce the present product price i.e the premium rates.

Carrier's Liability Insurance Policy also stipulates that the vehicles insured under this policy will necessarily have the comprehensive insurance cover. And unless all the vehicles used by the transport operators are comprehensively insured, the cover, at times, may become ineffective. Transshipment of the cargo at points en route is an essential feature of the transport management and, therefore, it is essential to include all the attached vehicles for the Carrier's Liability Insurance as well as for comprehensive insurance.

9.7 Insurance and Multimodal Transport System

India is moving towards multimodal transport system. Although the law governing this mode of transport was enacted in 1993, this system has not developed to the desired extent. In order to promote multimodal transport system, issue of insurance cover to owner of cargo should be encouraged to facilitate the issue of multimodal transport document. There is yet another angle to the insurance cover for the cargo to be moved. Neither the *Act Only Policy* nor the Comprehensive Insurance Policy cover the risk to goods carried in the insured vehicle. Considering this and having regard to the high cost of Carrier's Liability Insurance Policy, the Steering Committee recommends that the government should consider the feasibility of the consignor/consignee arranging compulsory insurance of cargo to be moved by road. If necessary, the matter could be discussed with shippers, freight forwarders,

insurance companies etc., in this regard. With the proposed recommendations, the liability risk of insurance companies is expected to decline. As such, it should be possible to reduce the premium for Carrier's Liability Insurance Policy.

9.8 Fixation of Premium Rates

Pricing of motor insurance product is a complex issue. Rates of premium are based on the past loss experience which is essential to maintain a detailed statistical structure for motor insurance. The rate of premium depends upon three factors :

- (i) Pure risk premium or claims cost
- (ii) Administrative expenses including the business development expenses
- (iii) Profit markup

While the management expenses are known and the profit element can be decided in advance, it is the pure risk premium element/claims cost which is the unknown component of the premium and has to be ascertained by statistical methods since this is the most crucial data required for determining the premium rate structure. The claims cost reflects not only the paid claims but also outstanding claims. At present, there is a long gap in settlement of claims especially third party claims; thus actual amount of claims would be evident, say, after 3-4 years. Therefore, it is essential that an effective system be devised to place proper estimates on outstanding claims. Once the claims cost is known, it is possible to develop incurred claims to premium ratio in each classification of vehicles to consider rate revisions by the Tariff Advisory Committee.

Loss or damage may be due to the following perils:

- a) Fire explosion, self-ignition or lightning
- b) Burglary, house-breaking or theft
- c) Riot and strike
- d) Earthquake (fire and shock damage)
- e) Flood, typhoon, hurricane, storm, tempest, inundation, cyclone, hailstorm, frost
- f) Accidental external means
- g) Malicious act
- h) Terrorism activity
- i) Whilst in transit by road, rail, inland waterway, lift, elevator or air
- j) Rockslide, landslide

Presently, data is not being generated in respect of premium income details nor the claims outgo details as per classification. What is generated is the total premium income in the *Third Party Liability* section, total premium in *Own Damage* section, total claims outgo in *Third Party Liability* section and the total claims outgo in *Own Damage* section. Based on these figures, the claims outgo is, on an average, around 350% of the premium income in the *Third Party Liability* section. The *Own Damage* claims outgo is around 55% of the

Own Damage premium. Inclusive of Third Party Liability section and Own Damage section, the total motor insurance business has been in the red for the past over one decade and a half.

Considering that the Third Party Liability section involves heavy claims outgo, the industry has made an attempt to raise the premium structure in all categories of vehicles including commercial vehicles. There has been a lot of opposition from various quarters to the raising of the premium rate structure and many cases went into litigation. However, in most of the cases, the insurance industry has been successful in defending the increase in premium. The premium increase is contemplated phasewise in 3 years and w.e.f. 15.02.98, the revised premium rates (Phase-I) have been made applicable. Due to strong opposition from the trucking industry, however, Phase-II revision, which was to come into force from 15.02.99, has been deferred.

Own Damage premium has not been considered for change so far primarily due to lack of the essential data. The Own Damage claims ratio of 55% is the total claims ratio of all the categories of vehicles i.e private cars, two-wheelers and commercial vehicles. Separate figures for private cars, two-wheelers and commercial vehicles are not available. However, experience indicates that the number of accidents as well as claims cost/outgo for the commercial vehicle category is much higher compared to the private car and two-wheeler categories.

Commercial vehicles are meant for movement of passengers and cargo. The economy of the transport business is directly proportional to the maximum time the vehicles are on road doing effective mileage. In comparison to the other two categories, commercial vehicles are on road for a much longer time per day, per year. Therefore, the commercial vehicles are more exposed to *accident risk* compared to other categories and the damages to the vehicles (many times fully loaded) are of serious nature. These factors, inter alia, make the claims outgo for accident involving commercial vehicles much higher compared to the claims outgo for the other two categories. This situation may warrant a higher premium rate structure in the commercial vehicles segment.

In Own Damage section, the claims outgo is based primarily on the assessments made by the surveyors. Discussions with experts have indicated that the assessments made by the surveyors, especially in the commercial vehicles segment, are much higher than the actual damages suffered by the claimants. This makes the claims outgo much higher than what it actually should be. This is apparently done by the surveyors in collusion with the vehicle owners and/or repairers. It seems necessary to tighten the monitoring of the performance of the surveyors to ensure that assessment of losses becomes more realistic.

Besides, automobile dealers/repairers and automobile manufacturers who are not a party to the insurance contract, try to make use of the insurance contract very much to their advantage. The dealers/repairers jack up the charges in case of accident repairs if the job is on insurance account. Even the parts undamaged and/or repairable are assessed on

replacement basis which is at a high cost and even if they are not replaced by new parts, the assessment is done on the basis of the price of new parts. Evolving of adequate controls and their strict implementation by insurance companies, is the need of the day.

It has been brought to the notice of the Steering Committee that there is a tendency among manufacturers to mark up the prices of spare parts especially the accident prone parts. The cost of these parts is invariably required to be borne by the insurance companies. This raises the income level of automobile manufacturers at the expense of the insurance companies. It is, therefore, essential that the insurance companies keep a vigil through constant market research to ensure formulation of appropriate strategies to counter the move of the automobile manufacturers.

To sum up, the premium fixation especially for commercial vehicles will require the following steps to be taken immediately:

- To generate requisite data categorywise.
- To lay down suitable measures of control over the performance of surveyors and to see that these are strictly implemented.
- To carry out continuous market research for keeping track of the automobile market so that the strategies of various players are recorded and counter strategies by the insurance companies are initiated.
- To fix premium rates, class-wise, on the basis of the data generated.

The above measures are expected to help the insurance industry to work out the correct premium structure.

9.9 Delay in Settlement of Claims

Both the insurance company and the vehicle owner are responsible for delay in the settlement of claims. Usually, delay takes place on account of the following reasons:

- Unusual delay in the receipt of the survey reports from the surveyors by the insurance company. Time-frame has been prescribed for submission of survey reports by the New India Assurance Company Limited as follows:
 - Spot survey report within 3 days;
 - Assessment report within 7 days; and
 - Re-inspection report within 3 days.

Despite the stipulated time-frame, surveyors continue to delay the submission of their reports and the insurance companies keep on ignoring this deficiency in the surveyors' services.

- Delay by the vehicle owner in submitting the requisite vehicle papers to the insurance company for verification. These include the driving licence of the driver. In quite a few cases, the driver absconds after the accident and as such his driving licence is not readily available for submission to the Insurance Company. The vehicle owner claims not to have maintained any record of the driving licence such as the licence number, the name of the issuing R.T.O. etc. The Insurance Company, therefore, cannot make any attempt on their own to get the details of the licence.
- In many cases, the submission of the bills/cash memos is delayed.
- There is unusual delay on the part of the officials of the insurance company to process the claim and to get it approved from the appropriate authority. Since the claim sanctioning power are vested in the various authorities, the claims file has to move to different places for sanction and this causes delay.

9.10 Settlement of Insurance Claims

It is common knowledge that the insurance claims are not being settled as fast as they should be; discussions with insurance experts have revealed that, on an average, about 2 lakh claim cases are pending with each constituent of the General Insurance Corporation. Several measures have been taken by the insurance industry to settle the claims expeditiously; the important ones are :

- ***Out of Court Settlement***

Insurance companies are willing to negotiate with the claimant in case the latter evinces interest. However, the parties have to approach Motor Accident Claims Tribunal (MACT) for the award.

- ***Lok Adalats***

Lok Adalats have been set up under Legal Services Authority Act (1987) to decide cases of motor vehicle claims. The maximum amount of compensation payable in this case is Rs. 5 lakh.

- ***Conciliations***

It is a form of Lok Adalat; it is headed by the presiding officer of MACT.

- ***Jald Rahat Yojana***

Under this scheme, insurance companies are settling only injury claims arising out of accidents. Death claims are not covered by this scheme.

Despite the efforts of the insurance industry, these schemes have not become popular. Perhaps,

there is need for giving them wide publicity in order to popularise them. If necessary, they may be suitably modified.

9.11 **Suggestions for Speedy Settlement of Claims**

Strict measures need to be introduced by the insurance companies to improve the efficiency of claims management including the control over the surveyors' performance. Once this is achieved, there will be an automatic improvement in the vehicle owners' attitude and reaction. Some of the suggestions for speedy settlement of MV claims are given below :

- ***Creating Awareness about Claim Procedures***

Insurance companies should create awareness amongst the truck owners about the steps to be taken for filing claims in case of accidents. The committee understands that the GIC has recently sent instructions to all the insurance companies to adopt the practice of attaching a slip to the policy document mentioning the various requirements/formalities to be observed by the vehicle owners in case of accidents. This instruction should be strictly enforced. Once these requirements are met, it would facilitate prompt processing of claims.

- ***Placing Time Limit on Filing of Claims***

At present, there is no time-limit for filing of claim papers. This creates uncertainty about the claim liability of the insurance companies. Even otherwise, long gap between the time of accident and the filing of claim creates problems for the insurance companies; they find it difficult to coordinate cases/files after a long time. Government may consider fixing a time-limit of say three years as under the general Law of Limitation for filing claims.

- ***Place of Filing the Claim***

Section 166(2) states that at the option of the claimant, the claim application can be filed with the claims tribunal at the place of accident or place where claimant resides or where defendant resides. This makes it difficult for the insurance company to know if the cases have been filed for the same accident in different courts especially in the absence of cooperation of police or insured. It is therefore necessary to restrict the option with regard to jurisdiction of the tribunal for filing the claims. The following suggestions are made in this regard.

- Place of accident only, where there is more than one victim
- Place of accident or place of residence in case of single victim
- In case of more than one claimant, one common place only

There is a provision under Workmen Compensation Act for intimating cases filed outside normal jurisdiction. The Steering Committee suggest that similar provision

should be introduced in the MV Act also. This should be a condition precedent for starting the proceedings in the case.

- ***Police Report Under Section 158***

Section 158 (6) makes it incumbent on the police officer to forward the police report on the accident to the claim tribunal with a copy to the insurer. This provision is not being followed in practice. A large number of claim cases are pending for want of records relating to the vehicle involved in the accident. The police are supposed to collect the records. However, MVI report mostly contains a statement that the records are not produced. As a result, it is not possible for the insurer to prove any violation of the provision of the MV Act. The Steering Committee recommends that the MOST take up the matter with the Home Ministry for issuing suitable instructions to the police authorities to collect all the records before releasing the vehicle and forward the same to the insurer. This will facilitate early settlement of claims which are held up for want of information relating to vehicles.

9.12 Feasibility of Reviving Insurance Cooperative Societies

The MV Act, 1939 had a provision under Section 108 which permitted the transaction of insurance business by the cooperative societies formed by the transport vehicle owners. The compliance with the provisions of Cooperative Societies Act, 1912 and the Insurance Act, 1938, was mandatory.

After nationalisation of general insurance business in India in 1972, transaction of this business became an exclusive monopoly of General Insurance Corporation (GIC) and its four subsidiaries. As a result, the provision of the cooperative societies transacting motor insurance business stood automatically cancelled. This explains the removal of the provisions relating to insurance by cooperative societies from the MV Act 1988.

For quite some time now, the government's thinking has been in the direction of opening up of the insurance sector by allowing private sector to transact insurance business. There is also a popular view that the monopoly concept in insurance should be abolished and the competitive element should be introduced so that there is general improvement in efficiency and customers get satisfactory and prompt service. Revival of cooperative insurance to transact motor business will change the present status of this business and will act as a catalyst to the next step of introducing privatisation. Legally, a few amendments to the existing laws may be essential and the terms and conditions like maintenance of the fund, requirement of the capital, etc. can be worked out to suit the needs of the present times. The mechanics of the operation of this business without hassles can also be devised.

It is felt that reintroduction of the cooperative sector in the motor insurance business will be a very healthy and welcome change. After all, for more than a decade, general insurance industry has been making losses in motor business. Since members of the cooperative insurance societies will also be the truck operators, it will minimise the possibility of bogus claims and reduce the

ratio of incurred claim to premium received. With a favourable claim - premium ratio, the need for frequent increase in premium rates will not arise. By arrangement, expertise and technical know-how can be provided to these societies till such time as technology transfer takes place. The revival of the insurance cooperative societies is feasible and should be promoted.

9.13 **Recommendations**

- 1) Government should make it mandatory for the consignor/consignee to arrange insurance of cargo to be moved by road. With the proposed recommendation, it should be possible to make Carrier's Liability Insurance Policy affordable.
- 2) The structured formula for payment of compensation suffers from various anomalies and is restrictive in that it covers cases upto a maximum income of Rs.40,000 per annum. Immediate action is required to remove the lacunae.
- 3) Presently, data is not being generated in respect of premium income details nor the claims outgo details as per the classification of vehicles. It is suggested that the insurance companies generate categorywise data on premium and claims outgo to facilitate premium fixation.
- 4) Several schemes have been introduced by the insurance industry to settle the claims expeditiously. However, there is apathy towards them. It is suggested that wide publicity be given to these schemes in order to popularise them.
- 5) With reference to the delay in the settlement of claims, it is suggested that customers/ truck owners be educated about their obligations at the time of filing a claim. There have been instructions given to all insurance companies by the GIC to attach a slip to policy document mentioning the various requirements, formalities to be observed in case of accidents. Wide publicity should be given to the various formalities to be observed by the claimants in case of accidents
- 6) Government should consider fixing a time limit of say three years, as under the Law of Limitation, for filing claim papers.
- 7) Section 166(2) should be modified to restrict the option with regard to jurisdiction of the tribunal for filing the claims.
- 8) Government may consider reviving insurance co-operative societies which may have members from the trucking industry.

Chapter 10

FINANCING

10.1 Introduction

Finance was a major problem plaguing the goods transport industry till the early seventies; the amount available was quite meagre and that too available on extortionate terms. Following the recommendations of the Study Group on Road Transport Financing (GOI, 1967), flow of funds to the trucking sector improved considerably. Small road transport operators (SRTOs) were made eligible for funding under the Priority Sector Lending Scheme of the commercial banks and public financial institutions. This continued till the early eighties when additional funds were available from non banking finance companies (NBFCs). Thus, for financing the purchase of commercial vehicles, two main sources of finance available to the operators are the banks and the NBFCs.

10.2 Banks' Priority Sector Lending

The banks provide direct finance to the STROs under the Priority Sector Lending Scheme; this scheme is applicable to only those operators who do not own more than 10 trucks. The rates charged by the banks range from 14% to 15%.

The concept of priority sector was evolved at the time of introduction of social control on banks in 1968 and, subsequently, when the major banks were nationalised in 1969. The various segments identified for priority sector lending include agriculture, small scale industry, small road and water transport operators, etc. RBI has prescribed targets for lending to the priority sector by commercial banks; these are given below:

Public and Private Sector Banks

Total Priority Sector Advances	40% of net bank credit
of which Advances to Agriculture and Weaker Sections	28% of net bank credit

Foreign Banks Operating in India

Total Priority Sector Advances	32% of net bank credit
of which Advances to Small Scale Industry and Export Credit	22% of net bank credit

RBI has stipulated that if there is a shortfall in priority sector lending compared to the targets fixed, the bank concerned should deposit an amount equivalent to the shortfall with Small Industries Development Bank of India (SIDBI).

Special Provisions for Credit Facilities to Transport Operators

This category of borrowers include operators of taxis, autos, trucks, buses, carts, cycle rickshaws, boats, steamers and launches for carrying passengers and goods for hire. The operators can be granted loans for purchase of vehicles, spare parts and meeting cost of major repairs and working capital requirements. Generally, banks grant loans for purchase of chassis and not for body building. Banks have been asked to follow a flexible approach towards margin requirements. Generally, a margin of 20-25% is insisted upon by the banks. Loan is to be repaid over a period of three to five years in monthly/quarterly instalments

10.3 NBFC Financing

NBFCs are another source of financing purchase of vehicles. The banks fund NBFCs at interest rate which is about 3% above their prime lending rate. This rate depends on the credit rating enjoyed by the NBFC. The NBFCs, in turn, lend these funds to the truck operators; the rate charged by the NBFCs ranges between 20% to 22% in the Northern Region and 28% in the North-Eastern states. The high rate of interest charged by NBFCs is to cover running cost, credit risk and profit.

In spite of high lending rates charged by the NBFCs, studies conducted by TELCO for the Northern Region and by Industrial & Technical Consultancy Organisation of Tamil Nadu (ITCOT) for the Southern Region, coupled with the interviews with the officials from the State Bank of India, TELCO, Ashok Leyland, Shriram Finance, reveal that non-banking financial sector has emerged as the dominant source of financing for the trucking sector. The shares of different funding agencies in the Northern Region, based on a study by TELCO, are as under :

NBFCs	-	64%
Banks	-	23%
Self/Own	-	8%
Others	-	5%

The reasons attributed for the shift from banks to NBFCs are given below:

- (i) The experience of the bankers with the Priority Sector Lending Scheme for truck operators has not been a happy one. The records show that the number of default cases have been increasing at an alarming rate. This has rendered bankers hesitant in further lending of funds.
- (ii) Banks lack clear operating guidelines. The banking system has been rigid in its approach to financing which has often resulted in complex procedures being adopted to process a loan application causing considerable delays. This has given rise to the intermediaries assisting truck operators to get bank finance, thus adding to their cost of borrowing.

- (iii) Generally, the banks fund only the cost of chassis; body building cost, which is around 40% of chassis cost, is required to be funded by the truck operator himself. This makes the operators prefer NBFC funding which covers both chassis and body building cost.
- (iv) The funding schemes of the banks are inflexible in the sense that the maximum period of loan is fixed. There is no provision for changing the period of repayment of loan to meet the needs of the operator.

Details of quantum of credit made available by banks is not known. The data available with the Reserve Bank of India refers to the yearly outstanding loans rather than the amount of loans sanctioned and disbursed by the banks during a year. Absence of this data hinders the formulation of appropriate policy concerning the financing of trucking industry. It is, therefore, suggested that the matter be taken up with RBI to arrange the collection and compilation of such data for the use of policymakers.

10.4 Expanded Financing Scheme for the Operators

The high rate of interest on loans for the road goods industry is an area of concern. Currently, around 90% of the commercial vehicles sold are on hire purchase/ lease finance/ loans. Hence, interest payment becomes a critical component of the operating cost while determining the operational feasibility of running the truck. It is very important, therefore, to devise ways and means of providing the truck operator with economical finance options to enable him to bear the fallout of lower freight earnings and increase in operational costs. It has been observed that a large section of borrowers/operators resort to the practice of cutting corners in order to ensure reasonable return as the financing cost goes up. In the past, bank funding as a percentage of total funding in commercial vehicle market, had not exceeded 25 to 30 percent. Recoveries also did not match the expectations. In the circumstances, RBI's recent notification classifying bank credit to NBFCs against financing of trucks as priority sector lending is a welcome step (see Annexure 10.1). It will go a long way in making funds available to the transport sector at reasonable rates.

This scheme which has the strength of adequate funding available with the banking system and the efficient credit delivery and recovery system managed by the NBFCs, in the form of a new product, becomes important. However, the Steering Committee recommends that the banks support only those NBFCs which especially have a strong presence in the business of financing trucks under the priority sector lending scheme. The need to encourage better managed NBFCs to finance truck operators is emphasised for the reason that the major players in the NBFC segment have, over the years, developed expertise in evaluating creditworthiness of potential hirers which is followed by an efficient delivery system and backed up by an effective recovery management system by virtue of a vast retail network. These NBFCs are geared to handle the funding requirements of commercial vehicle operators due to their exclusive focus on this segment.

Bank support to NBFCs will provide substantial relief to the latter which have been facing a severe funds crunch following restrictions on the mobilisation of public deposits, ensure availability of bank finance at reduced rates of interest which would ultimately be reflected in reduced operating cost of the truck operators and will enable banks to fulfil their targets under the scheme

Accordingly, immediate and effective implementation of the expanded financing scheme for the road transport operators is strongly recommended. Both banks and NBFCs should have effective delivery and recovery systems.

10.4 Financing/Second Hand/Used Vehicles

Used vehicles play a key role in providing secondary/feeder services to the primary long distance national permit operations. The first owner of the vehicle, on an average, uses the vehicle for 3 to 4 years. The second user purchases a second-hand vehicle which is used for secondary sector operations. Traditionally, commercial banks as well as NBFCs have been catering mainly to the new vehicle segment. The guidelines for priority sector lending issued by the RBI are silent on the provision of credit for used vehicles. In the recent years, however, major NBFCs have tried venturing into the used vehicle market. The rates charged by these NBFCs vary from 23% to 27%. Their inability to have a large presence in this sector is attributed to the non-availability of funds.

Replacing an old vehicle by a new one by a small road transport operator may not be easy because of the investment involved and the high interest cost. However, he can easily consider replacing the very old vehicle by a younger one since in that case the investment involved is moderate. If this is done, pollution level will decline and he enjoys the benefits of better cash flow, better maintenance, etc. The lender will also enjoy better debt recovery.

In the circumstances, efforts need to be made for encouraging financing of second-hand commercial vehicles. This will raise the demand for new vehicles and will have a beneficial effect on the economy. As regards quantum of funds needed, the trucking industry would require around Rs. 5000 crore per annum on this account. This is based on the assumption that about 2 lakh trucks which is about 10% of the total existing fleet would be traded; the average price per vehicle has been taken at Rs.2.5 lakh. It is suggested that the government should arrange to provide adequate credit to finance used commercial vehicles.

10.5 Emerging Requirements

The 9th Plan Working Group Report on Road Transport has provided forecasts of commercial vehicles till 2007; the projected numbers are given in Table 10.1:

Table 10.1 : Projected Demand for LCVs and HCVs

Year	Total LCVs	Addl.LCVs	(in '000 Nos.)	
			Total HCVs	Addl.HCVs
1997	620	-	1476	-
1998	686	66	1575	99
1999	760	74	1680	105
2000	841	81	1793	113
2001	931	90	1913	120
2002	1031	100	2041	128
2003	1141	110	2178	137
2004	1263	122	2323	145
2005	1398	135	2479	156
2006	1548	150	2645	166
2007	1713	165	2822	175

Plan	LCVs	HCVs
Estimated additions during the IX Plan	4,11,000	5,65,000
Estimated additions during the X Plan	6,82,000	7,79,000

The estimated demand for vehicles is based on trend growth observed during 1966-96.

Assuming the cost of LCV to be around 3.5 lakh and that of HCV around 6.5 lakh, the funding requirement for purchase of new vehicles, as per details in Table 10.1, have been estimated and are given in Table 10.2.

Table 10.2 : Estimated Fund Requirement for New Vehicles at Current Prices

Year	Projected Cost of LCVs	Projected Cost of HCVs	(Rs. crore)
			Total Cost
1997	-	-	-
1998	2310	6435	8745
1999	2590	6825	9415
2000	2835	7345	10180
2001	3150	7800	10950
2002	3500	8320	11820
2003	3850	8905	12755
2004	4270	9425	13695
2005	4725	10140	14865
2006	5250	10790	16040
2007	5775	11505	17280

Plan	LCVs	HCVs	Total
Cost of vehicles during the IXth Plan	14,385	36,725	51,110
Cost of vehicles during the Xth Plan	23,870	50,635	74,505

Thus the average annual fund requirement to buy the vehicles would work out to Rs.10,222 crore ($51110 \div 5$) during the IXth Plan which would increase to Rs.14,901 crore ($74505 \div 5$) during the Xth Plan.

If the requirement for used vehicles is also considered, the industry would require additional funds of the order of Rs.5,000 crore. Thus, the overall average funds required annually during the IXth Plan for the purchase of trucks is Rs.15,222 crore. Considering that, on an average, only 80% cost of chassis is financed, the magnitude of borrowings by truck operators would work out to around Rs.12,178 crore per annum. It is therefore, essential that adequate resources are made available to the agencies who are actively supporting this market segment.

10.6 Consolidation of Operators

It is essential that trucking operations be made viable so that the interests of not only the operators but also other stakeholders like the users and the financing agencies are taken care of. The absence of economies of scale makes operation of single owner operators an inefficient proposition. Under such a situation, the concept of consolidation of operators by way of formation of associations/cooperatives should be positively encouraged. Such a trend is already visible in Punjab, U.P., Haryana, Tamil Nadu. However, since integration of the industry in some form is considered important for achieving greater efficiency, there ought to be a major shift in the small industry orientation approach of the financing agencies especially the commercial banks. In other words, the limit of maximum number of vehicles to qualify for the SRTOs Financing Scheme, which is currently 10 vehicles, should be increased to 20. Effective steps have to be taken to encourage fleet formation which has been dealt with separately in Chapter 5.

10.7 Working Capital

Working capital is important for the transport industry; it is required for meeting day-to-day expenditure on diesel, salaries, wages, rent and maintenance of assets. Proper estimate of working capital requirement is a pre-condition for running the business efficiently and profitably. Among other things, the amount of working capital will depend upon the nature and size of business. There are no set formulae for determining the working capital needs of an enterprise. A model estimate of working capital required during a month for operating a 2-axle vehicle between Delhi-Mumbai (to and fro distance 2800km) is given below: (It is assumed that a truck operates 3 round trips in a month and a litre of diesel gives 3.85 km.)

Table 10.3 : Estimated Working Capital for a Truck during a Month

	Working Capital for 2-Axle Truck	Amount (Rs.)
1.	Diesel cost @ Rs.12/- per litre	26,184
2.	Wayside expenses	5,000
3.	Salary (2 drivers + helper)	8,000
4.	Repair and maintenance	4,800
5.	Other expenses (reported payments en route)	6,000
	Total	49,984
		Say 50,000

Source : All India Motor Transport Congress

It is customary in the trucking industry that a portion of the freight is paid in advance. Assuming that 30% of the above requirement is met by advance freight payment, the working capital required for the projected goods vehicles (HCVs), would work out as follows:

Table 10.4 : Working Capital Requirement

Year	(Rs.in crore)
	Working Capital
1998	5512
1999	5880
2000	6275
2001	6695
2002	7143
2003	7623
2004	8130
2005	8676
2006	9257
2007	9877

As seen above, estimate of the working capital requirement at current prices for the year 1998-99 is Rs. 5880 crore and it would increase to Rs. 9877 crore in the year 2007. Though RBI guidelines provide for loans for working capital, banks are not meeting this requirement of individual transport operators. A mechanism needs to be worked out to provide working capital through the same bank/NBFC that has given loan for the purchase of vehicles.

The Steering Committee recommends that banks should be required to position an officer at the state level to oversee priority sector lending to truck operators and to ensure that adequate funds are made available either directly by them or indirectly through NBFCs for financing the trucking industry including its working capital requirement.

10.8 Infrastructure Industry Status

Conventionally, only the immobile components of the transport sector, such as roads, airports, rails, etc. have been considered as an 'infrastructural facility'. However, economic literature has always included provision of services as part of infrastructure, or what is otherwise known as 'Social Overheads'. Considering the need to reduce the financial burden on the operators, grant of infrastructure industry status to the trucking sector would facilitate many of the measures listed below:

- Low cost funds under infrastructure development for road transport operators would be available to reduce financial costs of operators.
- Funds for used vehicle financing, working capital needs and funds for establishing operators' infrastructure would be made available at reasonable rates.
- Finance companies will be eligible for tax concessions which will improve their profits; these companies in turn may pass on some benefit to the transport operator.
- Grant of this status would enable the transport companies to issue infrastructure bonds with tax incentives.

The Steering Committee appreciates that grant of infrastructure status to the trucking sector may pose problems since at present freight operations are dominated by single truck operators. This should be considered after consolidation of truck operations through fleet formation. To start with, trucking sector should be given industry status to facilitate commercial borrowings for purchase of vehicles, creation of associated infrastructure facilities such as workshops and for working capital needs at reasonable rate of interest. This is essential to strengthen and modernise the trucking sector which is the back bone of our economy.

10.9 Recommendations

- 1) Presently, data on loans sanctioned and disbursed to the trucking operators during a year is not being compiled (what is available is the data on outstanding loans). It is suggested that RBI be asked to collect and compile such data for the use of policy makers.
- 2) As regards RBI's recent notification classifying bank credit to NBFCs for on-lending to small transport operators as priority sector lending, the Committee recommends that the banks support those NBFCs which are better managed and have a strong presence in the business of financing trucks. The expanded financing scheme should be implemented on priority.
- 3) The guidelines for priority sector lending issued by the RBI are silent on the provision of credit for used vehicles. Creating market for used vehicles will help raise demand for the new vehicles. Adequate credit should be provided for financing the purchase of used commercial vehicles.
- 4) The banks should arrange to post an officer at least at the state level to oversee priority sector lending to ensure that adequate funds are made available either directly or through NBFCs to the trucking industry.
- 5) Predominance of single truck operators does not allow the industry to reap the economies of scale; it is also an inefficient proposition from the regulation point of view. As a result, the concept of consolidation of operators becomes necessary. Eligibility criteria for priority sector lending should be modified and extended to truck operators with fleets upto at least 20 against 10 at present.
- 6) Non-availability of working capital is an area of concern for the trucking industry. It is suggested that a mechanism be worked out to provide working capital through the same bank/NBFC that has given loan for purchase of vehicles.
- 7) Industry status should be accorded to trucking sector to facilitate commercial borrowings for various purposes and to strengthen this sector.

Chapter 11

TECHNOLOGY UPGRADATION AND PROMOTION OF MULTIAXLE VEHICLES

11.1 Introduction

The Indian automobile industry was a protected sector until liberalisation in the late 1980s. There were significant attempts to modernise light commercial vehicles (LCVs) and brands like Allwyn Nissan, Eicher Mitsubishi, Swaraj Mazda, DCM Toyota were introduced. Some of the technical improvements expected out of such collaborations were, *inter alia*, growing use of plastics in bodies, electronic ignition systems, electronic fuel injection systems, variable/multiple speed axles, tapered leaf springs, synchromesh gear boxes, light weight engines, etc. While LCVs prospered considerably, manufacture of heavy commercial vehicles (HCVs) remained a duopoly with only two manufacturers meeting almost the entire demand of the country. Therefore, to keep pace with the world markets with the concept of multimodalism rapidly gaining ground, it is essential for India that its trucking sector opens itself up to the modern technologies used in the developed countries.

11.2 Existing Vehicle Technology

The main features associated with the vehicle technology, presently in use, are:

- The existing vehicle manufacturers are producing the bare chassis on which cabin and load body is constructed by various body builders, spread all over the country. Chassis provided by the original equipment manufacturers (OEM) are type approved, but there is no provision for type approval for body builders and hence no one carries out any checks once the chassis leaves the factory. These body builders do not abide by any specifications and their designs are also not vetted by any recognised agency. The basic objective seems to be to provide maximum loading space for the cargo; cabin body and load body are not separate and most of the time have a common wall. Inside cabin fixtures, provided by the body builders, do not conform to any standards. Cabin and seat design is so cramped up that it hardly provides any safety to the driver. In majority of the cases, engine placement is inside the cabin resulting in extreme heat, vibration and noise. Due to this, the driver foregoes comfort of seat and is satisfied with a cane type fixed seat without proper anchorage. During plying of such vehicles, window door is normally kept open for ventilation purposes.
- There is hardly any uniformity of design features which vary from state to state; the same vehicles ply all over the country and become a safety hazard on the road.
- Wood is used in the construction of cabin as well as load body without proper relevance to structural design and strength including fire hazardness apart from environmental considerations.

- No proper load body protection is provided in the rear of the cabin.
- Two-axle rigid trucks, which constitute 95% of the HCVs in India are allowed, as per rule, to carry load within 16.2 tonnes GVW. However, in practice, the gross weight of these trucks goes upto 25 tonnes on the plea of the economic viability of operation. Rigid vehicles are significantly extended beyond prescribed norms by welding extra length to the long members. Leaf springs provided by the OEMs are often tampered with to provide extra strength for overloading.
- Truck body underneath is totally open all around resulting in numerous under-run accidents and there is hardly any skirting provision. Standards for width and height for the cargo are merrily flouted.
- A large number of old vehicles are plying on inter-state highways, since no age limits are specified. Since vehicles operating on national permits are not allowed renewal of permit after 12 years of age, there is preference for counter signature permit in such cases because there is no age limit on such permits.
- Fitness tests, carried out by the state authorities, are hardly based on any field/technical checks or modern I&M programme.
- Other aspects of technology where trucking industry needs attention are the continued use of manual steering; low power to weight ratio engines; leaf spring suspension system; low pressure diesel pumps rarely fitted with turbo charges; air/hydraulic brakes; no ergonomically designed seats and seat belts; inefficient cross ply tyres; cabin design which has hardly any relevance to aerodynamics, etc.

In the light of these facts, there is an urgent need to extend the technological improvements to the commercial vehicles. The various issues and the suggestions to resolve them have been dealt with in the following sections.

11.3 **Type approval/COP of Complete Vehicle Including Accreditation of Truck Body Builders**

The existing activity of truck body construction is the domain of local wayside body builders who are spread throughout the country. Truck operators acquire the chassis from the OEMs and take it to the body builders of their choice. These body builders do not have the requisite hardware/software and technology. There is no suitable check mechanism to approve such body builders. State authorities also do not have the appropriate mechanism and expertise for granting approval to such vehicles. Different norms are, therefore, adopted all over the country. In order to have uniformity in body building, following recommendations are made :

- i) There is a need for accreditation of body builders who should be registered based on inspection by an accrediting agency. Considering large number of body building units in the country, it is felt that a centralised accreditation agency for the entire country will not be feasible. The work could be entrusted to chassis manufacturers or to state

level committees headed by an officer of the transport department; it should have representatives of vehicle manufacturers and truck owners association. A scheme could be prepared in this regard by the government in consultation with the industry and the states.

Such an agency should register them after ensuring compliance to minimum installed machinery, quality control and design equipment, manpower, knowledge of CMVRs, etc. A list of facility requirements considered essential for body builders is given at Annexure 11.1.

- ii) State level committees will ensure uniformity in body building and specifications as approved by chassis manufacturers. At the national level, arrangement be made for auditing the work of state committees.
- iii) The OEMs should develop a few standard designs for vehicle bodies; they may have such standardised designs approved by testing agencies in advance and pass it on to body builders. In case some body builder wants to have his own designs approved, the same could also be vetted by the testing agencies.
- iv) Though Form 22 is signed both by the manufacturers of vehicles and the body builders in confirmation of having built these in accordance with the MV Act and the CMVRs so as to ensure compliance to approved designs only, this is presently being done as a formality. Rigorous enforcement of the provisions is necessary in the interest of safety.
- v) Each body builder should be required to have his complete vehicle type approved which could be carried out on site by the testing agencies. Conformity of Production (COP) procedure could be evolved based on third-party inspection, as is being presently done by the Department of Explosives for the manufacture of bullets and trailers under Static and Mobile Pressure Vessels (SMPV), Petroleum and Explosives Rules.

Testing agencies such as Automotive Research Association of India (ARAI) should formulate an audit procedure for keeping a check on compliance to the type approval given by them to be followed subsequently by COP. Further, the COP should be vetted by the approved inspecting agencies. Only such vehicles whose COP has been approved by the testing agency as well as cleared by the inspecting agency should be allowed to be registered by the state authorities. Inspecting agencies should also be asked to regularly submit relevant records to the testing agencies.

11.4 Issues Connected with Cabin Design and Construction

Most of the body builders who are designing their own cabins are using wood or composite material for construction. Since the structure does not have appropriate strength, the builders compromise on space to be provided inside the cabin to ensure safety of the occupants including the driver. Even the wind shield is split and is not from approved manufacturers who use a single piece of laminated sheet. Not much attention is paid to the provision of appropriate wind

screen, wipers and rear-view mirror, etc. The following recommendations may be considered for implementation.

- i) Only approved cabin design, duly vetted by the testing agencies, should be used for fabrication.
- ii) Either OEMs should supply only factory fitted cabin based on approved design or provide approved designs to the fabricators or the fabricators may have their own design approved from the testing agencies.
- iii) Cabin design should be aerodynamic and no wood construction should be permitted in view of its weak strength and vulnerability to fire hazard. The design should also help in preserving the environment.
- iv) The body of the cabin should be fabricated only with metal capable of withstanding the prescribed front, top and back impact resistance tests. The steel material should be rust proof with adequate strength and low weight, e.g. hot-dipped galvanised steel sheet panels treated with anti-rust compound. Thermoplastic parts resulting in low weight could be permitted wherever appropriate. OEMs should provide factory-built tamper proof and aerodynamic front cowl, front bumper, wind shield in single frame with laminated glass, wiping system, head lamp assembly, ergonomically designed fixed driver and front-co-driver seats along with seat-belt and anchorage, rear and front mirror mounted outside the cabin for better visibility, appropriate internal wiring harness, ergonomically designed inside dash board, adequate space for tool box, non-skid type convenient climbing steps along with slip-proof handlebar. As far as possible, an additional mirror on the left side of the wind screen should be provided for viewing the bumper and road surface.
- v) No body builder should be allowed to change the seats provided by OEMs including their location. Co-driver or helper sitting in front should also have similar fixed provisions. Flammable material or material liable to be impregnated with fuels, lubricants or any combustible material should not be used in the engine compartment unless such material is clad by the impregnable sheet. Appropriate standards have to be evolved prescribing minimum heat dissipation from engine inside the cabin along with associated vibration, noise and ventilation provisions. Cabin would have to be so designed that it uses energy absorbing material. In order to avoid injury, no sharp edges should be provided in the cabin area around the driver. The steering wheel should also be collapsible and made of energy-absorbing material. Requisite standards should be framed for minimum space to be provided in the cabin, along with sleeper berth with prescribed dimensions.
- vi) There should be provision for wind deflectors on the top of the cabin upto the height of the cargo body. There should be adequate space for first-aid kit, tool box and fire extinguisher which should be made mandatory.

11.5 Issues Connected with Truck Body Construction

- i) Cabin and the load body wall should be separate from each other with minimum prescribed gap. There should also be a provision for load guard as well.
- ii) Overhang beyond the long members, should not be more than 60% of the wheel base as per CMVRs. The practice of welding extra joints beyond long members supplied by OEMs be dispensed with. Whenever required, OEMs should provide long members upto the permissible length.
- iii) The use of wood in the construction of the load body should be phased out in the next three years. The truck body should be provided with a skirt all around to the centre of the axle to provide underrun protection.
- iv) No protruding tie lashes should be provided on the sides of the body and the same should be fixed or welded under the body. Loose or hanging chains for holding side or back panel of the load body should be dispensed with and some other suitable latchable provision should be worked out.
- v) The 20 feet containers should not be allowed transportation on 2-axle trucks, as they often exceed the prescribed GVW limit. Since there is no provision for twist locks on the edges and centre of the bed of trucks for fixing the container, the Committee feels that such 2-axle vehicles should be phased out in the next three years and, instead, MAVs should carry such containers.
- vi) As far as possible, cargo should be carried in closed load body construction except for specialised containers or permitted cargoes.
- vii) Truck body should contain reflectors as well as fluorescent tape at the edges of the body which should be made mandatory.

11.6 Technology Related Issues

Areas considered for upgrading the technology of commercial vehicles are as follows:

- i) Introduction of power steering
- ii) Sychromesh gears with power-assisted clutch
- iii) Power to weight ratio
- iv) Air suspension
- v) Retarders
- vi) Use of high pressure pumps/electronic engine management systems
- vii) Radial tyres

The above-mentioned issues were deliberated in depth by the Steering Committee. Introduction of these improved product standards is presently under consideration of CMVRs Technical Standing Committee under the chairmanship of DDG, Ministry of Industry. The Steering Committee suggested that the government should notify the performance standards with a lead

time and technology options should be left to the manufacturers. Further, government may take appropriate action in the light of recommendations of the Technical Standing Committee.

11.7 Multi-axle Vehicles (MAVs)

The transportation of over-sized high density/containerised/hazardous cargo continues to take place largely on 2-axle rigid trucks. Such vehicles are generally overloaded beyond the prescribed GVW. The operators tend to overload their vehicles in order to improve the economics of operation. As in other countries, both developed and developing, operation of multi-axle vehicles (MAVs) provides the right answer to the current needs of the operators in meeting the increased operating costs, achieving economy through optimisation of the output and preventing damage to the road. There have, however, been some typical apprehensions in popularising multi-axle vehicles in the Indian market. These include :

- Will the MAVs be economically viable?
- Will they cause congestion, owing to their huge size?
- What degree of road damage will they cause?

These apprehensions appear to be ill-founded as brought out in Table 11.1, which compares a typical 2-axle truck with a 3-axle truck as well as a 6-axle truck.

Table 11.1: 2-axle Truck Vs Multi-axle Vehicle

S.No.	Parameter	2-axle truck	3-axle truck	6-axle truck
1.	Productivity			
	Payload (tonne)	9	15	31
	Annual utilisation(km)	96000	96000	96000
	Productivity (tkm)	864000	1440000	2976000
2.	Operating cost per tonne km	Rs.0.99	Rs. 0.78	Rs.0.60
3.	Operating crew	3 persons per truck	3 persons per truck	3 persons per truck
	Relative crew	3.45	2.07	1.00
4.	Fuel efficiency per 100 tkm	2.95 litres	2.47 litres	1.77 litres

As seen above, a 3-axle MAV is 1.6 times as productive as a 2-axle rigid truck and a 6-axle MAV is 3.45 times as productive as a 2-axle rigid truck. The MAVs also have lower operating costs compared to 2-axle vehicles and need less number of crew to operate them for a given payload. The damage caused to the road would also be comparatively less and, in fact, for a given traffic load, the number of MAVs on the road would also be fewer implying lower congestion and better level of service. There is thus a need for popularising the MAVs.

11.8 Market Driven Demand of MAVs

India is a big country; the requirement for packaging and transporting goods over long distances in response to market demand is vast. Typically, a firm's supply base and customer base create the freight transport network upstream and downstream of its factories and warehouses.

Changes in this pattern of backward and forward linkages, which can occur in the short-term and medium-term, has a significant influence on road freight demand. As Indian economy is growing and is experiencing growth in containerisation, there is need to promote multi-axle vehicles to avail of the advantages these offer to the economy

11.9 Factors Inhibiting Growth of MAVs in India

Despite the advantages that MAVs offer, they have not been popular in India. The factors contributing to the inhibited growth of MAVs are discussed below:

11.9.1 *High Price of Vehicles*

The initial purchase price of MAVs is on the higher side and there is reluctance on the part of transport operators to incur higher cost due to lack of awareness about the long term savings in operating or running costs.

11.9.2 *Technical Quality of Vehicles*

Until recently, MAVs produced in the country were modification of 2-axle chassis. New entrants in this market are now providing MAVs of International standards and these could be studied by other manufacturers.

11.9.3 *Lack of Servicing Facility*

MAVs, considering that those produced in the country hitherto were modifications of 2-axle chassis, do not require special skills, special tools and equipment and special spares. However, the service network for new technologically advanced MAVs is inadequate. It is suggested that the manufacturers of these vehicles should ensure that they spread their service network through out the country.

11.9.4 *Poor Road Network*

MAVs require a minimum of two lane pavement and adequate geometrics and load bearing capacity of bridges for safe movement. This requirement is particularly critical when heavy plants and equipment such as turbines, transformers for power plants are required to be moved. It is necessary to remove the deficiencies in geometrics, bridge capacity and carriageway width on the routes on which MAVs move so as to ensure a smooth and uninterrupted movement. Attention is also needed for the proper maintenance of roads.

11.9.5 *Inexperienced Drivers*

Driving and manoeuvring of MAVs requires trained and experienced drivers. Unfortunately, since the number of MAVs in India is quite small compared to normal trucks, the number of drivers is also small. Hardly any training schools exist for coaching the drivers of MAVs.

11.10 Promotion of Multi-axle Vehicles

In view of advantages of MAVs, there is need to promote these vehicles for modernising

trucking industry and for achieving cost effectiveness. For this purpose, government may consider the following suggestions :

- (i) State governments should consider a concessional rate of sales tax for MAVs compared to 2-axle vehicles.
- (ii) Excise duty should be reduced suitably. The current level of the excise duty is 15.125%; it may be reduced to 10.125%.
- (iii) A sliding scale of road tax be fixed so that per tonne (GVW) rate of tax is progressively lower for higher GVW/GTW.
- (iv) Priority be given to provide at least two lanes of carriageway on all national highways and state highways. Maintenance of these roads should also receive proper attention at all levels.

11.11 Recommendations

- 1) There is need for the accreditation of body builders; they should construct bodies based on standard designs provided by OE manufacturers or own design approved by the testing agencies like ARAI. Only after Inspecting Agencies give Conformity of Production Certificate (COP), the vehicle should be registered.
- 2) For the accreditation of body builders, state level committees be set up to ensure uniformity in body building and specifications as approved by chassis manufacturers or testing agencies. At the national level, arrangement be made for auditing the work of state committees.
- 3) Only approved cabin design should be used for fabrication. Such cabin should be aerodynamically designed. OEMs should provide factory built tamper proof cabin structure along with its various components.
- 4) Appropriate standards should be evolved prescribing minimum heat dissipation from engine inside the cabin along with associated vibration, noise and ventilation provisions. There should be adequate space for first-aid kit, tool box and fire extinguisher which should be made mandatory.
- 5) Cabin and the load body wall should be separate from each other with minimum prescribed gap. There should also be a provision for load guard as well. Suitable latches should replace loose/hanging chains used for holding the load body.
- 6) Overhang of the long members should not be more than 60% of the wheel base. Whenever required, OE manufactures should provide the long members upto the permissible length.
- 7) Cargo should be carried in a closed load body construction, except for specialised containers or permitted cargoes. There is need to strictly adhere to the axle load

specifications laid down by manufacturers, particularly for those who use 20 feet containers, as they are more likely to exceed these limits.

- 8) Truck body should contain reflectors as well as fluorescent tape at the edges of the body.
- 9) As regards upgradation in technology of commercial vehicles like introduction of power steering, retarders, radial tyres, etc., it is suggested that the government should notify the performance standards with a lead time. The technology options should be left to the vehicle manufacturers.
- 10) In view of MAVs low operating costs and less damage to the road, for a given payload, as compared to a 2-axle truck, it is suggested that the MAVs be popularised through measures such as providing tax benefits. Priority also needs to be given to adequate road maintenance and widening of high traffic density roads to four-lanes and other main roads to at least two-lanes.

Chapter 12

ENERGY CONSERVATION, FUEL EFFICIENCY AND PRODUCTIVITY

12.1 Introduction

In India, transport sector is the second largest consumer of energy, next to industry. India's known commercial energy resource base is meagre. It has only 5.7% of the world's proven coal reserves and 0.4% of the world's hydrocarbon reserves. Petroleum products demand/consumption has increased about two and half times i.e. from 31 million tonnes in 1980-81 to 83.73 million tonnes in 1997-98; their consumption is projected to reach a level of about 104.8 million metric tonnes (MMT) by the year 2001-02 and 155 MMT by 2006-07. To meet the projected demand, the country will need to import heavily since there are limits to increasing domestic production of these products.

The road sector accounts for around 71% and the railways 4% of the total HSD consumed in India. In 1997-98, when the total diesel consumption was 36 million tonnes, the country imported 12.6 million tonnes of diesel (35%). In 2005, the demand for diesel is estimated at 55 million tonnes and the diesel import could more than triple in this time-span. Hence, it is essential to consider efficient utilisation of energy in diesel transport vehicles and also consider alternate fuels to substitute diesel.

The commercial energy consumption in the transport sector, about 98% of which is in the form of HSD and gasoline, grew at a rate of 4.9% per annum between 1980-81 and 1990-91 and at 5.6% per annum during 1990-91 to 1997-98. The higher rates of growth of energy consumption in the latter period are primarily due to two structural shifts that have occurred in the transport sector. Firstly, India, a rail-dominant economy in the 1950s, shifted to a road-dominant economy in the 1980s. Railways, despite being a more energy-efficient and environment friendly mode of transport have been carrying a decreasing share in both freight and passenger movement. Second, the inadequate public transport system led to an increase in the use of personalised mode of transport resulting in extensive growth in the vehicle population. Both these developments are harmful to the economic health of our country and effective steps have to be taken to reverse the situation.

12.2 Modal Split

Energy use planning is a critical aspect of the transport sector. Besides being major consumers of energy, different modes of transport use different forms of energy with varying degree of efficiency and intensity. In India, at present, diesel is the only fuel available for commercial vehicles. Also, the goods vehicles in use are mainly 2-axle rigid trucks. These lack sophistication in technology and are less energy efficient. The present modal split contributes to fuel inefficiency. Lack of proper guiding principles has led to the non-optimal choice of transport modes by

customers. Personalised vehicles have grown at the cost of public transport; trucks are doing long hauls which normally should be performed by the railways. It is therefore, essential that adequate attention be given to inter-modal split to improve transport and fuel efficiency.

12.3 **Energy Conservation**

The Eighth Five-Year Plan suggested a three-pronged strategy for the conservation of energy in the transport sector :

- Due weightage should be given to energy consumption in the choice of modes.
- Energy-efficient modes should be promoted by phasing out the old, obsolete units and induction of efficient, state-of-the-art systems.
- Attempts should be made to reduce transport intensity.

Railways would need to review their present policies and consider providing customised services for movement of freight and tie-up with trucking industry for integrated movement of containers, provision of Ro-Ro services, and other long-haul cargo in a time-bound manner. Multimodal transportation should be encouraged to improve overall transport efficiency. Steps would also need to be taken to strengthen the public transport system particularly in cities with population of more than one million in the first stage to contain the rapid increase in population of two-wheelers and cars.

Rationalisation of the movement of certain bulk commodities and transportation of power to end-use areas, instead of movement of large quantities of coal to thermal plants over long distances, can greatly help demand management of transport services. The location of industries, power plants, refineries, etc. should take into account the transport cost to the economy. It is important that these considerations are kept in mind while planning physical capacities and setting up projects. In order to channelise consumer demand in the desired direction, an appropriate transport pricing policy, taxation and subsidisation structure should be thought of as instruments.

12.4 **Measures for Improving Fuel Efficiency**

Fuel cost forms a significant portion of the operating cost of a commercial vehicle. The quality of fuel, vehicle technology, road condition and traffic management affect the efficiency of fuel. The following measures are suggested for improvement in the fuel efficiency of commercial vehicles :

12.4.1 ***Fuel Quality***

There are fuel properties which have direct impact on emissions. Concern has been voiced, the world over, about the contribution to deteriorating air quality by exhaust emission from transport vehicles. Several measures have been taken to control the ill-effects of vehicle emission. One of them is mandating the limits for the pollutants from vehicle exhausts and

periodically making the limits more and more stringent. In recent times, the particulate emission from diesel vehicles has received considerable attention for its adverse effects on human health and life. In the Indian context, the emission parameters set by Europe in 1992 (Euro 1), 1996 (Euro 2) and for the year 2000 (Euro 3) are being used as reference for fixing the emission norms. Table 12.1 gives a brief description of Indian and Euro norms for diesel vehicles of more than 3.5 tonnes.

Table 12.1 : Indian and Euro Norms for Diesel Vehicles > 3.5 Tonnes

	1991/1992		1996		2000	
	India	Euro-1	India	Euro-2	India	Euro-3
CO g/KWH	14	4.5	11.2	4	4.5	2.1
HC g/KWH	3.5	1.1	2.4	1.1	1.1	0.66
NO _x g/KWH	18	8	14.4	7	8	5
PM>85 KW/g/KWH	-	0.36	-	0.15	0.36	0.1
PM<85 KW/g/KWH	-	0.61	-	0.15	0.61	0.1

Source : Central Pollution Control Board

In order to reduce harmful emissions and improve fuel efficiency, the cetane number of a fuel, which determines its ignition characteristics and hence fuel efficiency and emissions, needs to be increased in line with European specification from 45 to 58 for diesel in India. Similarly, there is need to reduce the sulphur content in diesel. The diesel emissions contain sulphur in particulated and gaseous form and thus a reduction in sulphur content has dual advantages. Preliminary data released from some studies show that a reduction of sulphur level from 0.20% to 0.05% reduces overall particulate by 13% in case of heavy duty diesel vehicles. Keeping in view the directions of the Supreme Court to prescribe emission norms based on Euro 2 standards, it would be necessary to bring the sulphur content to 0.05%. Our public sector refineries would have to upgrade their technology in this direction.

It was brought to the notice of the Steering Committee that fuel available at oil/diesel outlets does not conform to the original quality. This is due to adulteration that takes place at the retail outlets and the poor condition of storage. Therefore, fuel quality at the retail outlets should be subjected to audit by independent testing organisation of repute having licence from the Ministry of Petroleum and Natural Gas for a specific period of, say, five years. The renewal of the licence should depend on the suppliers' performance. The state of Andhra Pradesh is understood to have taken a bold step of removing kerosene from the Public Distribution System to eliminate the possibility of its adulteration with diesel and instead supplying LPG cylinder and burner at subsidised rates to the weaker sections of the society.

12.4.2 *Use of Modern Technology*

- The rolling resistance of a truck and the power consumed is directly proportional to the weight of the truck. As a rule of thumb, reduction in weight by 100 kg results in

fuel saving of 0.67%. Manufacturers should think in terms of using high strength *light weight materials for building trucks*. R&D institutions and engineers in the industry can take up research work in this field to commercialise the use of such trucks to reduce cost.

- A vehicle has to overcome air resistance in order to be able to move. *Air resistance varies with the shape of the vehicle and its speed*. At present speed levels, aerodynamic design is not significant for Indian vehicles. However, for future, use of roof deflectors and corner vanes, reduced projection of view mirror, grill size, elimination of quarter glass, radiator air inlet from below the grill, should be kept in mind to overcome resistance while designing new vehicles.
- IC engines have a wide speed range but are fuel-efficient only over a narrow range. Use of *multiple transmission with high transmission ratio*, i.e the number of gears in the gear box to those in the rear axle, can contribute to fuel economy.
- Tyres are responsible for a significant portion of energy expended by automotive vehicles. For trucks, the energy dissipated by tyres is around 6-14% of the total energy consumed by the vehicle. Therefore, reduction in tyre rolling loss can yield tangible fuel savings. The factors contributing to tyre rolling loss are tyre design; tyre operating parameters like speed, inflation pressures, load torque, steer inputs, etc.; ambient conditions like temperature and precipitation and road parameters like gravel, asphalt, concrete, pavement surface characteristics and conditions. Like European countries, Indian tyre companies should reduce rolling resistance and improve fuel economy through the introduction of fuel-efficient tyres like 'low profile tyres'. Further, as new concepts, like radialisation of tyres, mark themselves in the Indian market, their use should be promoted considering the benefits in terms of fuel efficiency, tyre life, etc. Radial tyres are reported to reduce rolling resistance by 20% leading to 5% saving in fuel. R & D should be undertaken to develop such tyres as are energy-efficient for Indian road condition.
- From the engine design point of view, breakthrough has to come in the form of 4-valve cylinder engine replacing the 2-valve one presently being used in India before an appreciable contribution to fuel efficiency due to design changes can be anticipated. Researchers are expecting this change by 2005, after which the thermal efficiency of the engine will be on par with contemporary world standards.

12.4.3 **Multi-axle Vehicles**

Multi-axle vehicles give higher payload compared to 2-axle trucks and cause less damage to roads in relation to the payload carried. They are also energy-efficient in terms of fuel consumed per tonne km of cargo as brought out in Chapter 11. Steps need to be taken to promote their use on the highways.

12.4.4 *Minimize Detentions*

At present, trucks are stopped at every check-post for payment of road taxes. En route, state authorities stop them and check them for compliance of the various provisions of the MV Act and for legal documents. At local level, these are stopped at octroi posts. This increases the operating cost of the vehicles which, in turn, has an impact on commodity cost. It is a well-known fact that regular use of brakes and change of gears increase fuel intake and reduce its efficiency. Therefore, efforts need to be made towards integration of check-posts and display of various certificates on the vehicles themselves so that they are stopped at minimum places. With reduced detentions, fuel-efficiency is likely to improve.

12.4.5 *Road Surface (Roughness and Gradient)*

The quality of roads influences the fuel consumption of the vehicles. The World Bank funded 'Road User Cost Study' undertaken by the CRRI and sponsored by the Ministry of Surface Transport has clearly brought out the effect of road quality on fuel consumption (Tables 12.3 and 12.4). With increase in road roughness, fuel consumption increases. Similarly, increase in gradient results in increasing fuel intake.

Table 12.2 : Effect of Surface Roughness on Fuel Consumption

Roughness (mm/km)	Surface Type	Fuel Consumption (Index)
3000	Asphaltic Concrete	100.0
5000	Premix Carpet	103.6
6000	Surface Dressing	105.4
8000	Freshly laid WBM	109.8
12000	Poorly maintained WBM	116.2
15000	Very poorly maintained WBM/gravel/earth surface	121.6

Table 12.3 : Effect of Gradient on Fuel Consumption

Gradient (Percent)	Fuel Consumption (Index)
0	100.0
1	118.4
2	138.8
3	155.2
4	173.6
5	192.0
6	210.3
7	228.7

Source : Road User Cost Study in India - Final Report - Central Road Research Institute, 1982.

In the light of the above findings, appropriate action needs to be taken to improve road surface and gradients to save fuel. Apart from surface roughness and vehicle grades, other road parameters, such as pavement width and type and road curvature influence fuel consumption and the operating cost. If the roads permit vehicles to operate at steady speeds, there will be fuel saving. This calls for pavement widths to be increased, so that vehicles do not have to accelerate and decelerate as often as they do because they are forced to travel on the rough surface of the shoulders. Of the total network of 52,000 km of the national highways, nearly 30% is still single-lane. In the case of state highways which have a total length of 1,28,000km, nearly 80% is single-lane or of intermediate width. National highways and state highways should have a minimum of two-lane carriageway.

Fuel savings by various road improvement measures were estimated by the Working Group on 'Conservation of Petroleum Products through Improvement in Roads and Traffic Management' (MOST); these are shown in Table 12.5.

Table 12.4 : Fuel Savings by Various Road Improvements

Nature of Improvements	Fuel Savings (Percent)
Paving earthen and gravel roads with WBM and thin bituminous surfacing	15
Providing thin bituminous surface on WBM	10
Widening single lane roads to two lanes, strengthening the pavement and improving riding quality	10
Widening single lane to two lane with minor improvement in riding quality	6
Widening single lane to intermediate lane width and improving riding quality	5
Strengthening weak pavements and providing superior bituminous surface	5

Roads sector has been getting inadequate allocation in the Five-Year Plans. Besides, reduced maintenance coupled with poor maintenance standards has led to the deplorable condition of roads, which causes inefficient use of energy by road vehicles. It is, therefore, important that government reviews its approach towards funding of roads. Allocations for maintenance have also to be in tune with the needs, with greater emphasis on improving the riding quality through regular periodic renewal of road surface.

12.4.6 *Fuel Efficient Norms*

In the eighties, Government of India opened the automobile industry to foreign collaborations for import of modern technology for manufacture of vehicles. It announced fuel efficiency norms and provided fiscal incentives by way of reduced customs and/or excise duties for components fitted to fuel efficient vehicles; manufacturers were expected to declare fuel consumption of each model of vehicle according to an agreed test procedure. This practice was expected to bring in the market pressures on manufacturers to continuously improve the fuel performance of their vehicles. In USA, the Government has specified “Corporate Average Fuel Efficiency” (CAFE), which is the average fuel consumption of all the vehicles sold by a firm in a year. The CAFE model is not considered suitable for India because, unlike in USA, each firm in India manufactures either a single model or a very small range of models.

As a matter of fact, the European model seems to be better suited for India. To reduce fuel consumption, the auto-manufacturers in Europe have committed that in future the average fuel consumption by the vehicles sold by them will not exceed a certain limit. For the years 1995 to 2005, an overall reduction of 2% in the consumption of fuel has been aimed.

The government should monitor not only the fuel consumption norms by design but also the actual fuel consumption rates achieved in practice to better appreciate the role of both technological and operating factors in fuel consumption.

12.4.7 *Scrapping of Old Vehicles*

It is also seen that older vehicles tend to consume more fuel. They emit more pollutants and are a health hazard. A system of periodic inspection of vehicles combined with cooperation of trucking associations in weeding out old vehicles (of say, more than 9 years old) is necessary.

12.5 **Recommendations**

- 1) In view of the non-optimal choice of transport mode by customers, appropriate transport pricing policy, taxation and subsidisation structure should be thought of as instruments to channelise consumer demand. It is suggested that Railways may review their present policies and consider providing customised services for movement of freight. They should also tie-up with trucking industry for integrated movement of containers and other long haul cargo to achieve efficiency. Necessary measures to promote multimodal transport in the country need to be taken.
- 2) In order to conserve energy, it is important that transportation of power to end-use areas instead of moving large quantities of coal to thermal plants, location of industries, power plants etc. at places involving minimum transport cost to the economy should be kept in mind while planning physical capacities and setting up projects.

- 3) Appropriate transport pricing policy, taxation and subsidisation structure should be thought of as instruments to channelise consumer demand.
- 4) Fuel efficiency not only depends on the quality of fuel itself but also vehicle technology, road and traffic condition etc. To achieve efficiency in fuel, it is suggested that :
 - Cetane number of diesel be increased in India in line with European specification from 45 to 58.
 - Sulphur content be reduced in diesel.
 - Adulteration of fuel at the retail outlets needs to be checked. The Ministry of Petroleum and Natural Gas should provide licence to independent testing organisation of repute, who can provide audit at the fuel outlets.
 - Manufacturers should consider use of light weight materials for building trucks. R&D institutions and engineers in industry can take up research work in this field to commercialise their use to reduce cost.
 - Due to low speed levels, aerodynamically designed vehicles do not have much significance in Indian conditions. For future use, use of roof deflectors, corner vanes, reduced projection of view mirror, grill size, elimination of quarter glass, radiator air inlet from below the grill etc. may be considered to overcome resistance.
 - Use of multiple transmission gears with high transmission ratio may be used to contribute to fuel economy.
 - A substantial portion of energy consumed by a vehicle is dissipated through its tyres. The tyre manufacturers should set up/strengthen their own R&D in order to develop tyres which are energy efficient for Indian road conditions.
- 5) MAVs need to be promoted by providing them appropriate incentives (refer Chapter 11).
- 6) Detention of trucks for payment of taxes/checking by state authorities, etc. needs to be reduced for improving fuel efficiency.
- 7) Appropriate action needs to be taken to improve road surface and gradients to save fuel in terms of findings of Road User Cost Study done by CRRI, 1982. Also government should consider increase in the allocation of funds for development of roads. Further, allocation for maintenance be need based with emphasis on improving the riding quality through periodic renewal of road surface.

- 8) The government should monitor the fuel consumption norms in line with the European model.
- 9) A system of periodic inspection of vehicles with the help of trucking associations for weeding out trucks of more than 9 years of age on the national highways be introduced.

Chapter 13

ROAD SAFETY

13.1 Background

Road safety is a growing social concern in the present-day world. In India, the boom in the vehicle population without adequate road infrastructure has been responsible for increase in the number of accidents. Vulnerable road users are the pedestrians, the cyclists and those using smaller capacity vehicles.

India's vehicle population is just 1% of that of the world; but 6% of the world accidents occur here. Every year, nearly 70,000 persons are reported to be killed and three lakh injured on roads. An accident takes place every 3 minutes and a person is killed every 10 minutes on Indian roads. The national highways, comprising 2% of the entire road network account for as high as 20% of the total accidents and 26% of deaths on the roads. Nearly 60% of the total road accidents take place during night though night traffic is hardly 15% of the 24 hours traffic volume; thus, the probability of an accident in India during night is almost eight times higher than during the day.

It is common knowledge that the heavier the vehicle, the longer it takes to come to a halt in an emergency. As a result, trucks have been the main contributors to accidents. Based on international studies of truck accidents, it can be said that drivers of large trucks are (i) twice as likely as drivers of small trucks to be in crashes, (ii) three times more likely to be in fatal crashes, (iii) 35 times more likely to kill others in crashes, and (iv) 80 times more likely to find dead occupants in cars with which they are involved in rear-end collisions.

13.2 Truck Accidents in India

Trucks have long been termed as the 'the carriers of death'. Based on a limited study, CIRT have reported that HCVs which constitute only 7% of the total vehicle population and of which trucks are a major part are involved in around 50% of the road accidents. Their share in fatalities is higher at around 60%. Graph at Annexure 3.1 shows the increasing rate of road accidents over the years in India. According to a recent CRRI study on 'Safety Issues in Truck Transportation in India', 50% of the truck accidents occur during sleeping hours; more truck accidents occur during summer season compared to winter season. Around half of the truck accidents occur near junctions and inhabited areas. Head-on collisions formed the largest type followed by rear-end collisions. Around 71% people involved in these accidents died on the spot.

In the circumstances, road safety in India needs serious attention. It is essential that the factors that contribute to road accidents are identified and adequate measures taken to reduce them.

13.3 Factors Contributing to Accidents

In India, overspeeding and rash and negligent driving have long been observed as primary causes behind truck accidents. Detailed investigation, however, remains a grey area. Record of road accidents as maintained by the police and further investigation carried out by insurance surveyors, are silent about problems, such as overloading, skidding, drunken driving, etc. that contribute to accidents. To understand the problem of growing accidents in our country, the following factors need to be given due attention :

13.3.1 *Drivers and Their Habits*

The issues relevant here include (a) lack of driver training infrastructure, (b) ease of obtaining driving licence, (c) lack of traffic discipline, (d) fatigue due to long working hours, (e) vehicle condition, (f) speeding at night, and (g) consumption of drugs and alcohol by drivers.

The CIRT Survey results (1998) revealed that the existing training facilities are inadequate compared to requirements. The training institutes are inadequately equipped. Majority of the drivers learn driving on their own without going to a training school. Even if they wish to learn, they are unable to do so for want of adequate facilities and resources.

The Motor Vehicles Act enjoins that a person should be *at least* literate to get a driving licence. The Survey, however, reveals that 20% of them were illiterate; of these 96% learnt driving on their own while working as a helper or otherwise. In case of literate drivers, 93% learnt on their own.

It is well-known that test for a commercial vehicle licence is a sham. The driving test is not conducted properly and is generally undertaken within a compound rather than on the road. Thus, the driver could easily lose control or not be able to slow down in time when the need arises.

The Survey also reveals that the drivers work excessive hours; 66% of the drivers drive continuously for more than 9 hours a day out of which 20% drive for more than 12 hours. The resultant fatigue leads to high rate of accidents. As such, there is urgent need for regulating driving hours to ensure road safety.

Also, truck drivers have to sleep in cabins which provide an inadequate environment for sleep. It is too hot in summer and too cold in winter. The environment is noisy, both inside, on account of the running engine, and outside due to other vehicles moving on the roads. So the drivers' sleep is disturbed.

There is yet another dimension to the problem. The Survey reveals that majority of the drivers return to the base after 3-4 days. While 31% of the drivers return to the base within 4 days, 47% return after 5 plus days, as detailed below:

0-4 days - 31.34%
5 to 8 days - 47.26%
> 8 days - 21.40%

As regards knowledge of road signs and traffic rules and regulations, the Survey reveals that 90% of truck drivers were ignorant about them. The study results show that educated drivers possessed better road safety knowledge. It is necessary, therefore, to prescribe minimum level of education for persons qualifying for various levels of driving skills.

13.3.2 *Condition of Vehicles*

The factors responsible for poor vehicle condition relate to (i) lack of maintenance, (ii) spurious parts and (iii) worn-out tyres. The trucks in general are in poor state of maintenance. The Survey has revealed that 93% of the drivers are not satisfied with the mechanical condition of vehicles, 48% of the trucks had problems due to excess wear and tear of tyres on account of overloading, 25% due to spurious parts followed by 23% with problems of spring leaves. Although all vehicles have to pass fitness test, the infrastructure therefor is highly inadequate. Moreover, these tests are mostly visual and without any equipment. The fitness certificates are liberally given. The poor condition of vehicles is a cause for concern since they are prone to accidents.

13.3.3 *Road Condition*

Presence of poor road geometrics, weak and narrow bridges, frequent access from side roads to main roads, congested city sections, poorly designed road intersections and existence of level crossings (both manned and unmanned) also contribute to accidents. The problem gets compounded due to the absence of police patrol and inadequate attention to maintenance of roads and traffic management.

Of the total length of 180000 km of national highways and state highways, 1,20,000 km. is still single-lane. Large volumes of traffic on single-lane national highways and state highways with limited opportunities for overtaking gives rise to frustration among drivers particularly when it includes slow moving vehicles. Two-lane is the minimum requisite for the safe passing and overtaking manoeuvres.

13.3.4 *Other Factors*

Other factors responsible for road accidents include (a) lack of strict compliance with the provisions of the MV Rules, 1989, with regard to the transportation of hazardous goods; (b) poor traffic awareness by road users; (c) parking on the highways near dhabas (d) lack of signages; and (e) weak enforcement of traffic regulations.

Rule 129 of CMV Rules, 1989, requires the owner of goods vehicle to display, in terms of the rules, a distinct mark of the class label appropriate to the type of hazardous goods being

carried in the vehicle and also equip the vehicle with safety equipment for preventing fire, explosion or escape of hazardous or dangerous goods. It also requires such vehicle to be fitted with a 'tachograph' as well as a 'spark arrested'. Not only does the Act make it the responsibility of vehicle owner to ensure that the vehicle has valid registration to carry such goods, is safe for the transport of such goods, is equipped with necessary first-aid, safety equipment, tool box and antidotes as may be necessary to contain any accident; he must also satisfy himself that the consignor has given to him full and accurate information about the dangerous goods corresponding to the classification of such goods. The owner, under the Rules, is also responsible for providing all the relevant information in writing in the form of 'Transport Emergency Card', in relation to the hazardous goods to the driver of the vehicle and satisfy himself that the driver has sufficient understanding of the material carried. He is to ensure that the driver of the hazardous goods vehicle holds a licence as per Rule-9 of CMVRs which provides for an endorsement in the driving licence of the applicant authorising him to drive the vehicle carrying dangerous or hazardous materials. The consignor is also expected to ensure that such vehicle has a valid registration to carry the said goods, is equipped with necessary first aid, safety equipment and antidotes as may be necessary to contain any accident. The consignor must also see to it that the owner of the goods vehicle has full information about the hazardous goods being transported and the driver of the vehicle is trained in handling the dangers posed during transport of such goods.

A survey to know status of compliance of various rules and regulations was carried out in Delhi, Indore and Bhopal. It was revealed that 53% of drivers carrying such cargo had education below primary school level. Although most drivers were aware about hazardous nature of cargo they were carrying, they were ignorant about the name of the material and preventive measures to be taken in case of an accident. This ignorance was maximum (95%) among drivers who had education upto primary level.

It is common knowledge that pedestrians and cyclists bear no responsibility while using the road. They generally cross the road without looking around and assume that vehicles would stop for them without appreciating the problems of stopping suddenly.

Parking of trucks on national highways, especially near dhabas, also poses problems for the traffic to pass, resulting in accidents. Further, lack of signages along the national highways and some traffic guiding measures like use of fluorescent tapes at sharp bends and dead ends etc. also adds to the possibility of accidents. Traffic regulations need to be tightened so that drivers and operators who flout traffic rules and cause accidents do not go unpunished.

13.4 Road Safety Measures

In the recent past, road safety was largely linked to the "human factor". An accident was considered to be the result of violation of traffic rules. As a result, inadequate attention was given to improvement of situational factor, such as good and effective design of the road and its environment, vehicle condition, etc. In fact, in many cases, multiple factors are responsible for an accident and the specific factor that contributes to the accident may be difficult to ascertain unless the driver survives to testify.

Improvement in road safety cannot be achieved by one individual. It is a collective responsibility of (i) vehicle owners, drivers, etc. (ii) operators, their associations, (iii) police, (iv) government departments, (v) vehicles, tyres and spare parts manufacturers, and (vi) road users. Government are concerned about the deteriorating safety levels and have taken a number of steps to reduce accidents. Motor Vehicle Act has been amended; need for formal training of drivers is recognised; maximum safe laden weight for trucks and maximum speed for vehicles have been fixed; Road Safety Council has been set up for recommending road safety measures. However, much more needs to be done besides enforcing provisions of Motor Vehicle Act. It is essential that government keep track of the new safety devices being innovated in other countries and issue suitable instructions to the domestic manufacturers for their adoption in the interest of promoting safety.

Some of the important suggestions to promote road safety are given below:

13.4.1 *Suggestions Relating to Drivers*

Research studies have established that vehicle driver is an important factor in road accidents. Hence, there is a need for quality drivers; pre-requisites for which are proper training and effective licensing. The following suggestions are offered for this purpose:

- Knowledge of traffic rules, safety rules etc. is essential for safe driving. To understand these rules, minimum education of 10th class pass should be prescribed for the drivers.
- Driving for excessive hours causes fatigue to the drivers and is thus an accident hazard. It is therefore, necessary that working hours prescribed in the MV Act should be strictly enforced.
- Every state should have good driver training schools. Only those training schools should be allowed to operate which can provide proper infrastructure in accordance with the MV Act and have trained instructors. The procedures should be foolproof. A system of periodical audit of such schools and their testing procedures should be introduced to ensure compliance with MV Act and the Rules framed thereunder. Driving schools, which lack in infrastructure, should be closed down.
- Issue of driving licence should be fully computerised in the country and placed on national network so that a driver whose licence has been cancelled may not be able to obtain another license from any other RTO. Further, there should be a procedure for re-testing the drivers who have committed fatal accidents.
- State and national level awards along with a cash incentive scheme be introduced for drivers who have accident-free record during the year. This scheme will promote driving in a safe manner. Owners will also benefit by having vehicles in service for a longer period than at present, besides saving on insurance premium. It is suggested that Truck Owners Associations pursue such a scheme with their driver employees.

- NGOs may be encouraged to organise orientation programmes for drivers.
- Driver training programmes, such as the ones started in South India at Chennai by MRF, at Namakkal by Ashok Leyland and at Gummidipundi by the Institute of Road Transportation, should be replicated in other parts of the country too.
- There should be a separate wing in the MV department to check the performance of applicants for heavy driving licence, before issuing such licences. The issue of such licences should be entrusted to the senior or specialised people working in this field.
- Every driver of hazardous goods carrier should ensure that he is provided with a Transport Emergency Card and has full information about the hazardous goods being carried by him.

13.4.2 *Suggestions Relating to Roads*

- Removal of deficiencies in the existing road network is a priority. It is necessary to introduce safety features in road system by introducing (a) safety barriers, (b) provision of traffic signs and road markings, (c) re-alignment of roads where geometrics are poor, (d) bus bays, truck lay bys to encourage off-road parking along the highways so that trucks can be parked in a safe manner, (e) improvement in road lighting, (f) segregated pedestrian traffic, and (g) creation of central verges with hedges with a view to minimising glare.
- Replacing unmanned level crossings with manned level crossings
- Berms and shoulders should be maintained properly so as to ensure that they are at level with the main carriageway.
- Ribbon development and encroachment on highways should be removed.
- Every project of road improvement must be subjected to a safety audit at every stage, be it design, construction or maintenance.
- Case studies of accident prone stretches should be taken up and counter measures developed.
- Measures should be taken to restrict parking of vehicles near junction of highways; wayside amenities should be provided for the drivers.
- There is serious lack of road signs and markings as prescribed by the Indian Road Congress. Both the centre and the state governments should provide adequate financial allocation for proper installation of these devices. Moreover, arrangements should be made for their proper maintenance and replacement at the end of their useful life.

- Roadside fixtures and safety devices for proper guidance of road users should form integral part of road design.
- Provision for wayside amenities and road side rest areas.
- Traffic calming techniques should be applied on highways within/close to the urban areas and villages in view of the vulnerability of pedestrians and cyclists to accidents.
- Highway police patrol and emergency medical aid along the main highways with arrangements for removal of broken down vehicles and availability of ambulance to provide first aid to the accident victims and transport them to the nearest hospital should be introduced. The centre and the states should earmark a minimum of 5% of the road budget for engineering measures to improve road safety.

13.4.3 Suggestions Relating to Vehicle

Upgradation of vehicle technology is essential for promoting road safety. The various recommendations of the Committee in this regard have been dealt with in the chapter on Technology Upgradation. Important among these recommendations are :

- Suitable measures should be taken to ensure production of safe vehicles; government should provide standards for body building, cabin design to ensure safety. Legal provisions to ensure the use of reflectors, tail lamps, good tyres should be strictly enforced.
- Safety provisions, such as use of safety belts should be made mandatory. Truck exterior and interior projections which are sharp and dangerous should be replaced by a good ergonomic cabin.
- Truck body features which are pertinent to efficiency and comfort of the driver and thereby reduce the probability of causing accidents should be taken care of. These include:
 - Wide windows and areas of visibility
 - Seating design
 - Location and design of switches
 - Visibility and location of instruments like speedometer, tachograph, brake system, oil pressure gauge, etc.
- Design standards be prescribed for vehicle manufactures to match the prescribed axle loads.
- Owners need to be encouraged to maintain their vehicles in a better condition. This will have a favourable impact on the effective operational life of the vehicle and will

ensure that vehicle fitness standards are met. Owners need to understand that vehicle maintenance is a sound practice as it can assist in minimising vehicle down-time. Brakes, lights, tyres and steering are the most important and critical areas of a vehicle. It is desirable that arrangements like computer inspection and testing are made to monitor vehicle condition.

- Vehicle carrying hazardous goods must necessarily be equipped with adequate safety equipment, first-aid box and tool box. It should also have valid registration to carry such goods.

13.4.4 *Education Measures*

- It is essential to educate road users on traffic awareness and the highway code to minimise the number of accidents. Such campaigns need to be undertaken regularly in schools, using all media including the press, radio, T.V. and cinema so that road users understand their own responsibility while moving on the road.

Society of Indian Automobile Manufacturers (SIAM) should consider the possibility of providing entertainment and information regarding MV Rules through TV/radio at places where commercial vehicles wait for long hours.

- Equally important is the need for restraining animals from wandering on the roadside since in avoiding collision with them, loss of control of the vehicle is known to recur.
- Certain practical advice can usefully be displayed/given at the places of stoppages like rest areas for the benefit of truck drivers from time to time. Some examples are given below :
 - weather reports with information regarding difficult or dangerous road conditions;
 - importance of prevention of fatigue while driving;
 - the need for adequate rest periods before driving;
 - the advisability of resting for a few minutes (say, 15 minutes) every two hours or so on a long drive; and
 - the importance of getting out of the truck and walking around for a short time when drowsiness develops.

These measures should be focussed during driver training programmes and repeated from time to time during education campaigns for drivers.

- Training workshops for drivers of commercial vehicles should be arranged from time to time. Special attention should be given to the owners and drivers of hazardous goods vehicles, teaching them how to handle the situation in case of a mishap.

- Awareness be created among vehicle owners that they can reduce the chances of accidents if they keep their vehicles technically fit.
- Voluntary agencies should be involved and encouraged in educating the general public and the road users in various safety aspects and the dangers involved in the use of alcohol/drugs by drivers, etc.

13.4.5 *General Issues in Road Safety*

- Government should consider introducing road safety as a subject in the curricula of schools.
- Government should draw up a programme for involvement of the community in road safety.
- Provision of deterrent punishment in Motor Vehicle Act for serious traffic violations like drunken driving, driving under the influence of drugs, rash and negligent driving, jumping of red lights.
- Overloading should be banned.
- Compulsory medical examination including an eyesight test, should be made mandatory before the issue of heavy vehicle driving licence. Licences should not be renewed unless medical check-up is done. Further, truck driver should undergo six-monthly medical check-ups.
- Police patrolling on the highways needs to be increased to make safety rules effective. Highway police patrol should also be backed up with Trauma Care and First-Aid Ambulance and also with cranes for the removal of damaged vehicles.
- Enacting a comprehensive Road Safety Act on the lines of such legislations in other countries.
- A multi-disciplinary investigation unit should be set up to investigate all fatal accidents involving trucks. It should create a detailed database to facilitate better understanding of the causes of such accidents.
- There should be enforcement of maximum speed limits on highways especially NHs, since overspeeding causes accidents.

13.4.6 *Alcohol Limits*

There is much evidence to show that alcohol consumption by road users is a major factor responsible for road accidents. Section 185(a) of MV Act specifies 30 micro grams per 100

ml of blood in a test by a breath analyser as the safe alcohol limit. A person exceeding this limit is liable to imprisonment for a period of six months or a fine of Rs.2,000, or both. At present, there is hardly any provision to check drivers for alcohol consumption on the highways. Suitable steps need to be taken for testing of drivers with the help of Alcohol Testing Machines which may be installed at important check-posts or kept on mobile traffic vans.

13.5 Fatal Accident Reporting System (FARS)

In order to have a record of accidents, USA has set up “Fatal Accident Reporting System.” It is a computerised data file maintained by the National Highway Traffic Safety Administration, an agency of the US department of transport. The file has been set up to document every fatal crash that has occurred on any US public road since January 1975. A “fatal crash” is defined as one in which anyone dies within 30 days of the crash as a result of the accident. Data on the crash including the people and the vehicles involved are compiled by using information provided by the police at the scene of the accident. The file is largely limited to information which can be readily recorded, such as the number and type of vehicles involved, sex and age of occupants, time of the day, posted speed limit on the roadway, etc. More specific vehicular information can be extracted from the Vehicle Identification Number (VIN) and the driver’s licence number which are both bar-coded. Statistics on road traffic accidents in relation to a particular site or a particular vehicle make/technology lead to some necessary preventive measures concerning the site or the technology used in the vehicle. Availability of data facilitates analysis of causes of accidents. We should also introduce a similar system in India to facilitate research in the area of road accidents.

13.6 Accident Investigation and Research

Unlike rail accidents, causes of the road accidents are seldom investigated by trained people. At present, there is no single authority charged with the duty of investigating such accidents for the sake of their prevention. Accordingly, it is not possible to appreciate the effectiveness of measures taken for the prevention of these accidents.

While the investigation aspect of these accidents in the states could be left to the nominated RTOs trained in the MV Rules and accident analysis, accidents on national highways should be analysed by a multi-skilled and multi-disciplinary team who should visit the site of the accident and analyse the causes and factors responsible for the accident. The team should include specialised people like MV Inspector, road engineer, psychiatrist/psychologist and representative of the public.

Further, a ‘Centre for Accident Studies’ could be set up for accident research and investigation at the national level. This will provide essential stimulus to research on road accident prevention. Arrangements can also be made to make institutional arrangements for international exchange of views and ideas on the prevention of road accidents.

13.7 Recommendations

The following recommendations are made for the promotion of road safety :

- (1) Considering that the driver is an important factor in road accidents, suitable measures should be taken to provide quality drivers. For this purpose, the tests for obtaining driving licence should be made stringent. Besides driving skill, knowledge of traffic rules should also be tested. Working hours prescribed in the MV Act should be strictly enforced. The minimum education qualification for future drivers may be specified as 10th class pass. State and national level awards along with a cash incentive scheme be introduced for drivers who have an accident-free record during the year. It is suggested that Truck Owners Associations pursue such a scheme with their driver employees.
- (2) There should be provision of deterrent punishment in the Motor Vehicles Act for serious traffic violations like driving under the influence of alcohol/drugs, rash and negligent driving and jumping of red lights.
- (3) Every state should have good driver training schools with proper infrastructure and experienced instructors. A system of periodic audit of such schools should be introduced. Voluntary agencies may be encouraged to organise orientation programmes for drivers. Driver training programmes, such as the ones started at Chennai by MRF and at Namakkal by Ashok Leyland should be replicated in other parts of the country too.
- (4) Society of Indian Automobile Manufacturers (SIAM) should consider the possibility of providing entertainment as also important information regarding the MV Act and the MV Rules through TV/radio at places where commercial vehicles wait for long hours.
- (5) Vehicle owners need to be encouraged to maintain their vehicles in a better condition. Special care and precautions are necessary in respect of vehicles carrying hazardous goods. It is suggested that every driver of hazardous goods carrier should ensure that he is provided with a Transport Emergency Card and has full information about the hazardous goods being carried by him.
- (6) In case of roads, there is need for the introduction of safety features like (a) safety barriers, (b) provision of traffic signs and road markings, (c) geometric improvements, (d) creation of central verges with hedges with a view to minimising glare, and (e) provision of wayside amenities and rest areas. Traffic calming techniques should be applied on highways within/close to the urban areas and villages in view of the vulnerability of pedestrians and cyclists to accidents. The centre and the states should earmark a certain minimum amount out of the road budget for engineering measures to improve road safety.

- (7) Government should consider introducing road safety as a subject in the curricula of schools and draw up a programme for involvement of the community in road safety.
- (8) Police patrolling on the highways needs to be increased to make safety rules effective. It should be backed by Trauma Care, First-Aid Ambulance and cranes for the removal of damaged vehicles.
- (9) A 'Centre for Accident Studies' should be set up for accident research and investigation at the national level. This will provide essential stimulus to research on road accident prevention.

Chapter 14

LEGAL AXLE LOADS AND THE PROBLEM OF OVERLOADING

14.1 Axle Load Limits

The Motor Vehicles Act empowers the Union Ministry of Surface Transport (MOST) to specify maximum gross vehicle weight (GVW) and maximum safe axle weight of all transport vehicles. In exercise of these powers, Government of India had laid down in the early fifties that maximum safe laden weight and safe axle weight of each axle of the vehicle shall be as per the rating fixed by the manufacturers. In 1959, the MOST had permitted an ad hoc increase of 25 per cent over the axle weight and gross vehicle weight of commercial vehicles certified by the vehicle manufacturers. This was done apparently to overcome the inadequate number of trucks plying on the road network at that time. Many of the trucks had a certified GVW of about 10 tonnes then.

For design of roads, an axle load of 18000 lb or 8 tonnes was the internationally accepted norm at that time. Even with ad hoc overload of 25 per cent, GVW of the commercial vehicles worked out to 12.5 tonnes and on a two-axle vehicle, rear-axle load came to around 8 tonnes, a situation still within the road design standards. In that scenario, the ad hoc 25 per cent increase permitted was acceptable to road authorities.

Subsequently, as the economy grew, demand for better capacity trucks led to the introduction of 12-tonne GVW vehicles and although at that time the road authorities pleaded that the ad hoc increase of 25 per cent should not be permitted on such vehicles, it became difficult in practice to withdraw the ad hoc increase. This led to increased damage of roads. Axle loads were not clearly prescribed by the central government and the individual states were prescribing axle load limits of their own, of course, taking into consideration the weights certified by the vehicle manufacturers.

In the early eighties, there was pressure from the transporters and vehicle manufacturers alike to bring into market still better capacity trucks. Tatas took the lead and came up with a proposal to manufacture 15 tonne GVW 2-axle commercial vehicles. The introduction of this vehicle was vehemently opposed at that time by the road authorities on the premise that if 25 per cent overload continued to be permitted, such a vehicle would be 5 to 6 times more damaging for the roads. This development together with varying degrees of higher loads permitted by various States led to setting up of a national level Committee in 1982 under the chairmanship of Joint Secretary (Transport) to deal with the whole question of axle load policy for commercial vehicles in India. The major recommendations of this Committee were :

1. The maximum allowable axle load and gross vehicle weight of vehicles should be uniform throughout the country.
2. The ad hoc 25 per cent overload permitted by the government should be taken into account while prescribing the maximum allowable limits over the prevailing weights of vehicles certified by the vehicle manufacturers.
3. The road design should be based on the maximum allowable axle loads in the light of the above recommendations.

After considering these recommendations, the Government of India in 1983 abolished the ad hoc overloading permitted by them earlier and revised the maximum allowable axle load and load limits as under:

A Front Axle (Rigid vehicles, semi-articulated, truck-trailer combination)

- | | | | |
|-----|-------------|-----------|----------|
| i) | Single Axle | one tyre | 3 tonnes |
| ii) | Single Axle | two tyres | 6 tonnes |

B Rear and Other Axles (Rigid vehicles, semi-articulated, truck-trailer combination).

- | | | | |
|------|-------------|--------------|-------------|
| i) | Single Axle | two tyres | 6 tonnes |
| ii) | Single Axle | four tyres | 10.2 tonnes |
| iii) | Tandem Axle | eight tyres | 19 tonnes |
| iv) | Triple Axle | twelve tyres | 24 tonnes |

These limits were reconfirmed by the MOST vide their notification No. S.O.728(E) dated the 18th October 1996 specifying the maximum GVW and maximum safe axle weight of a given transport vehicle. A copy of this notification, is given at Annexure 14.1.

14.2 Overloading

Overloading of goods transport vehicles is a common phenomenon in India. Majority of these vehicles are two-axle rigid vehicles. These are overloaded beyond the prescribed GVW by adding extra leaf springs in suspension system or by welding extra joints beyond the long members of the chassis. Fitment of oversized tyres and container movement have added to the problem. One often finds large containers being moved on rigid 2-axle trucks resulting in overloading.

It has also been brought to the notice of the Committee that the consignors of bulk commodities such as fertilizer, steel, cement including even the public sector undertakings were overloading their vehicles in order to get economies in vehicle operation costs. The vehicles leaving the ports and the ICDs/CFSs are also overloaded. Even the transport documents accompanying such vehicles show the weight recorded which confirms the

overloading of the vehicles. Thus, there is tendency not only on the part of truck owners/operators but also on the part of consignors to overload the vehicles without regard for the law.

Studies carried out recently (1997) by the NHAI and the MOST on certain stretches of national highways have revealed that a vast majority of 2-axle trucks carried loads exceeding the prescribed limit of 10.2 tonnes. The proportion of such vehicles is 40% to 80%. The consequences of overloading are:

- Accelerated deterioration of roads and increased damage to the pavements resulting in premature vehicle failures and breakdowns.
- Threat to traffic safety since overloaded vehicles cannot be controlled effectively by the drivers. Excessive overloading increases accident hazards and weakens the in-built safety margin of the vehicles.
- Reduction in the life of the vehicles and increase in their breakdowns and requirements for repairs.

14.3 Statutory Position

The statutory provisions dealing with overloading are set out in sections 113, 114, 194 and 200 of the Motor Vehicles Act 1988. The provisions are briefly given below :

- (i) Section 113 limits the driving of any transport vehicle in any public place (a) the unladen weight of which exceeds the unladen weight specified in the certificate of registration of the vehicle, or (b) the laden weight of which exceeds the GVW specified in the certificate of registration.
- (ii) Section 114 provides that authorised officers of the Motor Vehicle department have powers to get weighed the goods vehicle or trailer, which is believed to be operating in violation of Section 113, and require the driver of the vehicle to offload the excess weight at his own risk and not to remove the vehicle till the laden weight of the vehicle has been reduced to satisfy the requirement of section 113.
- (iii) Section 194 punishes the violation of Section 114 (i.e. overloading of vehicles) with a minimum fine of Rs.2,000/- and an additional amount of Rs. 1,000/- per tonne of excess load together with the liability to pay charges for offloading. Further, it provides that any driver who refuses to stop for weighing or removes part of the load prior to weighing shall be punishable with fine which may extend to Rs. 3000/-.
- (iv) Section 200 deals with the compounding of offences. The offence of overloading

under Section 194 may be compounded by the prescribed authority for such amount as may be specified by the state government. After compounding, the offender shall be discharged and no further action shall be taken against him in respect of such offence.

In exercise of the powers conferred by Section 200, the states have prescribed the composition fee against overloading. Position of such fee levied by the following 5 states (information in respect of which is available) is given against each :

Table 14.1 : Composition Fee for Overloading

Gujarat	(i) Owners of vehicles For overload of 500kg or part thereof	Rs. 150/-
	(ii) Drivers of vehicles For overload of 500kg or part thereof	Rs. 50/-
Karnataka	(i) First 1000kg	Rs.2000/-
	(ii) Every addl. 100kg	Rs. 100/-
Maharashtra	(i) Person driving the vehicle	Rs.2000/- Plus
	(ii) Person who causes driving 1000 kg or part thereof	Rs. 500/-
Rajasthan	(i) Contravention of Section 113	Rs. 800/-
	(ii) Contravention of Section 114	Rs.1500/-
Tamil Nadu	(i) State registered vehicles 1000kg of excess load plus Rs.1000 per tonne of excess load	Rs.2000/-
	(ii) Other State vehicles •compounding fee •advice to the primary authority to take action against the the permit-holder for cancellation and suspension of permit under Section 86(1)	Rs. 50/-

It is seen that compounding fees vary from state to state. Some states levy this fee on both the driver and the owner of the vehicle. The practice in Tamil Nadu differentiates between the vehicles registered in the state and vehicles registered outside the state. The state has prescribed a nominal fee of Rs. 50/- for overloaded vehicles plying in the state but registered in other states. In addition, the state sends check reports in respect of such vehicles to the primary authority of the concerned state to take action against the permit-holder for overloading.

Different states have interpreted the various provisions of the Act dealing with overloading in their own way. While some are imposing fine as per Section 194 and are also charging compounding fee under Section 200, others are levying either fine or compounding fees only. Further, Motor Vehicle Rules of different states vary. As a result, trucks plying on inter-state routes on national permit, or counter-signature permit are exposed to varying degrees of load restrictions by the enforcement agencies on way from origin to destination. Thus, there is no uniformity in the approach of the states in dealing with the offence of overloading and its compounding.

14.4 Road Condition and Feasibility of Higher Axle Loads

There have been demands from the transport authorities recently to consider further increase in the axle load limits since the overloading continues to be unabated and they find it difficult to enforce the existing limits in actual practice. Vehicle operators perceive possible savings in vehicle operating costs and would also support the demand for increased axle loads quoting the carrying capacity of the trucks. On the other hand highway authorities resist the demand fearing accelerated distress to the pavement leading to increased pavement strengthening and maintenance investments.

As it is, about 80% to 90% of the network of national highways and state highways is suitable only for standard axle load of 8.16 tonnes. Just 10% to 20% network can be said to be sufficient enough for the presently prescribed permissible axle loads of 10.2 tonnes. Overloading of vehicles has been contributing to the premature failure of several road stretches.

To illustrate this, strengthening of pavement for Delhi-Mumbai stretch (1400 km), to meet the needs of 10.2 tonnes axle load, requires an investment of Rs. 700 crore for a design life of 10 years. With 10 per cent overload (1.6 tonnes more pay-load) the same pavement would last for 6.5 years and with 30 per cent overload (5 tonnes more pay-load), it would last for only 3.5 years, implying further investments of the order of Rs. 700 crore (at current prices) at accelerated intervals. Resources of this magnitude are just not available nor does it make any economic sense to do so.

Moreover, the country is moving towards privatisation regime for financing and managing the main road network. From that angle also, it would be unthinkable to permit higher axle loads which would compel the investors to pump in larger investments during the operations and maintenance period, particularly when these were not part of the tender conditions. Besides, in a private regime, enforcement can be expected to be quite satisfactory. In the present scenario, enforcement would remain very difficult until we set up a network of weigh stations on national highways and state highways and the penalties for overloading are made deterrent.

It has also been observed that vehicles with higher axle loads are less safe particularly to vulnerable road users – pedestrians and cyclists. In the circumstances, it is not considered advisable to increase the axle load limits for the present.

It may, however, be added that bridges are being designed for IRC Class A or Class 70R loadings and therefore, the existing restriction on GVW in respect of multi-axle vehicles could be considered for some relaxation from 44 tonnes at present to 49 tonnes.

14.5 **Recommendations for Tackling Overloading**

1. ***Restrictions on Chassis Manufacturers and Body Builders***

Manufacturers of commercial vehicles should comply with the provisions of the MV Act, and the notification issued by MOST with regard to safe axle load and maximum GVW while designing and constructing the vehicles. Special care is needed in curbing the tendency to overdesign the vehicle by adding extra leaf springs in suspension system. The authorised body builders should also be penalised if they resort to such practices. In this regard, it should also be ensured that tyres of the appropriate size are fitted and ply rating corresponds to the weights certified by the vehicle manufactures. Only such compliance will demonstrate the vehicle manufacturers' resolve to discourage overloading. The government may issue guidelines specifying the design and dimensions of truck bodies and tyres specifications so that they are in compliance with the legal provisions.

2. ***Liability for Overloading***

Regulation of consignors is also necessary. The consignors who overload the vehicles or allow overloading at the point of despatch should also be held guilty of violating the load limits prescribed by the government and dealt with suitably. The provisions in the MV Act may be modified accordingly.

3. ***Provision of Weigh Stations on Highways***

The load limits set by the government need to be strictly enforced in the country by the RTAs on ground. To facilitate enforcement, a number of weigh-in-motion (WIM) and static weighing stations should be set up on highways. A beginning should be made on the national highways where the NHAI/BOT entrepreneurs should set up WIM and static weighing stations together with suitable space for removal of excess cargo at the risk and cost of transport operator. Enforcement agencies can also be provided with portable weigh pads for checking overloading.

As far as checking is concerned, an arrangement should be made to ensure that a truck is checked only once during its transit on the national highway and subjected to a levy of penalty fee only once. The NHAI may be empowered to prescribe this fee, which, if necessary, could be shared between the states. Checking of trucks should be carried out only by the originating state or NHAI and after the first check and payment of penalty, the truck should be issued a challan for the penalty paid and thereafter it should be allowed to reach its final

destination without any further detention. It is understood that such a recommendation has already been made by the Expert Committee on An Integrated Approach to the Movement of Goods in International Trade set up by the Ministry of Commerce in 1998 (Para 9.5 of their Report of April 1999 refers). This would also help in ensuring that the trucks carrying containers and cargo for export on the national highways are not detained at numerous check-posts. As for overloading on state roads, penalties may continue to be levied and collected by the state authorities.

4. ***Authorising BOT Entrepreneurs***

The government proposes to undertake road projects on build, operate and transfer (BOT) basis. Under this scheme, the BOT operator will be responsible for operation and maintenance of the highway section also and since overloading of the vehicles could cause accelerated damage and deterioration of the road pavement, he would need to be vested with powers to enforce the provisions of the Motor Vehicle Act and authorised to offload the cargo, etc. in excess of the axle load limits prescribed by the government. If there is any let-up in the enforcement of these provisions, the whole concept of private sector participation would be in jeopardy.

5. ***Abolition of Compounding Fees and Enhancement of Penalties***

Section 200 of the MV Act deals with compounding fees. Its provisions are found to encourage overloading. For overloading to be stopped, there is need to amend the MV Act to abolish compounding of the offence of overloading and substantially hike penalty for excess loads. Until such time as the law is amended, the government should impose deterrent penalties to discourage excessive overloading, since it not only damages the roads but also increases the risk to life and property.

Penalties for the violation of axle load limits should be in line with the extent of overloading and should have some relation to the amount of damage caused to the roads. The penalty level for the offence should be uniform in all the states. It is recommended that penalties may be fixed by the Central Authority proposed in Chapter 4.

The following slabs of penalties are recommended.

- (i) For excess loads upto 10% of the prescribed loads : Rs.100/- per 100 kg subject to a minimum of Rs.3,000/-.
- (ii) For excess loads above 10% but upto 20% of the prescribed loads Rs.300/- per 100 kg subject to a minimum of Rs.10,000/-.

- (iii) For excess loads beyond 20% of the prescribed loads : Rs.1,000/- per 100 kg subject to a minimum of Rs.20,000/-.

Notwithstanding these penalties, the enforcement authorities should continue to have the right to get the excess cargo off-loaded.

6. ***Multi-axle Vehicles***

While multi-axle vehicles cause less damage to roads, care should be taken that they are also not overloaded beyond the permissible limits. However, the present restriction of gross train load of 44 tonnes on multi-axle vehicles including semi-trailer or tractor-trailer combinations needs to be reviewed and raised to 49 tonnes (for a 6-axle truck with one steering axle, one tandem axle and triple axle configuration). Local restrictions could be applied where bridges are weak to withstand such loads.

7. ***Legislative Amendments***

Necessary legislative amendments to implement the above recommendations should be considered by the Ministry of Surface Transport.

8. ***Norms for Pavement Design***

The road authorities should be advised to continue the present practice of carrying out axle-load spectrum studies on major roads and take the actual loadings into consideration for design of new pavement and overlays. Continuous R & D efforts are necessary in this direction to find out the trends and to provide the feed-back to the transport authorities. A minimum axle load of 10 per cent over the prescribed axle loads should be adopted for design of new pavements and strengthening overlays where it is not possible to carry out axle-load spectrum studies. Necessary guidelines on these aspects should be finalised by the Indian Roads Congress after giving a fresh look to the pavement design policy.

9. ***Study of Optimum Axle Loads***

While higher axle loads cause more damage to roads and require additional investments in strengthening of pavement and bridges, there would be savings in vehicle operating costs and economies in consumption of fuel. A comprehensive study of cost economics of roads and road transport should be undertaken by the government to determine the optimum axle loads that could be permitted on the roads in the country.

Chapter 15

HUMAN RESOURCE DEVELOPMENT

15.1 Introduction

Road transport sector is highly labour intensive; drivers constitute bulk of the workforce. Given 22 lakh goods vehicles operating in the country and assuming 2 drivers or a driver and a cleaner per vehicle, the total employment figure of drivers-cleaners works out at around 44 lakh. In addition, there are auxiliary trades and employment opportunities in the form of brokers, booking agents, people engaged in running of garages, loading and unloading operations, wayside facilities etc. Given the high employment potential of this sector, there is a pressing need to frame appropriate human resource development (HRD) strategies in order to create a competent workforce for this sector. Information regarding the literacy pattern of the various operators and observations on the different aspects of their training, etc. will facilitate the formulation of appropriate policy for HRD. Relevant information was gathered through CIRT survey; this is summarised below.

15.2 Main Findings of the Survey

- Out of 2393 drivers surveyed, 80% were literate.
- Drivers were found quite willing to receive training on road safety and health awareness.
- Radio was found to be the most preferred means of creating awareness.
- Strong preference was expressed for learning at the base of operation and loading stations.
- There was found to be an urgent need for creating awareness among drivers in safe driving and fuel efficiency.
- Brokers and booking agents were educated and were very open to training.

15.3 Relevance of ‘Quality of Life’ to Training of Drivers

The most important player in the field of freight transport is the driver. The number of drivers presently well above 20 lakh, is likely to double in the next 10 years. Driving would thus form a sizable chunk of the total employment generated in the country.

Driving a truck in the chaotic traffic and poor road conditions is definitely a difficult job. The working conditions of drivers are pathetic. They are subjected to long hours of duty away from home over extended periods of time. They do not have access to proper facilities and are abused by the truck owners, transport authorities, police, etc. Such conditions dehumanise a driver and make him fatalistic.

An analysis of road accidents in India reveals that a major cause of accidents is the negligence of drivers. Training and retraining of drivers will certainly help in reducing accidents. However, the impact of training will not be high if the quality of life of a driver is kept at the present-day

level. It is therefore, essential that suitable steps are taken to improve the working conditions of and facilities for the drivers to improve the quality of their life. Some of the suggestions in this regard are discussed below.

15.3.1 *Technology Upgradation*

India lags behind the Western world in the matter of ‘technology of vehicles’. Due to ignorance, operators, drivers and the other concerned have seldom put up a demand for upgrading the technology of vehicles operated by them. There is need to upgrade this technology to make driving easy and safe. This has been extensively dealt with in Chapter 11.

A driver who spends most of his time driving in difficult weather conditions has the right to ask for a comfortable cabin. In a country like India, where most of the places are humid and hot, it would be nothing extraordinary if the cabin of the driver is made airconditioned. This will not only make him feel good physically, but will also improve his efficiency and upgrade his status.

15.3.2 *Behavioural Research*

No major study has been undertaken to examine the problems of truck drivers. There is need for further research in the area of behavioural sciences to understand the intricacies of driver behaviour; the various problems associated with their job need to be addressed to facilitate appropriate decisions.

15.4 *Training Infrastructure for Drivers*

Due to inadequate facilities and absence of rigour in the licensing system, drivers coming into the market are indifferently trained. As per CIRT survey 1998, almost all road transport officials surveyed felt that the number of driving schools are inadequate to meet the requirements. Considering the constraints on budgetary resources, private sector should be encouraged to set up driving schools. These schools must have minimum infrastructure provided in the CMVRs. These should be registered and audited periodically to ensure compliance with legal provisions. There are presently two driving schools in the country which may be considered ‘good’ to meet the required quality norms. These are: driver training school at Gummidipundi and its branches at other centres and driver training centre at Namakkal. These should be taken as model for designing course curriculum and training infrastructure at other places in the country.

15.4.1 *Driver Training School at Gummidipundi*

The driving training wing of the Institute of Road Transport (Chennai) is functioning at Gummidipundi. The campus has an area of 55 acres with a well-designed driving range and equipped with requisite ‘Teaching Aids’ and infrastructure for imparting training in a systematic manner. The wing has trained more than 10,000 drivers so far.

From the year 1994-95 onwards, heavy vehicle driver training courses were started at various places in Tamil Nadu in association with the training centres of State Transport Undertakings

(STUs). Presently, the heavy vehicle driver training course is being conducted at 11 centres of Tamil Nadu State Road Transport Corporations with their headquarters at Villupuram, Trichy, Madurai, Tirunelveli, Nagercoil, Erode, Salem, Coimbatore, Dharmapuri, Karaikkudi and Dindigul.

Apart from the above basic training activity, this wing conducts the following refresher and orientation training courses for the candidates who are already in service :

- Training Course in Fuel Conservation
- Training Course in Defensive Driving Techniques for Staff Car Drivers
- Training Course in Accident Investigation and Traffic Regulations
- Training Course for Senior Conductor promotees to Checking Inspector
- Training Course for Tradesmen, Tradesmen Special and Foremen.
- Road Regulations for Senior Drivers and Driving Instructors
- Training Courses for Drivers carrying dangerous or hazardous goods
- Special Training Course for serving Conductors and Drivers on public relations
- Safety Clinic Programme for Accident prone/involved Drivers.
- Induction training course in vehicle repairs and maintenance for newly recruited Junior Engineers and Assistant Engineers

15.4.2 *Driver Training School at Namakkal*

The driver training school at Namakkal is spread over 25 acres. It has comprehensive infrastructural facilities including a driving range. The driving range consists of single lane, 2-lane, 4-lane and 6-lane roads, S-bend, 8-Bend, hair-pin-bend humps and deeps of various gradients, speed-breakers, bypass road, Y-junction, different types of parking bays, etc. The centre conducts 3 months heavy vehicle driving training programme. The primary objective of the programme is to impart training in driving commercial vehicles in order to produce safe and efficient drivers. The course content is as follows :

- Defensive Driving Techniques
- Fuel Conservation Techniques
- Basics of Repairs and Maintenance
- First Aid and Fire-Fighting
- Health Tips/AIDS Awareness
- Meditation/Breathing Exercises

The centre also conducts a 5-day training programme for experienced drivers. The course content for them is as under :

- Common errors while driving
- Right maintenance practices
- Defensive driving
- Do's and Don'ts while driving

- Important traffic rules
- Hints on health habits and meditation
- First-aid
- Insurance
- Drugs/AIDS Awareness

Besides the above programmes, the centre conducts training programmes on transportation of hazardous goods.

The driver training has to be looked at from two different angles : (a) Training of Existing Drivers; and (b) Training of Future Drivers.

15.4.3 *Training of Existing Drivers*

As per the survey, the drivers feel the need for training in the following areas : (i) Road safety awareness; (ii) Health awareness; (iii) Defensive driving techniques; (iv) Fuel conservation; and (v) Basics of repairs and maintenance.

The survey reveals that radio is the most preferred means of creating awareness. It is, therefore, suggested that the government should take initiative and open a new channel which may combine entertainment programmes with interesting capsules on road safety, health awareness, defensive driving, fuel conservation and basics of repair and maintenance.

Considering that government alone cannot take up the massive task of training drivers because of various logistic problems and constraint of funds, it is suggested that the voluntary agencies should be roped in to supplement training infrastructure. Road safety and pollution control are now among the major concerns at the international level and one can expect that funds from international agencies will be forthcoming for creating infrastructure for driver training. In this scenario, voluntary agencies may be persuaded to arrange demonstrations and video screening at traffic centres and loading stations.

15.4.4 *Training of Future Drivers*

The present training infrastructure is grossly inadequate to take up the challenge of training future drivers. Every state should have good training schools for drivers and these should enjoy the facility of accreditation. The goods transport associations and vehicle manufacturers should also take initiative in tackling this situation. One of the country's leading automobile manufacturers, M/s Ashok Leyland has already started a training centre at Namakkal in Tamil Nadu; it has a plan to set up a similar training school in Punjab. The government should persuade other manufacturers also to set up similar training schools. A system of periodical audit of such schools should be introduced to ensure compliance with the provisions of the MV Act and Rules framed thereunder.

Some goods transport associations are well organised and are capable of running training

schools. These associations should come forward and run quality training schools. The driver training schools at Gummidipundi and Namakkal could be taken as models for designing the course curriculum and the requisite facilities. The profession of driving has a vast employment potential but it is not yet declared a trade. It is suggested that driving should be declared a trade and institutions like ITIs should be properly equipped to impart training in driving skills.

Many leading STUs have well organised and well equipped training schools for drivers. These schools could be opened up for public. In this process, not only will driver training get a boost but the STUs will also earn some revenue which will help strengthen the existing training facilities.

There is an urgent need to design and manufacture driving simulators which suit the Indian road conditions so that certain basic equipment can be made mandatory for all driving schools which seek recognition.

15.4.5 *Driving Skill and Knowledge of Traffic Rules, etc*

Driving skill alone does not make a person a good driver. Knowledge of traffic rules and other related aspects is also necessary for a good driver. It is suggested that to produce quality drivers, skill and knowledge should be looked at separately. Those who are applying for a driving licence, must qualify in an examination (written and oral). This examination should test the knowledge of the person in respect of traffic rules, driver behaviour and other related aspects. Only after passing the examination, the person should be allowed to appear for a skill test. In the case of refresher courses for existing drivers, the emphasis should be on teaching them traffic rules and basics of driver behaviour, even if there are no facilities to take them on the road with a driver training vehicle. With 80% of the drivers being literate, imparting such knowledge to them will not be difficult.

15.4.6 *Driver Training Curricula*

The driver training curricula should take care of all potential hazards and situations related to driving and not just driving skills. It should aim at making the person understand his responsibilities as a driver. Rule 31 of Central Motor Vehicle Rules (1989) gives details of the syllabus for imparting instructions in driving of motor vehicles; the syllabus broadly covers the following :

- (a) Legal requirements
- (b) Vehicle Controls
- (c) Equipment and components
- (d) Road user behaviour
- (e) Vehicle Mechanism & repairs
- (f) Road conditions (surface types, slopes, design speed, road geometrics)
- (g) Traffic signs, rules and regulations
- (h) Road markings and signals

- (i) Additional general knowledge about driving

This syllabus is comprehensive and should be strictly followed in imparting training to the drivers.

15.5 Instructor Training

There is an urgent need to upgrade the quality of instructors. It must be ensured that the instructors are qualified enough to impart training; they must have the ability to impart practical and theoretical knowledge to their students. ITIs and polytechnics need to be equipped appropriately to run full-time diploma courses for driver training instructors.

15.6 Training of Brokers/Booking Agents

The CIRT survey reveals that there is absolutely no training facility for the brokers and the booking agents. Hence, there is a pressing need for providing training and education to the existing and potential brokers/booking agents. While for existing brokers there should be refresher courses and correspondence courses, for potential brokers, full-time courses could be offered by the polytechnics and other such institutions. The curriculum should cover the following:

- (a) Basics of trucking operation
- (b) Multi-modal transportation
- (c) Legal aspects including familiarisation with important provisions of MV Act
- (d) Human relations
- (e) Accounting
- (f) Road safety
- (g) Basics of repairs and maintenance
- (h) Transportation of hazardous material

15.7 Vocational Course on Transport

Central Board of Secondary Education (CBSE) could introduce a vocational course on transport which might cover various activities such as road safety, freight booking, documentation, insurance, etc. The subject was discussed with Chairman, CBSE who expressed interest in the proposal. Representatives of Ministry of Surface Transport and Society of Indian Automobile Manufactures (SIAM) agreed to support the proposed course. The Steering Committee requested CBSE to formulate a proposal for the introduction of the above course and recommended that the matter be pursued by the government with CBSE so that suitable course could be started as part of vocational education. This would provide educated manpower for transport operations.

15.8 Training of RTOs

The officials of Regional Transport Authorities (RTAs) should be given training on their

appointment to familiarise them with the various provisions of MV Act and the Rules framed thereunder. States should also make arrangements for refresher courses for these officials to keep them abreast of the developments in the field of vehicle technology, emission control, inspection and maintenance of vehicles and the latest rules and regulations concerning the road transport sector.

Presently, such training is imparted at the campus of training institutes like CIRT. There is need to decentralise these training programmes to promote larger participation. Accordingly, the Steering Committee recommends that these training programmes should also be held at regional level or at state capitals.

15.9 Training of Wayside Mechanics

The mushrooming of roadside mechanics has created the problem of poor maintenance and the problem of use of spurious parts. It is recommended that manufacturers of commercial vehicles should initiate steps to train the mechanics and recognise them if they conform to specified standards. One of the conditions for such recognition should be the use of genuine spare parts by these mechanics. Considering the inadequacy of service network in the country, the Steering Committee recommends that the vehicle manufacturers should expand the service facilities through a system of authorised service stations and mechanics.

15.10 Multimodal Transportation

It is already been mentioned in para 9.7 that the future belongs to multimodal transportation. Trucking operations form part of multimodal transportation system. It is necessary to frame rules for truck operations on the lines of Multimodal Transportation of Goods (MMTG) Act. There is the need to define the trucker's liability, his interaction with shipping lines, etc. It is also essential to make the lorry receipt as a negotiable instrument in keeping with the requirements of MMTG Act.

Multimodal transportation requires knowledge and understanding of various modes such as shipping, railways, airways and, of course, roadways. The legislation pertaining to them and their economics etc. must be properly understood. Suitable training programmes should be introduced for people connected with multimodal transport system; the Asian Institute of Transport Development (AITD) is already providing periodical Training Workshops for the officers of railways and other organisations connected with multimodal transportation. Such programmes could also be organised for the benefit of road transport industry as a part of multimodal transport system.

15.11 Recommendations

- 1) Steps should be taken to improve the working condition of the drivers and the technology for vehicles to make driving easy and safe. Training will have relevance only when drivers enjoy good working condition and essential facilities.

- 2) It is essential to study the intricacies of driver's behaviour; this will facilitate designing of appropriate training modules.
- 3) Training modules for the existing drivers should cover :
 - Road safety awareness
 - Transportation of hazardous goods
 - Health awareness including awareness about AIDS
 - Defensive driving techniques
 - Fuel conservation
 - Basics of repairs and maintenance
- 4) Considering that radio and TV are the most preferred means of imparting education, it is suggested that training in road safety and motor vehicle rules should be provided to drivers through suitable educative programmes broadcast on the radio. SIAM should consider providing entertainment with interesting capsules on road safety, health awareness, fuel conservation, etc. at places where commercial vehicles wait for long hours. This recommendation has already been made as a part of road safety measures (Para 13.4.4). It is being repeated here for building up competent and effective drivers.
- 5) The present training infrastructure is inadequate. Every state should, therefore, have good training schools for drivers and these should enjoy the facility of accreditation. A system of audit of such schools should be introduced to ensure compliance with the provisions of MV Act and Rules framed thereunder.
- 6) Manufacturers of commercial vehicles and goods transport associations should be encouraged to set up and run quality training schools. Training schools at Gummidipundi and Namakkal should be taken as models for designing the course curriculum and training facilities.
- 7) Driving should be declared a trade and institutions, such as ITIs should be equipped to impart training in driving.
- 8) CBSE should introduce a vocational course on transport which should cover various activities such as road safety, freight booking, documentation, insurance, etc.
- 9) The driving training syllabus given under Rule 31 of CMVRs is comprehensive and should be strictly followed in training the drivers.
- 10) There is need for providing *simulators* for training of drivers. It is essential for the government as well as SIAM to design and manufacture driving simulators which suit Indian road conditions so that basic equipment can be made mandatory for all driving schools which seek recognition.
- 11) Suitable training programmes be introduced for people in road transport who are connected with multimodal transport system. AITD is already conducting courses on

multimodal transport system for railways and other organisations and the Institute could be asked to prepare a training programme for the road transport operators. CIRT and other such national level institutes could also be roped in for imparting such training.

- 12) As regards training of brokers/booking agents, existing brokers should be provided with refresher courses and correspondence courses, while potential brokers could be offered full-time courses by the Polytechnics and other such institutions. Such courses should include elements of multimodal transport of goods and interaction with other modes.
- 13) Training of officials of RTAs is also essential to familiarise them with various provisions of the MV Act and the Rules framed thereunder for effective regulation of road transport and for the promotion of road safety.

Chapter 16

DEVELOPMENT OF INFRASTRUCTURE (WAYSIDE AMENITIES)

16.1 Introduction

“Roads really should be thought of in terms of the romance connected with them, that makes them more interesting; the “Silk Routes” right across Asia, through which Marco Polo travelled and so many others” said India's first Prime Minister while inaugurating the ECAFE Seminar on Road Transport at Madras (Chennai) way back in the year 1961. He added, “It is obvious that roads play a vastly important part in a nation's life, in a nation's economy and it greatly depends on the development of good roads. The better the roads, the more efficient the road transport system.”

Indeed, over the years since Independence, road development did take place in the country but surely no romance seems to be connected with them. On the contrary, trauma has come to be associated with these roads. In the year 1995 alone, about 60,000 persons were killed and 3,71,000 injured. Out of these, about 91% of deaths and about 87% injuries were due to accidents that took place on the highways. There could be various factors responsible for any motor accident, but comparatively lower rate of accidental deaths and injuries in urban areas shows that on highways, the human factor, i.e. the driver of the vehicle, is more significant. While to some extent it could be due to the lack of training received by the driver, it has also been observed that accidents occur due to fatigue which the driver undergoes when travelling long stretches without proper rest.

Since the vehicles have to remain away from their points of origin and work base, the lack of communication between the crew of the vehicle and their business associates and families has an adverse influence on the performance of the driver/helper. The wayside amenities for long haul operators, such as maintenance and repair facilities, parking space along the highways, etc. are also lacking. The indiscriminate parking of trucks on the highways and spaces in towns and cities encroaches upon the space reserved for pedestrians and moving vehicles.

For truck drivers who have often to drive for long hours and consequently need rest, amenities like toilet facilities and food, deserve careful consideration. Long driving hours coupled with lack of basic facilities on the highways not only affect the driver's health but can also be a cause of accidents.

16.2 Rest Areas

The main purpose of the roadside rest areas is to increase the motorist's safety and comfort by providing facilities for stopping and resting. A rest area is essentially a roadside area so that parking facilities are separated from the road. The area could provide a wide range of facilities such as fuel filling, toilets, fast food, motel, garden, service station, vehicle repairs, telephone in addition to parking.

16.2.1 *International Experience*

Based on the practices obtaining in Germany, Japan, U.K. and USA, it can be said that rest areas are an integral part of road network. There are basically two types of facilities :

- a) Rest areas
- b) Lay-bys

While rest areas include a full range of comfort and convenience facilities, lay-bys are meant essentially for parking, toilets and telephone for short stops.

(i) *Nature of convenience provided*

It is seen that the following facilities are provided in rest areas:

- Parking for cars , buses, trucks including semi-trailer and tractor-trailer
- Toilets
- Drinking Water
- Telephone Booths
- First Aid
- Snack Bars, Restaurant
- Fuel Filling Station
- Vehicle Service and Repairs
- Benches/Tables, Resting Place

Lay-bys have usually the following facilities:

- Parking for Cars, Buses, Trucks including Semi-trailer, Tractor-Trailer
- Toilets
- Telephone Booths

(ii) *Spacing between rest areas*

Rest areas are usually provided at one-hour driving interval (50-60 km). Lay-bys, on the other hand, are more frequent; their spacing may be around 15 to 20 km.

(iii) *Size and layout of the rest area and lay-by*

■ *Rest area*

The size of the rest area is dictated by the size of the parking space required. This is governed by the following factors:

- Total volume of traffic on the highway

- Percentage of traffic likely to stop at the rest area
- Composition of cars, buses and trucks
- Duration of stoppage

These factors give estimates of users which help in estimating the requirements of toilets, restaurants, area for resting, fuel filling, vehicle service and repairs and other ancillary services. Depending upon the demand, the rest areas are generally around 8 to 12 hectares in area.

The typical sketches of rest areas and lay-bys are given in Annexures 16.1 and 16.2.

■ ***Lay-by***

Lay-by occupies much less space as it is intended to provide facilities primarily for parking and toilets. Area for a lay-by is generally around 2 to 4 hectares.

16.2.2 ***Indian Experience***

In India, roadside facilities of different types exist along the highways which cater to different types of road users. These facilities are mainly in the form of 'dhabas', meaning eating places, and are heavily patronised by truck drivers. The facilities available in these 'dhabas' include food and beverages at affordable prices, beside other amenities like toilets and rest rooms for short duration, minor repair facilities, etc. Some of the big 'dhabas' also have minor shopping facilities and serve as communication network nodes for various truck drivers, passing information about their itinerary to their fellow truck drivers. These facilities are informal in nature and are need-driven, less expensive and affordable.

However, Primary Survey (1998) revealed that 60% of the drivers were not satisfied with the existing wayside amenities. It was also observed that drivers preferred dhabas (which had a number of facilities) to petrol pumps as their night halting places. While petrol pumps are supposed to provide toilet facilities, these are either not available or are poorly maintained.

(i) ***Drawbacks in the system***

- The various conveniences required, such as drinking water, toilets, food, parking, vehicle repairs, fuel, telephone etc are not properly organised.
- There are incidents of parking of vehicles on the road on a large scale which obstruct the smooth flow of traffic.
- There are occurrences of theft/pilferage of goods from vehicles parked at dhabas/petrol pumps.

(ii) ***Schemes undertaken by the government***

As regards wayside amenities, the schemes undertaken/sponsored by the Government of India are briefly discussed below :

(a) ***Truck Operators Highway Amenities Society (TOHAS)***

In order to minimize the hazards of highways and make operation of commercial vehicles more safe and pleasant, the Ministry of Surface Transport (MOST) established the “Truck Operators Highway Amenities Society (TOHAS)” which was registered under the Societies Act in 1980. As its objectives, the TOHAS envisaged establishment of parking complexes, resting places for the truck operators, their drivers, cleaners and other operating staff and provision of amenities like lodging, boarding, etc. for them at concessional rates.

Under the scheme, along with the Central Office, branch units were also established in many states. Also, three complexes were set up in Ludhiana (Punjab), Murthal (Haryana), Hyderabad (Andhra Pradesh) by MOST on the respective national highways. However, the location and layout for these amenities were determined by the government without eliciting the views of the truck operators or their associations. There was thus a lukewarm response from the truck operators and the scheme did not take off in actual practice. The question of reviving TOHAS should be examined by the MOST in consultation with the All India Motor Transport Congress.

(b) ***Passenger oriented wayside amenities***

As regards passenger oriented wayside amenities, more than a decade back, the MOST initiated a scheme in which facilities were provided through the joint efforts of the MOST and the Ministry of Tourism. The operation of the facilities was to be contracted out. Subsequently, another scheme was initiated in which private sector was invited to create facilities conforming to the standards set by the MOST. As an incentive to the private sector, petrol pump was made an integral part of the wayside complex. This scheme also had to be discontinued because the Ministry of Petroleum and Natural Gas withdrew from it.

16.3 Development of Truck Terminals

- Besides the roads and the wayside amenities, trucks also need a terminal where they can finally end their journey and prepare for the next assignment. The primary function of a truck terminal is provision of parking space for trucks that wait for loading of goods from the markets and also enable pickup and delivery services being rendered through smaller trucks/vans in city areas. The other related functions of the truck terminal are:

- (i) Transfer of goods from one truck to another
 - (ii) Loading and unloading of goods
 - (iii) Processing of goods and packaging
 - (iv) Provision of amenities for the crew of goods vehicles. This includes toilets and bathrooms for better hygienic conditions in and around the terminal, restaurants and lodges
 - (v) Documentation of movement
 - (vi) Vehicle parking, maintenance and repair facilities
 - (vii) Banking facility, post office, telecommunications
- The layout of truck terminals will depend upon the total freight transshipment requirements, size and shape of available area and the amenities required. The MOST (Roads Wing) undertook a study for evolving guidelines on infrastructural facilities for movement of multi-axle vehicles. This study has recommended interalia space standards for different facilities in a truck terminal.
 - In India, city CBDs in general present a very congested picture. This is because these city centres lack proper planning and have not been upgraded or shifted in time to a more open area. Secondly, the number of trips they attract especially by trucks is very high. Non-availability of well planned truck terminals. In some cases, their non-existence has given way to on-street handling of goods and parking and illegal repair shops, food stalls, etc. encroach upon the carriageway. Absence of toilets and bathrooms and a resting place for vehicle drivers and visitors to stay overnight at these junctions has also given way to unhygienic conditions in and around them. Hence the need for development of well-planned truck terminals around the towns. In order to draw lessons and make recommendations, the working of the two truck terminals, one at Jaipur and the other at Delhi was studied by a team of officers deputed by the Steering Committee. The report of the team is at Annexure 16.3.

The study reveals that the existing infrastructure is deficient; there is shortage of water and electricity; there are no rest rooms and toilets for drivers. There is no chemist shop. The upkeep and maintenance of Transport Nagar is not satisfactory. Associations are not performing their functions, and need to be activated for the benefit of the allottee members. Considering the urgent need for removal of vehicular congestion in the cities, it is suggested that construction of truck terminals should be accorded priority and the proposal should be included in the Master Plan for the city.

- On account of competing claims on the budgetary resources, it may not always be possible for the government to meet such needs. In certain states, the truck terminals/ transport nagars are being developed by government-promoted companies and financing is done through loans from financial institutions and sale of plots. The size of plots is kept modular so as to give flexibility to increase the size of one type of plot and reduce the size of the other if detailed demand survey shows preference for a larger plot or a smaller plot. The development works and ancillary facilities are phased in size and

number so as to keep initial investments in tune with the immediate anticipated demand. Earnings are considered from three sources viz rental, licence fee/taxes and parking charges. Priority for allotment of plots is given to those truck operators/transporters who are presently operating from within the city. The management of the truck terminal company is carried out through a Board of Directors comprising government officials from the concerned departments (home, transport, finance, city corporation, etc.) and non-officials representing various associations of the transport operators.

16.4 Recommendations

- ***Rest Areas***

In the Indian scenario, with commercial vehicle driver's exceeding normal hours of work resulting in fatigue, it becomes imperative that he is provided with incentives which attract him to break his journey, take rest, eat and freshen up at affordable prices. In providing such facilities, the following requirements need to be kept in mind:

- i) Evolving guidelines for provision of road-side rest areas for passengers and truck operators on the highways.
- ii) Facilities considered essential should be provided while those considered optional may be provided as per demand at the proposed site.
- iii) The practical spacing between roadside areas on the Indian highways should be given due consideration. It is suggested that, to begin with, the distance between two rest areas may be planned at 100km.
- iv) The petrol pumps are expected to provide toilet facilities as a condition of licence for setting up these pumps. These provisions should be strictly enforced through periodic checking and deterrent penalties should be imposed for any violation in this regard.
- v) Combining rest areas with tourist/scenic spots so that these areas in themselves lead to pleasure driving on highways.
- vi) The layout for rest areas/lay-bys need to be standardised. This would ensure easy recognition of these areas, attract public attention and make them popular. A model layout and the estimated cost of construction of a typical rest area are given at Annexures 16.4 and 16.5. The facilities to be provided consist of rooms, restaurants, toilets/wash rooms, recreation areas, mini-super market, medicine shop, doctor's clinic, spare parts supply/repairing, garage and parking spaces besides STD booth and a police booth. Lay-bys for trucks should be so designed as to provide space for long truck-trailers also.
- vii) Landscaping or an attached garden, etc. may also be considered while planning for

rest areas. This would make the entire area environment friendly and attractive to the highway users.

- viii) Provision of wayside amenities should become an integral part of road development.

In respect of national highways, the following suggestions may be considered by the MOST/NHAI.

a) ***NH routes covered by golden quadrilateral, north-south, east-west and spur connections***

- ***For stretches to be upgraded through private entrepreneurs on BOT basis***

These facilities may be provided by the entrepreneurs and run and managed by them or they could auction them to other private agencies. However, land required for these rest areas or lay-bys should be acquired by the government and given to entrepreneurs for the duration of the concession period.

- ***For other stretches to be upgraded by the NHAI***

The NHAI may create these wayside amenities as part of NH development project covering land, buildings, water, electricity etc. These could be clubbed with existing cluster of dhabas or petrol pumps. Operation and management of these wayside amenities could be left to these dhabas/petrol pump owners association. Where this is not found feasible, the facilities could be leased to private agencies through open competitive bidding.

On Jaipur-Kotputli highway which has been widened to four-lane, the NHAI have provided lay-bys for trucks near Shahpura and Paonta where there is a cluster of dhabas. This can serve as a good example for adoption on other stretches.

b) ***Other NH routes***

The truck transporters and lorry owners associations in the area be encouraged to identify the locations where minimum facilities like drinking water, toilets, telephone booths could be provided. Land and other infrastructure like water pipes and electricity connections may be provided by the NHAI/MOST at their cost. Ideally, these could be clubbed with the existing petrol pumps or dhabas on the highways. Day-to-day running and management be left to private agencies to be decided by bodies like All India Motor Transport Congress or the local transporters' association(s) in consultation with existing petrol pump/dhaba owners.

- Similar strategies could be considered by the state governments in respect of high and medium traffic density corridors of state highways
- ***Truck Terminals (Transport Nagars)***
 - (i) Truck terminals should be provided at the outskirts of the city to relieve congestion inside. Development of truck terminals should form an integral part of urban land use planning. The planning of truck terminal should include provision and development of amenities like godowns, garages, spare part shops, office space for transporters, storage space for goods during idle parking of trucks between unloading and loading operations, etc. as they attract a lot of truck traffic. Provision of internal roads, park and tree plantations should also be a necessary component. Truck terminals should be located along the main highway and be well-connected to inter-city road network and the intra-city nodal points so that they enable the functions listed above being achieved in an efficient manner. Recommended space standards for various facilities in a truck terminal as a result of study undertaken by the Ministry of Surface Transport are given in Annexure 16.6.
 - (ii) Arrangements for supply of adequate water and electricity in the complex should be made by the city authorities so that such complexes function without interruption and contribute effectively to the purpose for which they are provided. The city authorities should also ensure periodic and routine maintenance of the roads, lighting and drains. The association of the transport companies and truck owners should take responsibility for general cleanliness of the area, maintenance of parking areas and provision of security systems. For this purpose, they may levy an entry and usage fee of, say, rupees five per truck per day. If from the legal angle, any empowerment is needed by the association from the state/local government, that may be considered favourably. Necessary enabling provisions should also be made in the bye-laws of the association. The amount so collected should be managed by a board duly constituted for this purpose by the association. Procedures and rules for managing and utilising such funds should be framed in a transparent manner with a system of audit and accounts. The functions of cleaning of internal roads, watering of parks and its upkeep, day-to-day removal of debris and waste and security guards could be outsourced through open competitive bidding process.

The associations should have on their permanent rolls one supervisor for inspection of the tasks entrusted by them to the various agencies and also maintaining contact with the Junior Engineer in-charge belonging to the city authority. Services of an Accountant would also be needed to maintain proper records of receipts and expenditure.

The management of the association needs to alert the city authorities well in time for expansion needs when the existing facilities start reaching their capacity.

- (iii) The All India Motor Transport Congress may like to institute an annual award for the best maintained transport nagar in the country.
- (iv) Funds for transport nagars should be raised primarily from sale of plots with the government providing incentives in the form of land available at concessional rates.

Chapter 17

MANAGEMENT INFORMATION SYSTEM

17.1 Introduction

Management Information System (MIS) is a formal method of making available to management accurate and timely information necessary to facilitate the decision-making process and enable the organisation's planning, control and operational functions to be carried out effectively. MIS has to be so designed that information available is relevant and reaches the appropriate decision-makers. A well-designed MIS ensures that (i) there is not too much information; (ii) the presentation of information is appropriate for use; (iii) information is precise, clear and complete; and (iv) there is no delay in the flow of information.

17.2 Basic Data for MIS

For efficient transport planning and policy formulation, there is need for 3 sets of basic data viz, (i) traffic flows; (ii) resource cost of transport services; and (iii) infrastructural and operational data of the relevant mode of transport.

(i) *Traffic Flows*

Data on traffic flows are essential for the purpose of planning. For goods transport, such data are to be collected along all important routes and organised on a continuous basis. It is desirable to have regular surveys to assess transport demand for the regions to be served. The status of existing data availability is far from satisfactory. Systematic information on traffic flows is not available because of multiplicity of agencies, preponderance of single-truck operators and absence of traffic recording and reporting procedures.

Data in regard to traffic flows by road were first collected in 1959 through surveys on 6 trunk routes. In 1963, the Ministry of Transport undertook further traffic surveys and extended the coverage to 16 long-distance trunk routes. Meanwhile, the Planning Commission established Joint Technical Groups for conducting transport surveys of selected regions in the country and organised studies of the movement of 15 bulk commodities by various transport modes. These surveys were later discontinued and thereafter no data was collected in this regard. Realising the importance of such data for policy planning and investment in transport, the Planning Commission commissioned RITES to undertake a study on traffic flows in 1977-78 for UNDP Transport Policy Planning Project. RITES conducted country-wide survey of inter-regional flows for 3 modes of transport, viz., railways, roads and coastal shipping. The survey covered 37 commodities and quantified the tonnage and leads for different modes of transport. In its report submitted in 1980, NTPC recommended that the information on traffic flows and resource cost should be periodically collected. The Planning

Commission engaged RITES in 1986 for undertaking a survey. The data collected by RITES as a part of this survey, however, had serious gaps and limitations. The Steering Committee on Perspective Planning for Transport Development said in its report submitted in 1988 that ad hoc surveys conducted once in 5 years would not meet the requirement of transport planning. It recommended that data collection on goods flows by roads on important routes be organised on a continuous basis. These recommendations of NTPC and the Steering Committee on Perspective Planning to organise the periodic collection of data have not been implemented. And there are no arrangements in force for collection of such data.

Considering the importance of traffic flow data for planning and policy formulation in respect of goods transport, the Steering Committee makes the following recommendations.

- Permanent counting stations should be set up at critical points on national highways and state highways to measure traffic flows (including goods carried) and density of vehicles.
- Government should seriously consider making an independent agency like NCAER responsible for carrying out O-D traffic survey regularly every five years; this scheme should form part of the budget of NCAER
- An inter-ministerial Group comprising officers of the Planning Commission, the Ministries of Surface Transport, Railways, Petroleum and Natural Gas be set up to oversee the surveys and analyse and publish the data for the use of planners.
- Quarterly reports should be obtained from producers of major commodities (cement, fertilizers, petroleum, coal, etc.) on the movement of their products, origin-destination-wise. Similar data on food grains should be obtained from Food Corporation of India.

(ii) ***Transport Costs***

Despite the importance of assessing road transport costs, very little has been done in this direction. A study on road users' cost was commissioned by MOST in the eighties under World Bank funding. The data were revised in 1991. However, since there has not been any systematic flow of information, periodic studies need to be undertaken for updating revision of road users' cost. It is understood that the MOST have recently commissioned CRRI to update road user cost for 1999; the report is expected to be available by June 2002.

(iii) ***Operational Data***

Truck transport is predominantly in the private sector. Notwithstanding statutory registration of vehicles, serious data gaps exist in goods transport in respect of ownership pattern of vehicles, nature of operations, fleet strength, fleet utilisation, cost of operation, tax structure, age profile of vehicles, etc. Further, there is complete absence of data regarding output of trucks in terms of tonnes carried, tonne kms transported, proportion of empty trips, etc. Besides, existing information on road accidents does not provide full coverage of the number and type of accidents, nature of casualties. Though truck transport accounts for a significant capital formation, no precise information is available about it. It is also not known which group of operators are making investments and how these are financed. It is useful to know the financing of these vehicles – to what extent these are financed by financial institutions and through personal savings. Lack of census of goods haulage is a serious gap in national statistics.

Directorate of Transport Research, Ministry of Surface Transport presently collects and publishes data only on registered motor vehicles, MV tax rates in the states. Even for this limited data, states have to be repeatedly reminded since none of the states have completely computerised its operations and internetting of its RTOs is yet to take place. There is a time-lag of 2-3 years in the publication of data on road transport.

To obtain a clear picture of trucking industry, it is suggested that RTA/DTA and STA should compile and computerise the data annually with regard to goods transport vehicle population, form of ownership, number of operators, vehicle fleet by age, carrying capacity etc. Once this is done, DTR could access this and publish the data promptly.

17.3 Management Information System for Inter-state Use

Information in respect of the following parameters would be required for inter-state use :

- (i) Registration of vehicles
- (ii) Driving licences issued to drive transport vehicles
- (iii) Issue of National Permits and authorisation of operation of vehicles
- (iv) No Objection Certificate issued for transfer of ownership, change of residence, etc.
- (v) Road Accidents

This data along with the information regarding vehicle population could be placed on the National Grid for inter-state access. The details of such data could be worked out subsequently once the proposal is accepted in this regard.

17.4 Review of Existing Formats and Documentation

The Sub-Committee on MIS briefly reviewed the various prescribed formats. There are 58

forms contained in the Central Motor Vehicle Rules, 1989. In all, 186 different kinds of basic data were collected by the various Transport Departments of States/UTs through these forms. The description of the various formats and important data/information collected through these forms are given at Annexure 17.1. The data elements in these 58 forms are tabulated in a matrix and given in Annexure 17.2. It seems that the forms are not customer-friendly. Much of the information sought in these forms is repetitive in nature. The entire range of forms (Nos. 1-58) are suffering from redundant information. For example, every application for issue of a learning licence shall be accompanied by a medical certificate in form No. 1A. An application for a medical certificate (form No. 1) contains applicant's declaration pertaining to his/her physical fitness. The information sought under "declaration" in form No. 1 is repeated in form No. 1A under item No. 3. Moreover, once physical fitness of the applicant is certified by the competent authority (medical officer), the applicant's declaration in this regard does not serve any purpose. The applicant's address is classified into permanent address, temporary address, official address, etc. Sub-classification of applicant's address leads to unnecessary complications and does not serve any specific purpose. Therefore, it is suggested that it should be enough to seek applicant's residential address only. Both the date of birth and age of the applicant are to be furnished in many of the forms. It should be enough to furnish the date of birth alone as it will help calculate the age of the applicant. Form No. 2, form No. 4, form No. 6 and form No. 8 contain the details of vehicle classification as motor cycle without gear, motor cycle with gear, invalid carriage, light motor vehicle, heavy motor vehicle, medium goods vehicle, medium passenger motor vehicle, heavy goods vehicle and heavy passenger motor vehicle with the intention that the applicant should tick mark one of the vehicle categories. It is suggested that, instead, the applicant may be asked to fill in the suitable vehicle category in the given vacant space. The above remarks are only illustrative and not exhaustive.

The Steering Committee was unable to carry out a detailed review of the existing forms in the absence of active participation of transport commissioners from various states. Therefore, it recommends that a committee of transport commissioners be set up to simplify and rationalise the various forms on a priority basis.

Under Motor Vehicles Act and Central Motor Vehicle Rules, there are enough provisions for building the necessary MIS. Various forms and documents have been prescribed for different types of data, such as maintenance of State Register of Motor Vehicles, State Register of Driving Licences, Licensing and Regulation of Motor Driving Schools, Bill of Lading for goods carried by vehicles operating under national permits, etc. These documents/forms are expected to contain valuable information but as at present such information is not being compiled or published at any level. The related legal provisions need to be strictly enforced to facilitate building up of MIS.

17.5 Forms for Accident Reporting

Indian Roads Congress (IRC) had designed 2 forms for collecting and compiling road accident data. Information on day-to-day accidents is collected by the State Police in form A-I. The summary of road accidents during the year is made in form A-4. Recently, the Ministry of

Surface Transport has brought out a manual on road safety with the assistance of Transport Research Laboratory, UK and Central Road Research Institute, India and published by the IRC. This publication includes a condensed version of Accident Report Form (only 2 pages) which is amenable to computer processing for subsequent analysis. It is recommended that the use of this form should be made mandatory for the State Police to furnish accidents data to the transport department. A copy of the form is given in Annexure 17.3 for reference.

Considering that at present there is no arrangement to analyse the accidents data, MOST may consider introducing some institutional arrangement for the purpose. To start with, a pilot project for national highways could be introduced once NHAI starts patrolling on these highways. MOST could form a multi-skilled team to visit the accident sites and analyse the causes of accidents.

There is a provision in Motor Vehicles Act which enjoins on the RTOs to visit the accident sites and study the causes of accidents. This is not being done at present. It is emphasised that the provision in the Act should be strictly enforced; each state should nominate two or three RTOs who could be designated as safety officers to visit the accident sites or examine the records of accidents and send their report to the respective state government. The officers should be trained in accident investigation and analysis of data.

17.6 Automation of Documentation and Information Technology Applications

The administrative system in transport departments is documentation intensive. Even though it is claimed that over 80 reports are obtained in the Transport Commissioner's office from RTO offices at different time intervals, the usage of these reports is not common. The MIS formats are randomly designed and there seems to be no uniformity and standardisation in these reports. The result is information redundancy and increase in the workload at RTO offices giving the same information in different formats.

Although a few states have introduced computerisation of the Motor Vehicle Department and have progressed well, many states are yet to initiate action in this regard. States which have already computerised their transport departments have gone their own way in implementing the same in terms of choice of hardware and software and the areas and levels of automation. For example, Karnataka is operating on UNIX platform with Wipro 680A at the head office and 386 and 286 system in RTO Offices. Tamil Nadu has installed computers in 7 RTOs out of 42 using 386 and 486 system on DOS platform with LAN. Jaipur has Pentium Server and also is using stand alone 386 and 486 and pentium. Gujarat has reported two 486 and one 286 system. None of the States have, so far, completely computerised its operations statewide and further they have not integrated the system by network.

Therefore, it is important that a 'Zero-based MIS' is developed and the relevant information is communicated to other transport departments and to MOST through modern techniques of computerisation. It may be mentioned here that Association of State Road Transport Undertakings (ASRTU), in February 1999, completed a study for MOST on 'Interneting of

all RTOs'. The findings of the study could be used to build up data in respect of road transport industry.

17.7 Networking for On-line Systems

The state transport departments are spread over a wide geographical area and have their own computers in operation in RTO offices which operate in isolation. The department has to communicate with them to be able to extract and correlate information. At the office of the Transport Commissioner, which takes care of permits, etc. the information needs to be interfaced with the RTO offices' recorded data on vehicles to ensure the necessary flow of information. At present, there are unit offices, RTOs, Zonal offices, Transport Commissioners' office, state governments and MOST which store information on vehicles, their registration, permits, taxes, etc. Most of the information recorded at unit offices/RTOs is not compiled at any level. As a result, dual registration of vehicles cannot be detected. Therefore, to begin with, Zero-based MIS needs to be designed to identify the necessary data requirement. The recorded information needs to be computerised. All the unit offices, RTOs, Zonal offices, Transport Commissioners' office, state governments and MOST should identify the areas for computerisation to be backed up by compatible software packages. The information compiled using these packages should be shared using 'On-line' service. Under the system, the data of basic records can be captured and passed on to the Headquarters. It is suggested that the RTOs and Unit offices act as centres of data compilation whereby information from Zonal offices, Transport Commissioner's office and even at the check-post level should be sent to the RTOs and Unit offices. The RTOs and Unit offices can process the data and send it to the Headquarters on daily basis. The inter-connectivity of RTOs with each other and further with their respective Headquarters through computers will ensure information at the click of a button resulting in time-savings and also provide check on fraudulent registrations and other such discrepancies that at present go unnoticed.

The Steering Committee endorses the recommendations of ASRTU as mentioned in para 17.6 above and considers it necessary that these be implemented at the earliest to strengthen 'Information Technology' in the road transport sector.

17.8 Highway Related Information Technology

Information technology is now available to us to monitor the movement of vehicles on the highways, giving vehicle owners total control over their fleet and cargo. There are different systems available for this purpose, including Global Positioning System and Highway Automation System. Vehicle-owners can monitor their vehicles from departure to destination and back all along their way, anywhere in India. They can monitor their movement and cut down on idling time and consequent losses to the company. Arrival time of the vehicle can be predicted accurately, and a return load of goods booked for the vehicle even before it actually arrives at its final destination, thus enhancing vehicle turnover. Accidents and mishaps to the vehicle on the highways can be reported immediately and help rendered in time. This not only saves precious lives, but also the vehicles and valuable cargo.

It was brought to the notice of the Steering Committee that Sparsh Communications Ltd. had introduced Highway Automation System (HAS); it electronically monitors the movement of vehicles carrying goods on main Indian highways through the two-way communication with the vehicle and its driver on the highway. This is possible due to the elaborate network of highly sophisticated communication system put up across the national highways and important state highways. HAS has base station's communication kiosks that are set up on the highways at a distance of 50 km on an average. These kiosks are all connected to a central server which can be accessed by any kiosk at any time and select information about any motor vehicle plying in any part of the country. To access this information, the motor vehicle should be registered with HAS. Registered motor vehicles are connected with transmitter/receiver sets specially designed for this purpose. In the event of emergency, distress call can be sent by the driver with the help of his vehicle set to the nearest kiosk to be relayed to the owner for help. The truck owners can easily send messages or communicate with their drivers. The message and ID number is communicated by the owner/caller to the nearest kiosk. This message via networked V-Sat is transmitted to all the kiosks across the country. The kiosk closest to the location of the vehicle sends out a signal. The vehicle set installed on the particular vehicle receives a beep when it is within 500m of the kiosk. This is an indication for the driver to stop at the kiosk and pick up the message or documents. The kiosk receives SOS calls from drivers and communicates the same to the owners, etc. HAS has already become operational on many of the major national highways. The communication network is spread over 355 centres; the number of such centres is expected to be increased to 700 in 3-4 months time covering all national highways and some of the major state highways. This system or other similar systems need to be utilized and expanded for the benefit of the road transport Industry.

17.9 Recommendations

The MIS on motor vehicles, especially goods vehicles, and its operation is vital for taking policy decisions. The main recommendations of the Steering Committee for strengthening/improving the MIS for the trucking industry are given below:

- 1) Permanent counting stations should be set up at critical points on national highways and state highways to measure traffic flows (including goods carried) and density of vehicles. For obtaining comprehensive data, government should seriously consider making an independent agency like NCAER responsible for carrying out the O-D traffic surveys regularly every five years; this scheme should form part of the budget of NCAER. An Inter-ministerial Group comprising officers of Planning Commission, MOST, Railways, Petroleum and Natural Gas be set up to oversee the surveys and to analyse and publish the data for the use of planners.
- 2) Quarterly reports should be obtained from producers of major commodities (cement, fertilizer, petroleum, coal, etc.) on movement of their products, origin-destination wise. Similar data on food grains should be obtained from Food Corporation of India.
- 3) RTA/DTA and STA should compile and computerise the data with regard to goods

transport vehicle population, form of ownership, number of operators, vehicle fleet by age, carrying capacity etc. Data on goods vehicles in use be collected as per payload of trucks - LCVs, MCVs, HCVs and multi-axle vehicles.

- 4) There is an urgent need for computerisation of motor vehicle departments, their interconnectivity and provision of 'on-line' services. The required hardware and software on a common computer platform should be developed for flow of information from RTA/DTA, Transport Commissioners of States/UTs, State Police, National Crime Records Bureau, Ministry of Surface Transport. For this purpose, urgent action is commended on the recommendations of the expert committee set up by MOST for 'Internetting of all RTOs in the country'.
- 5) Use of condensed version of accident reporting forms as given in the Manual on Road Safety recently brought out by the MOST should be made mandatory for the state police to furnish the accident information to the Transport Commissioners of states/UTs.
- 6) Various forms prescribed under Central Motor Vehicle Rules ask for lot of information some of which is redundant being repetitive in nature. The forms are not customer friendly. A committee of transport commissioners from the states should be set up to rationalise and simplify the forms on a priority basis.
- 7) The Committee feels that the basic minimum data in respect of registration of vehicles, driving licences, issue of national permits, authorisation for operation of vehicles, No Objection Certificate with reference to transfer of ownership or change of residence, etc. and road accidents should be placed on the national grid for inter-state access.
- 8) Information Technology is now available to monitor the movement of vehicles on the highways. There are different systems available for this purpose including GPS and HAS. These facilities should be utilized and expanded for the benefit of road transport industry.

Composition of Steering Committee

1)	Shri S.Sundar, former Secretary, Ministry of Surface Transport	Chairman
2)	Shri K.R. Bhati, Joint Secretary, Ministry of Surface Transport	Member
3)	Principal Adviser, Transport, Planning Commission	do
4)	Shri B.Bhanot, DDG, Department of Industrial Development	do
5)	Executive Director, Society of Indian Automobile Manufacturers	do
6)	Shri K. K. Bhat, Manager, Oriental Insurance Co. Ltd.	do
7)	Secretary General, All India Motor Transport Congress	do
8)	Dr. S. Padam, Director, CIRT, Pune	do
9)	Transport Commissioner, Government of Andhra Pradesh	do
10)	Transport Commissioner, Government of Assam	do
11)	Transport Commissioner, Government of Rajasthan	do
12)	Transport Commissioner, Government of Tamil Nadu	do
13)	Principal Secretary (Transport), Government of Uttar Pradesh	do
14)	Joint Secretary (Transport), Government of West Bengal	do
15)	Secretary (Transport), Government of Punjab	do
16)	Secretart (Transport), Government of Karnataka	do
17)	Shri D. P. Gupta., Director Research, AITD	do
18)	Shri K. L. Thukral, AITD	Member Secretary

**Terms of Reference (TORs) and Composition of Sub-Committees
on various aspects relating to Trucking Operations in India**

Sub-Committee -I: Ownership Pattern, Legislation and Regulation

Ownership

1. To determine the ownership pattern of goods vehicles and its relationship with viability of operations, examine the measures for formation of fleet and the strategy/ies for generating adequate capacity to carry the projected freight traffic during the next 15 years.

Legislation and Regulation

2. To examine whether (i) the existing legislations and regulations are conducive to the growth of the Industry and (ii) the existing permit system be continued or replaced by "System of Registration" as in U.K.

Regulation of Supporting Agencies

3. To study the role of brokers and agents or suppliers and to identify the need to bring them within the purview of legislation. Also to examine whether separate cadre for traffic control and regulation is feasible.

Composition

- | | | |
|----|--|----------|
| 1. | Shri K.R. Bhati, Joint Secretary, Min. of Surface Transport, | Chairman |
| 2. | Representative of CIRT, Pune | Member |
| 3. | Transport Commissioner, Government of Tamil Nadu | -do- |
| 4. | Representative of All India Motor Transport Congress | -do- |
| 5. | Transport Commissioner, Government of Rajasthan | -do- |
| 6. | Shri K.L. Thukral, AITD | -do- |

Sub-Committee-II: Financing, Taxation, Fare Policy and Insurance of Trucking Industry

Financing

1. To examine whether transport by trucks be declared an infrastructure industry and whether it be given any fiscal or financial benefit. To suggest methods for mobilising resources by transport agencies to finance their infrastructural and vehicular investments.

Taxation

2. To review the existing road transport taxation levels, policies and collection systems by the States. To suggest measures for rationalisation of the existing taxation system.

Fare and Freight Rate Policy

3. To review fare and freight rate policies of States for road transport and also other modes.

Insurance

4. To review the existing liabilities of carrier of goods. Are these covered by the existing Insurance policies? In this context, to study the need for revival of transport cooperative insurance organisations envisaged in the MV Act 1939.

Composition

- | | | |
|----|---|----------|
| 1. | Dr. S. Sriraman, University of Mumbai | Chairman |
| 2. | Shri K. K. Bhat, Oriental Insurance Co.Ltd, | Member |
| 3. | Representative of Tamilnadu Transport Finance Development Corporation | -do- |
| 4. | Representative of IDBI | -do- |
| 5. | Representative of SBI | -do- |
| 6. | Executive Director, SIAM | -do- |
| 7. | Shri K.L.Thukral, AITD | -do- |

Sub-Committee-III: Technology Upgradation, Fuel Efficiency & Productivity

Technology Upgradatgion

1. To review the technology presently in use and to suggest measures to upgrade/modernise vehicles including multi-axle vehicles . An allied issue is to rationalise fixation of GVW for multi-axle vehicles by the manufacturers.

Fuel Efficiency & Productivity

2. To examine various measures, apart from fuel efficient engines, to enhance fuel efficiency. Also to consider measures such as removal of octroi barriers with a view to improve productivity of goods vehicles.

Composition

- | | | |
|----|--|----------|
| 1. | Shri B. Bhanot, Deptt. of Industrial Development | Chairman |
| 2. | Shri P.C.Rao, CIRT, Pune | Member |
| 3. | Representative of SIAM | -do- |
| 4. | Representative of AIMTC | -do- |
| 5. | Representative of IIPA | -do- |
| 6. | Representative of TERI | -do- |

Sub-Committee IV: Human Resource Development (HRD)

Human Resource Development (HRD)

To study institutional facilities for HRD (e.g. training of drivers) and to suggest infrastructure facilities like wayside amenities to enhance safety and increase productivity. In this connection, to examine whether the existing labour laws are realistic and appropriate.

Composition

- | | | |
|----|--|----------|
| 1. | Dr. Padam, Director, CIRT, Pune | Chairman |
| 2. | Dr. Ganesan, Director, IRT, Chennai | Member |
| 3. | Transport Commissioner, Government of Andhra Pradesh | -do- |
| 4. | Shri Chittranjan Dass, AIMTC | -do- |
| 5. | Shri K.L. Thukral, AITD | -do- |

Sub-Committee V: Management Information System and Documentation Procedures

1. To review the management information system and documentation procedures in the Truck Transport Operations and suggest measures to improve their quality.

Composition

- | | | |
|----|-------------------------------------|----------|
| 1. | Shri S. Ganesan, Adviser (TR), MOST | Chairman |
| 2. | Shri D. Madhu Babu, ASRTU | Member |
| 3. | Dr. J.K. Ghosh, NIC, MOST | -do- |
| 4. | Shri K.L. Thukral, AITD | -do- |

Sub-Committee VI: Infrastructure Development (Wayside Amenities) & Road Safety

1. Development of infrastructure such as way side amenities, road safety and measures to contain road accidents.

Composition

- | | | |
|----|--|----------|
| 1. | Shri Chittranjan Dass, AIMTC | Chairman |
| 2. | Shri B. Bhanot, Department of Industrial Development | Member |
| 3. | Representative of CRRI | -do- |
| 4. | Dr. Ganesan, Director IRT, Chennai | -do- |
| 5. | Representative of Police Department | -do- |
| 6. | Shri K.L. Thukral, AITD | |

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Issues concerning the Regulation, Taxation etc. of Trucking Industry in India

1. Registration

In terms of the Motor Vehicle (MV) Act, owners of vehicles are required to register their vehicles and obtain a permit for their operation for hire or reward. There is no provision in our MV Act with regard to registration of goods transport operators as a business unit. Such a system of registration exists in U.K; the licensing authority ensures that the applicant for operator's license possesses professional competence, financial standing and enjoys good reputation.

Should we have similar provisions in our MV Act for the healthy growth of the Road Transport Industry?

2. Issue of Driving Licenses for Commercial Vehicles

In accordance with the provisions of MV Act, the license for Heavy Duty Vehicles can be issued to a person only if he has held a driving license for Light Motor Vehicle for atleast two years or has atleast one year experience of driving a Medium Transport Vehicle. Similarly for Medium Transport Vehicles, holding a license for Light Motor Vehicle for atleast one year is mandatory.

Would you suggest relaxing the above conditions?

3. Licensing of Driving Schools

Rule 24 of Central Motor Vehicles Rules requires certain conditions to be met by the driving school to obtain a license. These conditions broadly relate to minimum infrastructure in the form of premises, qualified staff, vehicles for imparting training, apparatus such as black board, traffic signs chart, chart showing all components of a Motor Vehicle, puncture kit, furniture for students, books on driving etc. There is a feeling that the conditions are rather rigid and may be difficult to be met especially in the metros where space is a real problem. A survey also indicates that these conditions are not being enforced.

What are your views on the subject? What are your suggestions to improve the quality of drivers' training? Do you favour regional driving training centres for commercial vehicles (buses and trucks) managed and run by agencies like CIRT, Pune?

4. Regular Permits Vs Temporary Permits

As the procurement of regular permits especially for inter-state route is cumbersome, Industry desires simplification of the procedure for their issue. On the other hand, procuring temporary

permits is simple. Hence a large number of such permits are issued and renewed though law restricts their renewal.

Is the distinction between regular and temporary permits necessary? Should temporary permits be allowed renewal?

5. Taxes, Conditions for Issue of Permits

Presently, there are variations not only in the conditions for issue of National Permits, but also in the level of taxes charged by individual States. The mode of payment also varies from quarterly to annual. Variations in taxes are also observed in the case of Inter-State Permits.

What are your views on the proposal to make the taxes uniform for the issue of National and Inter-State Permits?

6. Need for Motor Vehicle Permit

In the context of liberalization of the provisions for the issue of permits in the Motor Vehicle Act 1988, it is said that need for a permit to operate a Motor Vehicle has become unnecessary. It has been felt that permit fee can be collected, even when permits are dispensed with, by addition to vehicle registration fee. Like wise, the conditions attached to the issue of permits can be incorporated as conditions for vehicle registration.

Please offer your views on the proposal to abolish permit system.

7. Standardization of Body Building

MV rules of States do not provide for standardization of body of vehicles, endangering safety.

In the light of road accidents in your state, do you consider it essential that guidelines/specifications for bodybuilding be approved by the Govt.?

8. Registering/Licensing of Body Builders

At present, truck bodies are built mainly by small body builders scattered all over the country. These body builders are required to be registered with State Transport Authority (STA) and ensure safety.

Please send us data on registered / licensed body builders in your State. Do you exercise/apply any standards or checks at the time of registration?

9. Separate Wings for Regulation and MV Tax collection

The regulation of motor vehicles as well as mobilization of revenue from them is looked after

by the transport departments of the States. It is felt that due to targets for tax collection being fixed for these departments, collection of taxes gets more attention by the authorities. If the responsibilities resting with the department could get divided, with two separate sub-bodies looking after the regulation and the tax revenue collection respectively, better results might be achieved.

Do you favour the above proposal in the interest of better regulation of the Road Transport Industry?

10. Rationalization of Motor Vehicle Taxation

(i) Basis of MV Tax

There is huge variation in the levy of MV Tax from State to State, e.g. some States levy on the basis of laden weight of the truck, number of seats/occupancy ratio in passenger buses; others consider purchase price of the vehicle as the basis for levying MV Tax. No rationale is seen between the tax rates and the cost that vehicles impose on roads. Also, some States levy tax on Gross Vehicle Weight instead of potential axle loads. This results in under taxation of 2-axle trucks compared to Multi Axle Vehicles.

What principles, in your view, should govern the levy of MV tax?

(ii) Goods and Passenger Tax

The taxes on motor vehicles and on passengers & goods being similar in nature fall on the same base and are paid ultimately by the same group of people. While some of the States levy both these taxes separately, others have merged the two into a single tax.

There is also a different view held by some in the Trucking Industry regarding collection of Goods Tax/Passenger tax from vehicle operators. Considering that truck operators do not have any contact with owners of goods, recovery of Goods Tax from him has been objected to by All India Motor Transport Congress (AIMTC). In their view, such a tax should be collected by the person issuing lorry receipt/collecting freight charges.

What is your reaction to the above views? Do you favour single tax comprising Road Tax and Goods/Passenger Tax?

(iii) One Time Tax

It has been felt by some in the Trucking Industry that one time (lifetime) tax should replace the existing annual Road Tax, levied on motor vehicles. This would save administrative cost of tax collection as well as time and compliance cost of taxpayers.

What is your view in the matter?

(iv) Permit Fee

The quantum and the periodicity of Permit Fee varies from State to State. Some States charge on quarterly basis while others on half yearly and annual basis. Some truck operators and members of the Industry have expressed their view that Permit Fee be made uniform in all States and also it be linked to the quantum of load carried.

Please offer your comments.

(v) Alternative Tax to Octroi

Abolition of octroi has been an issue for quite some time. Although some States have abolished it, it still exists in others. Considering that Octroi is a hindrance to the free flow of goods, its abolition is desirable. However, it would be necessary to find a substitute revenue measure for the local bodies in the States.

How do you consider a piggyback to a State-VAT as an alternative to Octroi?

(vi) Levy of Entry Tax

There is a diversion of sale of vehicles (and hence payment of motor vehicle taxes) in States where the rate of Sales Tax on vehicles is low. This causes fictitious registration in States where the vehicle does not remain after the sale transaction and initial registration. To check this practice, an Entry Tax be levied on the vehicles as they enter another State for registration.

Do you favour such a tax?

(vii) Uniform Tax Structure

Lack of uniformity in the structure of MV Tax and Passenger and Goods Tax causes diversion of motor vehicle registration and encourages corruption in the system. There is a case for unification of tax system in all the States.

Please give your views on the above proposals to promote rationalization of motor vehicle taxation in the country.

11. Uniform Regulations

Presently, provisions of MV Act are interpreted differently in different States and even in different regions of the same State. This causes harassment to the truck operators.

Would you favour uniform law for the country in the matter of (i) carrying capacity of vehicle (ii) MV Taxes etc?

12. Heavy Detention of Vehicles

The Trucking Industry complains of heavy detention of their vehicles at check posts. There are multiple check posts in the State, which interfere with the free flow of traffic. Studies have shown that existence of internal checkposts have no significant impact on tax evasion. Rather, larger the number of checkposts, higher the wastage arising from stoppage of traffic including under utilization of assets.

What are your views for abolishing or at least reducing the number of checkposts in the States?

13. Over loading of Vehicles

Overloading of vehicles is a common phenomenon throughout the country. This damages the roads and is one of the causes for road accidents.

What should be done to regulate this evil in the context of experience in your State?

14. Pollution Abatement Incentives

As in many other countries, a system of penalty/incentive could be built into the tax system to promote the use of non-polluting vehicles.

Do you agree?

15. Fare and Freight Rates

MV Act provides for fixation of fare and freight rates by the States. However, no State Govt. is doing it.

Do you consider it necessary that guidelines be issued to facilitate the implementation of the provision? Would you favour fixing of cap on fare/freight rates?

16. Formation of Fleets

At present, there are a large number of small truck operators who create problems of regulation, pollution, congestion, accidents etc.

Will formation of fleets through co-operatives, company form of organization etc help in resolving the issues? And how is this to be achieved?

17. Promotion of Multi Axle Vehicles

Suggestions have been made that government should provide incentives and concessions for

promoting new generation vehicles (MultiAxle Vehicles), which are fuel efficient, environment friendly and cause less damage to roads.

What in your view, could be done to promote Multi-Axle-Vehicles?

18. Issue of Fitness Certificate

The forms presently in use for issue of vehicle fitness certificate are lengthy and need to be simplified. Further, to ensure proper checking of vehicles authority to issue such certificates should vest with technical officers, Auto/ Mechanical Engineers; Generalists should not be allowed to exercise this power.

What are your views on this proposal, having regard to experience in your State? Would you favour allowing approved private parties to issue these certificates?

19. Road Safety

Do you have adequate powers to deal with road safety issues? Please indicate the level of co-ordination between police and your department in the matter of road accidents. Also please indicate whether causes of road accidents are analyzed by your department? If not what is the arrangement for accident data analysis in your state? What improvements do you suggest in the existing system?

20. Institutional Arrangements

For a professional approach to the regulation of traffic on the roads and improve safety, what should be a modal organizational structure of the Transport Authority at the State Headquarters and District Headquarters? Describe the functional and administrative units for each setup.

Annexure 2.1

FLEET PROJECTIONS

PLAN	LCV POPULATION(000)		GNP GROWTH	GNP GROWTH	GNP GROWTH	1966-96	HCV POPULATION(000)		GNP GROWTH
	YEAR	1966-96					GNP GROWTH	GNP GROWTH	
		TREND					6%	6.50%	
8TH PLAN	1997	620	641	647	654	1476	1507	1518	1528
	1998	686	733	748	764	1575	1643	1666	1689
NINTH	1999	760	838	865	892	1680	1791	1828	1866
PLAN	2000	841	959	1000	1042	1793	1952	2007	2062
	2001	931	1097	1156	1217	1913	2128	2202	2278
	2002	1031	1255	1336	1422	2041	2319	2417	2518
	2003	1141	1436	1545	1661	2178	2528	2652	2782
TENTH	2004	1263	1643	1786	1940	2323	2756	2911	3074
PLAN	2005	1398	1879	2004	2266	2479	3003	3195	3397
	2006	1548	2150	2387	2646	2645	3274	3506	3754
	2007	1713	2460	2759	3091	2822	3569	3848	4148

MAJOR FINDINGS - EN ROUTE SURVEY

1.0 Introduction

In addition to the exhaustive primary surveys conducted by interviewing all the major players in trucking industry (i.e. truck owners, drivers, brokers, booking agents as well as the law enforcing authorities of M.V. Dept.) during June/July 1998, it was decided to carry out a survey on “Vehicle Activity” in order to observe the actual movement of loaded trucks and time spent on different activities en-route. The survey also aimed to find out the en-route problems faced by the drivers/owners, such as delays at various check-posts, checking by flying squads, identification of traffic congestions/jam prone sectors, general observations on road conditions such as surfacing, markings, traffic signs etc. and wayside amenities available. Data on actual speeds on different stretches and steering duties of drivers, driving spells were also collected. The en-route expenses incurred were also noted down.

1.1 Methodology

The survey team consisting of two staff member of CIRT travelled on-board with crew of the trucks and noted all the details mentioned above.

The survey was carried out on three corridors identified by the Steering Committee. They were :

- (1) Mumbai - Delhi
- (2) Delhi - Calcutta and
- (3) Calcutta - Chennai

These three particular corridors were selected for this purpose mainly due to the fact that a major share of inter-state and inter-regional goods traffic movement in the country is carried by the above mentioned corridors.

1.2 Secondary Data Collection

The secondary data collected from the owner, crew members and brokers before the actual journey started on each leg of this survey included the following aspects.

- * Owners’ details including company address etc.;
- * Information on vehicle details which include registration no., make and model, year of purchase by the present owner, cumulative kms (so far done) and vehicle category (HCV/LCV or multi-axle etc.);
- * Maintenance practices/norms followed by the owner/driver such as engine oil change, greasing, hub servicing and alike. Major mechanical problems observed by the driver and their frequency was also recorded by asking the drivers. Norms for changing the tyres, retreading practices as well as the physical condition of tyres were also recorded;

- * Crew details such as name, age, educational level, driving experience, how he learnt driving, how long he has been driving the present vehicle and his family address, frequency of returning to base etc. were ascertained. For cleaners, their mechanical knowledge of maintenance was also noted down;
- * The details of goods being carried like its type, quantity, worth as well as freight charges data, were collected. Also the type of insurance of the vehicle and goods carried (if any) was noted down;
- * The booking particulars of load carried and how the arrangement of the particular truck was made was also noted;
- * The trip particulars such as loading and unloading places along with quantity as well as route to be followed from origin to destination were recorded; and
- * Approximate incidental expenses to be incurred en-route were also recorded under different account heads.

1.3 En Route Observations

- 1.3.1 The date-wise observation charts were filled up during the journeys and actual readings on starting and halting time, Kms., locations of halts, reasons of halts, expenditure if any, parking place of the vehicle at each halt and wayside amenities available at the halting places were recorded in these charts.
- 1.3.2 General observations on en-route traffic hurdles, road conditions, (geometry, surface. marking, signs etc.), Police & RTO interventions, encroachment on highways and other major points were recorded in separate sections provided for these.
- 1.3.3 Details of driver-wise duty spells were also noted throughout the journeys.

2.0 Findings

2.1 Loading Freights & Loading Pattern

In all the three legs of this survey, it was observed that the goods carried were loaded through brokers by paying lumpsum amount of commission. On only one leg i.e. from Mumbai to Delhi, the truck was overloaded. It was also found that around 1/4th of the total trip-time was spent for loading/unloading on Delhi-Calcutta & Calcutta-Chennai trips. This was mainly because of the long queues for loading. The longest waiting time in queue for loading was around 32 hrs. inside the plant during the Chennai-bound trip. It was learnt that no compensation was paid to the owner for these delays.

2.2 Vehicle conditions & En-route Maintenance

The first two legs i.e. from Mumbai to Delhi and Delhi to Calcutta were covered by Tata make LPT vehicles with high sided wooden body (called as Punjab body) and the last one by Ashok Leyland CS 1611 model with semi-high sided body. The cumulative kms done by these

trucks were 2.90 lakhs, 0.03 lakhs (new vehicle) and 0.44 lakhs respectively. The tyre conditions were good except of the Chennai-bound vehicle. The rear left pair of tyres fitted this vehicle was almost worn out and the stepney tyre was fitted with nut & bolts on the side walls. It was observed that due to the high-sided wooden body and extended fuel capacity tanks as well as increased no. of spring leaves to cope up with overloading and bad road conditions, the unladen weight of these vehicles was higher as compared to the half body trucks typically operated in Central and South India. This resulted into restriction of payload capacity to around 9MT only as against 10MT for the South Indian vehicles. However, from the safety point of view the high-sided body was much better. Regarding preventive maintenance norms followed, it was observed that the nipple greasing was done at around every 500 kms interval during the journeys. Engine oil top-up was not done during any of the three trips en-route. Tyre pressures were being checked from time to time whenever the vehicle halted for any reason and even during traffic jams. All the vehicles were fitted with additional air-pressure horns with an option of switching over to the regular electric horns to be used in the cities only.

2.3 Distribution of trip-time by activity

Total trip time and its distribution into actual moving time and halting time as well as further break-up of halting time for different reasons is depicted in the following Table-A.

Table - A
Distribution of Trip Time by Activity

	Mumbai-Delhi	Delhi-Calcutta	Calcutta-Chennai
Total trip time (Hrs. Mts.)	62-35	89-30	142-20
Distribution of time by activity (% to total trip time)			
1) Moving time	69.2	54.4	38.0
2) Total halting time	30.8	45.6	62.0
i) Loading/Unloading	7.5	24.8	25.3
ii) Getting Papers/Advance etc.	7.1	0.5	-
iii) Octroi, RTO & other check-posts	4.8	2.4	1.8
iv) Diesel top-up & mechanical attendance	2.9	0.4	3.8
v) Meals/Snacks/bath and rest	8.5	17.5	31.1

It will be seen from the above table that the percentage of actual moving time to the total trip time was 69.2 per cent, 54.4 per cent and 38.0 per cent for Mumbai-Delhi, Delhi- Calcutta and Calcutta-Chennai routes respectively. The comparatively lower percentage for Calcutta-Chennai trip can be attributed to the fact that this vehicle was driven by a single driver throughout. It may also be noted that the percentage of time spent for rest and meals etc. during the Calcutta – Chennai trip is higher than the first two trips; again this is due to single driver operation. Total trip time of 142 hours and 20 minutes is also high for this trip due to the same reason.

Contrary to the perception, the percentage of halting time at different check-posts is only between 2 per cent to 5 per cent of the total trip time. It could perhaps be either due to single time observation only on each route or due to the drivers who operate regularly on the respective routes and who had, therefore, established close relations with the touts and check-post staff and were well acquainted with the 'short cut' ways of getting clearance easily. It may not be out of place here to mention that all the drivers of this three trips were also knowing even the timings and locations of RTO flying squads in different states en-route and thus successfully managed to avoid their encounter on many occasions.

Regarding rest during the trips, it was observed that for the double driver operation the percentage of time spent on rest was less as they would continuously drive by turn and one would take rest on the sleeping berth while the other is at the steering.

2.4 Average Speeds Observed

The following table shows the overall averaged speed of each trip which is based on the actual moving time only (excluding halts). It will be seen that there is no significant variation in the average overall speed per hour for all the three routes. However, further analysis of speeds attained in different states shows wide variation between 17.33 km/h in Maharashtra to 22.50 km/h in Bihar and 50.50 km/h in Haryana. The reasons for this were found to be heavy traffic congestion (Maharashtra), poor road surface (Bihar) and even surface and wide (4 lane) roads in Rajasthan and Haryana. The hours at which these distances were covered also played important role in this regard, e.g. during the wee hours the roads are almost free of local traffic and other activities etc.

Table - B
Average Speeds in Different States

	Mumbai-Delhi	Delhi-Calcutta	Calcutta-Chennai
Average speed per Hr.(Km.)	33.05	30.64	34.13
MAH. 17.33	HAR.50.50	WB 29.35	
GJ 33.33	UP 36.20	ORS 30.91	
RJ 44.17	BH 22.50	AP&TN 37.65	
	WB 32.20		

2.5 Driving Spells

The details of driver-wise spells during the trips along with actual steering duty hours in each spell and number of halts during each spell with time spent in such halts is shown in Table – C and Table – D for Mumbai-Delhi and Delhi-Calcutta routes. This analysis was not done for the Calcutta-Chennai route, as there was single driver only throughout the journey.

Table-C
Driving Spells (Mumbai-Delhi)

Driver	Steering duty (Hours-Min.)	Gap between consecutive spell (Hours-Min)	No. of Halts. time (Hours-Min)	Total Halting (Hours-Min.)	Rest time during halts
I (Main)	7-00	-	1	0-35	0-20
	12-30	4-30	2	1-25	1-25
	15-45	6-55	5	2-05	1-20
II (Second)	4-15	-	1	0-15	0-15
	7-30	7-00	2	1-00	1-00
	9-25	12-45	2	1-30	1-00

Table-D
Driving Spells (Delhi-Calcutta)

Driver	Steering duty (Hours - halts Mts.)	Gap between consecutive spell (Hours-Mts.)	No. of Halts.	Total Halting time (Hours-Mts.)	Rest time during (Hours-Mts)
I (Main)	1-20	-	1	0-20	Nil
	13-05	2-25	2	2-05	1-40
	7-20	4-25	1	0-15	0-15
	10-25	6-20	3	1-25	1-10
	13-45	5-15	4	6-20	3-05
II (Second)	2-20	-	1	0-45	Nil
	1-55	14-35	Nil	Nil	Nil
III (Cleaner)	1-50	-	1	0-20	0-20
	4-15	NA	Nil	Nil	Nil
	5-15	NA	Nil	Nil	Nil

It will be seen from the above tables that though there were two drivers, the steering duties were not uniform for both of them. The main drivers had always shouldered the lion's share in driving whereas the second driver had been utilised more or less like a reliever. Majority of the steering duties of main drivers were well above 10 hrs. (even upto 15 hrs. – 45 mts.) with a gap between two consecutive duties ranging between 2 to 6 hrs. only. In case of second driver this equation was almost reverse. It may be noted that during Delhi – Calcutta trip, the cleaner who was 19 years old without holding a heavy duty license drove more than the second driver.

3.0 En Route Expenditure

Table - E depicts the total en route expenditure incurred for the three routes and its percentage

distribution under different heads. Further break-up of official and unofficial expenses towards RTOs & Police, Octroi & other check-posts, etc. is also shown in terms of percentages.

Table - E
En route Expenses Incurred

	Mumbai -Delhi	Calcutta -Delhi	Calcutta-Chennai
Total en route expenses (Rs.)	8100/-	6550/-	7500/-
Distribution of expenses (% of total)			
1) Diesel and Oil	51.85	64.12	65.83
2) Crew expenses	7.41	7.63	9.33
3) RTO and Police	29.88	6.71	9.08
Official	(24.8)	(Nil)	(54.4)
Unofficial	(75.2)	(100.0)	(45.6)
4) Octroi & other taxes			
Check-post expenses	1.05	3.66	3.34
Official	(29.4)	(12.5)	(Nil)
Un-official	(70.6)	(87.5)	(100.0)
5) Toll fees	0.80	0.31	1.27
6) Broker's Commission	5.56	5.35	2.00
7) Loading/Unloading	2.22	12.22	3.79
Official	(83.3)	(100.0)	(71.4)
Un-official	(16.7)	(Nil)	(28.6)
8) Others (wieghing, minor repairs, tyre puncture, etc. and also chanda, dock entry)	1.23	Nil	5.36
Official	(30.0)	-	(89.6)
Un-official	(70.0)	-	(10.4)

It will be seen from the above table that a major share of around 52 per cent to 66 per cent of the total en-route expenses goes for fuel and oil. In case of RTO & Police expenses it was observed that it was as high as around 30 per cent for the Mumbai-Delhi route of which threefourth expenses were unofficial. This was due to overloading of goods to the tune of around 4 tons in terms of GVW though the actual overloading in terms of material carried was 3.5 MT. The RTO & Police expenses during Delhi-Calcutta trip were totally unofficial. The other unofficial expenses include trips given to loading staff, security personnel of dockyards & donations exacted by villagers en-route for festivals and fairs etc. especially in West Bengal and Orissa. The per km en route expenses worked out to Rs. 5.12 for Mumbai-Delhi, Rs. 4.39 for Delhi-Calcutta and Rs. 4.07 for Calcutta- Chennai routes. On Mumbai-Delhi route expenses on RTO/Police due to overloading were to the tune of Rs. 1.53 per Km. The freight earned per km. was Rs. 12.64, Rs. 11.40 & Rs. 7.50 for Mumbai-Delhi, Delhi-Calcutta & Calcutta-Chennai routes respectively.

The higher freight rate of Mumbai-Delhi was mainly due to the 3.5 MT overloading while that of Delhi-Calcutta was also comparatively high because it carried perishable commodity i.e. Apples.

4.0 Other Observations

4.1 Driving habits on highways

It was observed that in every State, local drivers always tend to be aggressive. Haphazard overtaking, over speeding, cutting in immediately just after half the portion of their vehicle has merely passed ahead of the overtaken vehicle was a normal scene throughout. The same drivers, once they enter the other State become comparatively defensive as their earlier role is shifted to others.

On two-lane carriage-way, everybody tries to be on the centre of road and while passing the oncoming vehicles, reluctantly switches on to the left by just a few inches (that too only for a couple of seconds!). Lathi-charge on the on-coming vehicle's front glass to get right of way was also witnessed in Gujarat.

Buses always expect top priority and the bus-drivers (especially luxury buses) running at very high speed always try to push the overtaken vehicle to the extreme left of the carriageway and compel them to resort to sudden braking.

4.1.1 Driving Schedule & Rest

It was observed that there was no particular schedule followed by the truck drivers. As mentioned earlier, in case of double driver operation, there was hardly any halt for rest. Similarly, there were no particular timings for meals/bath etc. As a result, meals at very odd hrs. (dinner at 0300 hrs. & lunch at 1500 hrs.) was a common phenomenon. It was also found that during the journeys the crew normally take minimum food so as to avoid drowsiness etc. It may be worth mentioning that the survey team has witnessed the drivers (especially the main driver) taking naps at the wheel lasting 5 to 10 seconds particularly towards the end of his long driving spell when stretched beyond 10 hours.

4.2 Wayside Amenities

It was found on every route that the roadside dhabhas/hotels were the main places of rest/meals for the truck drivers. Majority of these eating joints had no other facility than food and wooden cots for short rest which also served as dining table. A few of these joints were having STD booths, pan shops and water tank with borewells for bathing and washing purpose. The quality of food and the hygienic condition of the dhabas are very poor. The crew members were not having any option because of their meager daily allowance. Of course, the crews had their own cooking range and ration but it would be used only during the waiting period for return loads.

Almost every petrol pump along the highways was accompanied by a hotel/dhaba, tyre-repairing shops, pan-shops and parking place for resting vehicles, toilets and medical facilities were non-existent at these places.

4.2 Police & RTOs

The topmost subject of truckers is grievances against harassment by Police & RTOs. The highway police units are supposed to ensure smooth traffic flow on highways and take immediate action in case of accidents, traffic jams, road-robberies etc. But it had been witnessed by the survey team that the police and RTO are playing exactly opposite role. The town police and even the rural police at outposts would stop the trucks with the help of wooden barriers or barrels (especially in Uttar Pradesh and Bihar) at night hours and demand money for any unknown reason.

As mentioned earlier, the regular drivers of the respective routes are well acquainted with these practices and they even know the exact locations and 'working hours' of these squads. As a result, they adjust their driving hours accordingly in order to avoid confrontation with these squads as far as possible. As a consequence, they eventually overspeed to cover the time and backlog or to pass the certain place before certain hours. This practice is dangerous from the safety point of view. The RTO check-posts en-route were witnessed to be mainly functioning as revenue collection centres for individual benefits rather than for the State exchequers. Overloading is openly allowed in Maharashtra & Gujarat @ Rs. 100/- per MT without receipt. In Haryana, overloaded trucks are allowed @ Rs.150/- per MT with a receipt issued by Commercial Tax Department wherein it is specifically mentioned that this receipt has nothing to do in case any action may be taken for the overloading under MV Act or any other Act. Mechanical tax collection in Orissa @ Rs. 800/- per vehicle per calendar month or part thereof is also a similar example.

4.2 Road Conditions & Traffic bottlenecks

In general it was observed that the road conditions were poor barring a few stretches. The worst road conditions were witnessed in Bihar where the surface was totally washed out and was understood to be in the same condition for the last few years. Road-markings and traffic signs were almost non-existent with a few exceptions. The survey team observed as many as 30 accidents on NH 2 in Bihar along with head-on collisions due to drivers trying to avoid pot holes while in speed. A lot more overturned vehicles and those with broken axles and spring assemblies due to poor surface were also seen.

In every city/town en-route NH2 (even on bye-passes, if any,) ribbon development of habitats and other commercial activities was observed. Slow moving vehicles like bicycles, scooters, tongas, autos as well as pedestrians were seen to be mingling with the through traffic.

Cattle grazing along the highway stretches was also a common sight. All the factors mentioned above would invariably lead the truck-drivers boil up their brains and loose control over their cautiousness, ultimately resulting in accident.

Annexure 3.2

Comparison of Major Findings in Respect of Different Parameters as per 1994 and 1998 survey						
S.No.	Parameter	1994 Survey		1998 Survey		
1	Truck Ownership Pattern	85% operators own 2 to 3 trucks 13% own 40 to 50 trucks and; 2% own more than 50 trucks		77% Operators own five or less number of trucks 10% own 6 to 10 trucks 4% own 11 to 15 trucks 3% own 16 to 20 trucks 6% own more than 20 trucks		
2	Average daily utilisation of trucks	Less than 100 Kms	9.43%		Single Driver Operation	Double Driver Operation
		100-200	10.64%			
		200-300	26.99%	Less than 200	10.68	0.81
		300-400	33.36%	201-400	72.15	23.41
		400-500	14.42%	401-600	16.64	52.47
		500-600	3.38%	601-800	0.53	18.47
		600-700	0.81%	More than 800	-	4.84
		700-800	0.81%			
		800-900	0.08%			
		900-1000	-			
		More than 1000	0.08%			
3	Educational Level of drivers	Under matriculate - 80%		Illiterate - 20.06%		
		Matriculate - 15%		Literate - 27.33%		
				Non-matriculate - 29.04%		
				Matriculate - 21.86%		
				Graduate - 1.71%		
4	Frequency of returning to base (No. of days)	1 to 7 days - 52%		2 or less days - 12.42%		
		8 to 15 days - 34%		3-4 - 18.89%		
		16 to 30 days - 14%		5-8 - 47.26%		
				More than 8 days - 21.40%		
5	Night halting Places of drivers	Road side - 36%		Roadside - 24.24%		
		Petrol pump - 41%		Petrol pump - 41.70%		
		Others - 23%		Dhaba - 74.84%		
				Others - 6.69%		
				Any of above - 1.21%		
				Note : Percentage are worked out on multiple choices mentioned by drivers interviewed		
6	Availing middlemen's services to obtain loads	63% availed these services		56% truck owners are fully dependent on brokers to obtain business		
7	Learning of Driving	Self learnt 88%		Percentage of self learnt drivers Illiterate - 96.21% Literate - 93.43% Non-matriculate - 91.37% Matriculate - 83.17% Graduate - 48.78%		
8	Average driving hours per day	The average driving hours per day were between 5 and 10 hours		4 or less hours - 5.14% 5 to 8 hours - 28.88% 9 to 12 hours - 44.59% More than 12 hours - 20.39%		
9	Type of insurance policy held	93% of the vehicles surveyed were covered by comprehensive policy		80% of the vehicles had comprehensive insurance policy while 20% were having only third party policy		

MANAGEMENT OF MOTOR VEHICLES DEPARTMENT - THE CASE OF RAJASTHAN

Introduction

The Transport Department is heading towards modernisation of its field offices by introduction of the Information Technology. Recently, the Department had successfully implemented Online Applications using Computer network at RTO, Jaipur office. Perhaps, the Transport Department is the only Department which has implemented Online Applications on a computer network to provide speedy and efficient services to the public of Jaipur Region. The Department is going to replicate the application software at all RTO offices.

The process of replication needs a constant watch on the progress of the project. Also it requires more technical knowledge within the organisation to keep the application software running smoothly for a longer period. Moreover, the replication of computer networks requires a strong technical base within the organisation for maintenance of the networks, trouble shooting, monitoring, etc., and to keep the network operational.

As of date, the Department is having number of computers of its own and the Department is planning to add more Hardware / Software to its network. The replication process will generate more Hardware / Software.

Rajcomp, being a consultant, suggests to create following in-house technical expertise to achieve the above mentioned targets and to keep the large number of Hardware / Software and the manpower engaged for data entry work operational for a longer period :

S. No.	Level of Technical manpower	No. of persons	Place where manpower is required	Pay Scale (Pre-revised)
1	System Analyst	One	Head Office	Rs. 3450 - 5000
2	Programmer	One	Head Office	Rs. 2000 - 3200
3	Computer Operator or existing employee of the Department	Seven	RTO Offices	

1.0 Reform of Information System Management

1.1 Computerisation of Office of the RTO

On 11th February, 1998, the Department had implemented following application software at the office of RTO, Jhallana Dungri, Jaipur :

- Cash Receipt System
- Fitness Certificate
- Temporary Registration
- Pay Roll

1.1.1 Record Management

Basement : The basement of the building is being used for keeping the record of RTO office. In one corner, the record of non transport vehicles is kept, in second corner, record of transport vehicles, in third corner, record of licenses and in fourth corner, record of permits is kept in side racks/ almirahs in a very proper manner. The staff deputed for maintenance of the record also sits in the basement.

Goods Block : The Goods Block is DTO-Goods block. The various functions of the DTO-Goods are as under :

- Cash collection and issue of cash receipts
- Registration of transport vehicles, cranes, tractor, etc.
- Issue of fitness certificates for transport vehicles
- Issue of temporary Registration Certificates
- Matters regarding road side challans made by the department

Stage Carriage and Contract Carriage Block : Two DTOs operate from this block. One is DTO, stage carriage and second is DTO, contract carriage. The various function of the DTOs are as under :

- Cash collection and issue of cash receipts
- Registration of passenger vehicles i.e. buses, auto rickshaw, etc.
- Issue of temporary registration certificates
- Matters regarding road side challans made by the department
- Issue of route permits
- Issue of all Rajasthan permits

Licence Block : The Licence block is DTO-Licence block. The various functions of the DTO-licence are as under :

- Cash collection and issue of cash receipts
- Issue/renewal of learners' licenses
- Issue/renewal of permanent licenses
- Issue of duplicate licenses
- Matters regarding road side challans made by the department

Non-Transport Vehicles Block : The block is DTO-non transport block. The various functions of the DTO-non transport are as under :

- Cash collection and issue of cash receipts
- Registration of non transport vehicles i.e. scooters, car, etc.
- Issue of temporary registration certificates
- Matters regarding road side challans made by the department
- To record the changes in the registration record on request of a vehicle owner whose vehicle is already registered with this office, i.e. ownership transfer, alteration, etc.

Computer Networking : The details of the terminals installed for different applications are as under :

- Five cash counters i.e. one each in each block
- One for issue of fitness certificates
- One for issue of temporary registration
- One with RTO for day to day monitoring of different activities

Computer Application : To begin with, the department developed application software for the following applications :

Generation of Cash Receipt and preparation of counterwise cash receipt

Any one who wants to obtain a particular service of the department has to deposit the requisite fees with the Department's cash counters in a particular revenue head. Then only the services are rendered. About 2000 receipts are being generated by all five cash counters every day.

1. Those who want to avail of any particular service of the Department fill up the prescribed form and deposit the same along with requisite cash. The Counter Clerk in turn prepares a Cash Receipt through Computer in three copies, i.e. one for office use, one for owner's copy and the third one is the office copy, keying the details of the owner/ vehicle, the revenue head, amount received against the revenue head, takes out the print out of the receipt, puts his signatures on the receipt and hands over two copies to the customer.
2. At the end of the day, the Cashier generates Receipt Cum Record (RCR), distribute the revenue head wise and take a print out of list of cancelled receipts.
3. Thereafter, Clerk has to tally the actual cash with the total of cash RCR. After tallying the cash, he has to sign the RCR pages and deposit the cash with Chief Cashier.

1.1.2 Issuance of Fitness Certificates and printing of daily Fitness Register

The Transport Department, under the provisions of the Transport Act, has to ensure that each vehicle used for commercial purpose should have good condition and fit enough to ply on road.

On an average about 100 vehicle owners come to the RTO office for obtaining the Fitness Certificate everyday.

The vehicle owner visits the Department along with the vehicle for Fitness Certificate. The owner of the vehicle fills up the prescribed form, deposits the requisite fees at Cash Counter. Accordingly, the fitness test is being conducted. The Motor Vehicles Inspector certifies the fitness of the vehicle on the prescribed form.

After certification is over, the concerned Clerk keys in the details of the vehicle and date of fitness, next fitness checking date, etc. and generates a Fitness Certificate. Thereafter, the concerned DTO signs the certificate. At the end of the day, the Clerk generates the daily Fitness Register detailing the details of vehicles for which a Certificate was issued during the day.

1.2.3 *Issuance of Temporary Registration Certificates and Printing of daily Temporary Registration Certificate Register*

As per the Central Motor Vehicle Act, no vehicle can ply on road without having a proper Registration Certificate issued by the Transport Department. In case one purchases a vehicle from one District/State and wants to register the vehicle at a different District / State, he has to obtain Temporary Registration which is valid for one month's time from the date of purchase. On an average, about 100 Temporary Registrations are being made by RTO, Jaipur. The vehicle owner visits the Department along with the prescribed form duly filled by him and deposits the requisite fees at Cash Counter.

After that he deposits the 'purchase bill' and the 'filled form' with the concerned Clerk at the counter. The Clerk 'key/s' in the details of the vehicle and the dealer from where the vehicle is purchased, generates a fitness certificate which automatically assign a temporary Registration Number. Thereafter, concerned DTO signs the certificate and then the concerned Clerk handover the certificate to the owner. At the end of the day the Clerk generates the daily TRC Register detailing all the details of vehicles for which a certificate was issued during the day.

1.2 The Database Security

In-built database security in RTO, Jaipur office has been done. The details of the security features incorporated are as under :

Access

1. The access to the computer is only through a Unix Log-in Process which protects unauthorised use of any terminal
2. To strengthen the Unix Log-in Process, a provision has been made in a particular terminal. It can access only a particular log-in. If any one tries to log-on with a

different log-in, a message is displayed on the console that some unauthorised person is trying to logon from Terminal No.(X).

3. To operate on a particular application, one has to access the application software through Log-in Process. As soon as one logs-in with a proper log-in name, he is asked to enter a log-in password and the user password.
4. After verifying the correctness of the passwords, the terminal straightaway invokes the menu driven application software.
5. As soon as the operator exits from the application software, he also exits from the Log-in. No one is given permission on Unix Prompt / Operating System.

Daily Access Permissions

1. Every day, in the morning at 10.00 A.M., each user has to obtain the permission for that particular date to access the application software on which he is authorised to work on by the concerned DTO.
2. Without having the permission for the day he can't invoke the application software by any means.

Daily Access Log

The application software maintains a daily log of the user detailing the total transactions, total cash collected, etc.

Activity Monitoring

To monitor who is doing what and on which terminal, a separate software is designed in such a way that the RTO, Jaipur can monitor the user's activities through the terminal provided to him.

The software displays the following details of each user :

1. The name of the user
2. The application for which he is permitted
3. The number of transactions processed
4. Whether he is still operating the application menu or he is not on the counter
5. Has he finished his work by generating the daily register or not

1.3 Implementation of Registration Module

Transport Department's Role

- Approval of Procedures
- Approval of Registration Certificate format
- Approval of following master details
- Series master

- Manufacturers
- Dealer master
- Class of vehicle
- Body type
- Maker classification, etc.
- Procurement / Arrangement of additional terminals and printers for reg. Counters
- Additional contractual Data Entry Operators for Registration Counters

1.4 What Transport Department has done so far

- Awarded the contract to a private firm
- Provided space at RTO, Jaipur office
- The firm has installed computers at RTO, Jaipur office

1.5 Rajcomps Role (Contractor)

- To assist the department in finalising the file / data base format
- To assist the department in monitoring the progress of the data entry work
- To assist the department for smooth transfer of the data into Departments computer
- To asses and suggest to the department about the need for upgradation of hardware / software for keeping files

1.6 Transport Department's Role

- To ensure the correctness of the data
- To ensure proper backups of the data
- To ensure security of the data / backups

1.7 Future Role of Transport Department

1.7.1 System Study / Software Development / Implementation of Remaining Applications

The applications :

- Tax accounting
- Permit
- Challan monitoring
- National Permit authorisation
- Personnel information system
- Miscellaneous MIS reporting software for each module

1.7.2 Rajcomp's Role (department assigns the work of software development to Rajcomp)

- To submit financial proposal along with time schedule for software development

- To study/design/development of the applications and to assist the department in implementation

1.7.3 Transport Departments Role

To appoint a nodal officer from RTO for each application to assist Rajcomp for system design, analysis, software development, implementation

20 Administrative Reform

21 Optimum use of vehicle

It has been felt by the Department that the men and material available with the Department are not being put to the most effective use. In bigger districts, for example, there is no clear division of responsibility between the RTOs and DTOs, and indeed amongst the various DTOs themselves. Similarly, the line of control for the flying squads, the type of work they are supposed to do, and their accountability are not at all clear. With a view to deploy the manpower available with the Department most effectively, and with a view to making each layer in the Department more accountable, it has been decided to reorganise the Department. This has become all the more necessary because of the Government decision to abolish barrier check posts at inter-state borders. Similarly, with a view to maximise the utility of vehicles available to the Department and with a view to utilising the vehicles for the purpose for which they were purchased, the matter has been consider in its totality, and orders with regard to their deployment and use are also being made.

Vehicles are allotted to offices for official work; they are neither allotted to individuals nor are they meant for other purposes such as office to residence or residence to office journeys. In the Transport Department, vehicles have been given only for specific purposes : for checking vehicular emissions, and for regular work like collection of taxes and enforcement of the various provisions of laws relating to motor vehicles, and for anti evasion work. Therefore, except for the vehicles kept at head quarters (5 in all), and vehicles allotted to RTOs (7 in all), all other vehicles are, for all practical purposes, flying squads and will henceforth be treated as such, specially for the purpose of target fixing, etc. Even the vehicles allotted to RTOs and kept at the Headquarters are for official supervisory work, and are not the right of any individual officer. Officers, specially those at Headquarters and at the level of RTOs will desist from treating government vehicles as personal to them; they should be treated as “pool” vehicles, to be made available to whichever officer needs it for official work.

22 Abolition of Check Post

The Government has decided to abolish check posts at interstate borders with effect from 1st May, 1995 and there is no necessity for goods / passenger vehicle to stop at these check posts. Only those vehicles [which] wish to stop and pay any taxes due can do so at the interstate border. The decision of the Department was , since there is no longer any need for

the inspectors at the interstate borders, no Inspectors / Sub Inspectors are being posted at the tax collection offices, hence the check posts may be abolished.

2.2.1 Basic Aim of Abolition of Check Posts

The basic aim of abolition of the check post is not to stop vehicles at interstate borders.

To avoid any loss to State revenues and to check evasion of taxes by vehicles coming from other states, the districts that were having check posts are being strengthened by providing them with additional flying squads. These flying squads are renamed as Special Flying Squads. These flying squads will normally have a strength of 1 Inspector and 2 Sub Inspectors or 2 Inspectors and 1 Sub Inspector, one driver and one guard.

- Since these special flying squads are being provided for the specific purpose of checking tax evasion due to absence of check posts, their only task is to check interstate traffic; as a result, it is expected that interstate traffic will be monitored effectively to sustain revenues at the same level as earlier when check posts existed. The evolved norms for the checking of traffic by the special flying squads are as under :
- Highway checking should not in any case result in any traffic jams. This can normally be ensured by not having more than two vehicles stopped for checking at any one point of time; when one vehicle has been dealt with, another can be stopped, thus always having only two vehicles stopped at any given point of time. This can also be achieved by continuously shifting the location of the flying squad to some distance from the first point of checking.
- The special flying squads are not to stop any vehicle at the tax collection offices. Thus, special flying squads will stop vehicles only elsewhere on the highway, the main objective of the checking being to check vehicles from other states, and the secondary objective being to check overloaded vehicles.
- Since the vehicles for these flying squads are planned to be hired, it shall be the duty of the DTO to ensure that they are not misused when off duty. For this purpose, the blue lights that would be used for these vehicles should be the magnetic type that can be removed from the vehicle and kept in the possession of officials, when the vehicle is off duty. DTO may also determine the parking spot for these vehicles when off duty, but the parking will be at the risk of the owner.
- Rule 32 of the Rajasthan Motor Vehicles Taxation Rules, 1951 is being amended to provide that vehicles entering in the State without paying the due tax can have the offense compounded only by paying four times the amount due. The presumption of evading taxes shall be made if the vehicle has not paid due tax at the first available opportunity available to it.

- The performance of the special flying squads will be judged against the revenues that would normally have been collected by the abolished check posts.

23 The Anti-Evasion Wing

Flying squads are in fact nothing but a means to check evasion and therefore, the pivot on which the Department's anti evasion operations rest. Apart from the special flying squads discussed above, the Department is also made other classes of flying squads mentioned below:

- (i) District Flying Squads (DFS)
- (ii) Regional Flying Squads (RFS)
- (iii) State Flying Squads

The District Flying Squads will be in the control of the District Transport Officer and are meant to assist the DTO in the achievement of district targets. An Inspector and two Sub Inspectors or two Inspectors and one Sub Inspector will normally be posted with each district flying squad. Thus, each district will have at least on a DTO, one Inspector and one Sub Inspector. It is for the DTO to apportion the work between the needs of the office and the needs of the field. The collections of revenue of these flying squads will be a part of the district target and their performance will be judged on the collection of old arrears, penalties and compounding fees. The flying squad will be expected to keep a record of its contribution and the DTO/ RTO expected to monitor the performance of the district flying squads as laid down.

The Regional Flying Squads will be in the overall control of the Regional Transport Officers; however, they will directly be in the control of the ATC in the regions where posts of ATCs exist and directly in the control of DTO (Enforcement) in the other regions. Thus, the ATC and DTO (Enforcement) are the anti evasion hand of the RTO. In other words, RTO has under his control on the one hand, the regular line officers who report to him directly as taxation officers and on the other hand has under his control an anti evasion wing with which to control both evasion of taxes and the regular line staff. The ATCs and DTOs (Enforcement) will be posted in each regions and orders issued separately to give DTOS (Enforcement) a regionwide jurisdiction. It is expected that RTOs will use DTOs (enforcement) only for the purposes of anti evasion activity control of regional flying squads and for the collection of arrears, penalties, penal tax (as in the case of plying without permit) and compounding fees. The target for each of the regional flying squads will be Rs. 50.00 lacs per annum by way of arrears, penalties and compounding fees only; collection of due tax within the stipulated period will not be counted towards fulfilment of target.

Apart from the financial targets, the state, the regional and the special flying squads will also :

- Compulsorily be on tour 5 out of every 6 working days
- Compulsorily have a night halt outside the head quarters at least 2 out of these 5 touring days
- Compulsorily do night checking (overnight) at least 1 of these five touring days

- For the District Flying Squads, the touring norm will be half of the above. There will be no touring norms, obviously for the Pollution Control Flying Squads.

The State Flying Squads (SFS) will be in the over all charge of Additional Commissioner (Tax). However, they will directly be controlled by RTO (Hqrs). RTO (Hqrs) can use the ATCs and DTOs (Enforcement) to control the State Flying Squads. In such cases, ATCs and DTOs (Enforcement) are expected to separately report to RTOs in respect of regional flying squads and RTO (hqrs) in respect of the State Flying Squads. Nine State Flying Squads are being constituted; three will be stationed at Jaipur and the other six at each of the regional head quarters.

The strength of the State and Regional Flying Squads will also be one Inspector and two Sub Inspectors or two Inspectors and one Sub Inspector, one guard and one driver.

The proper control over the Regional and State Flying Squads, through rigorous and continuous monitoring will be the back bone of the new anti evasion wing being created. It will henceforth be necessary for each flying squad to maintain a daily diary which will broadly state the departure and arrival times of the flying squads, the number of vehicles checked (giving the number of each vehicle), the action taken in respect of each vehicle, the arrears / penalty / compounding fee collected, if any, the receipt number, and any special remarks, if required; besides this, at the end of each day, the Inspector in charge of the flying squad will record a statement to the effect that no collection of current tax has been made by the flying squad.

The RTOs in charge of their respective flying squads are not only expected to set the programme of the flying squads on a week to week basis (preferably, the programme of the flying squad should not be well known, and should be disclosed even to the flying squads as late as possible) but they are also expected to review the work done by these flying squads at least once a month, if not more frequently. For this purpose, a review sheet is being prescribed, which will be sent to the Transport Commissioner by the 10th of each month and which will briefly state the work done by the flying squads in the previous month on the basis of the review/s conducted by the in-charge RTOs. The review sheet will itself become an agenda item for the monthly meetings of the RTOs. While the RTOs may like to set the programme of the flying squads in the manner best suited to their regions, for general directions it is stated that thorough 24 hour checking of major routes may be a better alternative to a sporadic 8 hours checking in all directions. Scheduling of checking has been done in such way that the RTOs can keep track of the flying squads and they themselves may pay surprise check as and when required. It may be mentioned here that 24 hours checking also has the advantage of the ATC/DTO (Enforcement) being able to check the working of the flying squads in a more direct manner. The ability of the RTO and the ATC/DTO (Enforcement) being able to check the working of the flying squads in a more direct manner. It is also designed that the ability of the RTO and the ATC/DTO (Enforcement) will be judged by both their ability to meet flying squad targets, as also their ability to say where exactly their flying squads are at any given point of time, when asked.

The question of fixing a reasonable target for flying squads has been engaging the attention of the Department for some time. A broad indicative target of ten times the assumed expenditure was fixed in the past. But, it was felt that this neither reflects the actual costs involved in maintaining flying squads nor the reality of the enhanced penalties and compounding fees. After considerable deliberation and thought, it has been decided to fix the target of each of the Region, State and Special Flying Squad at Rs. 50.00 lacs per annum and this would be reviewed and revised upwards if necessary each year. The target is easily achievable, even if it is assumed for only 250 working days in a year (in fact, the working days for a flying squad would be much higher). At 250 working days, the flying squad is required to collect Rs. 20,000/- each day by way of arrears, penalties and compounding fees. This can be achieved in a variety of ways examples of some possibilities are given below :

- Example 1 : Compounding 10 video coaches @ Rs. 2,000/- per coach.
 Example 2 : Compounding 5 video coaches @ Rs. 2,000- per coach plus
 compounding 13 overloaded trucks @ Rs. 800/- each.
 Example 3 : Compounding 25 over loaded trucks @ Rs. 800/- per truck.
 Example 4 : Compounding 2 video coaches plus 8 over loaded trucks plus recovery
 of over due tax and penalties from 6 trucks or 1 contract carriage

Rs. 2,000 x 2	=	4,000 plus
Rs. 800 x 8	=	6,400 plus
Rs. 1,580 x 6	=	9,480 or
Rs. 10,000 x 1	=	10,000

- Example 5 : Enforcing payment of arrears from just 1 or 2 vehicles which might easily be worth 2 – 4 days work as the amount involved along with penalties and interest is considerable.

The above examples are entirely illustrative. The point that is being made is that a target of Rs. 50.00 lacs per flying squad is easily achievable, and the performance of each member of the flying squad will be adjudged solely on achievement of these targets. For the District Flying Squads, the target will be Rs. 30 lacs for bigger districts and Rs. 20 lacs for small districts; a separate order categorising the districts accordingly will be issued.

The targets given above will be reviewed at the end of three months and revised up words or down words, as the case may be depending on the practical experience of the field staff and strengthened by field visits from headquarter offices in the months 'of May and June.

The various flying squads in the Department, apart from being categorised are also being numbered as follows :

- (i) Pollution Control Flying Squads - PFS 1 to 17
 (ii) District Flying Squads - DFS 1 to 41

(iii)	Regional Flying Squads	-	RFS 1 to 19
(iv)	Special Flying Squads	-	SFS 1 to 25
(v)	State Flying Squads	-	TFS 1 to 03

It will be clear from above that, the flying squads will be of two kinds. One category will be for the control of environmental pollution caused by vehicular emissions and for checking and compounding traffic offences in the State of Rajasthan. The other category of flying squads will be for the collection of arrears, penalties, compounding fees and for anti evasion work areas of work for which these vehicles have normally been used in the past also. Since vehicles/flying squads are being earmarked for pollution and traffic work the first time separately, it is felt that detailed instructions regarding this new area of work need to be given separately.

To ensure that pollution control vehicles are used for this purpose only, it is hereby ordered that :

Pollution control flying squads will not be used for, or authorised to collect taxes of any kind, or allowed to compound offences of vehicles outside the municipal limits. In other words, the jurisdiction of these flying squads will be strictly within the municipal limits of the cities in which they are posted. Thus, the revenues they collect will be by way of :

- Arrears of tax, penalties, etc., from transport vehicles permitted to ply within the cities only, such as city buses, tempos, auto rickshaw, auto tongas, etc.
- Compounding offences relating to vehicular emission levels, the compounding of which will be under Section 190(2) of M.V. Act, 1988.
- Compounding offences committed by motor vehicle drivers in cities, as for example offences under section 112, Sections 117 to 129 and Sections 178 – 192 of the Motor Vehicles Act, or in Chapter V of the Central Motor Vehicles Rules, 1989.
- Pollution control vehicles will not be asked or authorised to check any vehicle outside the municipal limits of the cities in which they are placed.

To distinguish pollution control vehicles from other vehicles, it has also been decided that pollution control vehicles will be painted completely white. Further, on the “bonnet” of the vehicle, the outline of a circle of 50 cm dia will be painted in red and with the circle the words “POLLUTION AND TRAFFIC CONTROL VEHICLE” will be written so as to more or less cover the area covered by the circle. Similarly, at the back of the jeep and on its sides smaller outline circle of 20 and 30 cm dia respectively in red will be painted and the same words be written within the space. A sum of Rs. 2,500/- per vehicle is being provided separately for this purpose.

Each of these vehicles will carry one gas analyser (with printers, wherever possible) with them at all times, so as to be able to check vehicular emissions from petrol driven vehicles.

Smoke meters and gas analysers have already been allotted to districts. At present, there will not be enough smoke meters to carry on each of the pollution control vehicles. However, whenever more than one smoke meter is available at the regional head quarter the extra smoke meters should be carried with the flying squads to the extent possible. In the financial year 1995-96, adequate smoke meters will be made available to enable the pollution control flying squads to carry both a gas analyser and a smoke meter, and the pollution flying squads should carry these with them invariably.

Each of these flying squads will normally have one driver, one guard, one sub inspector and one inspector only. It is felt that this is sufficient staff for stopping and checking vehicles in municipal areas. However, if the RTOs feel that the inspectors require some assistance, they may provide a clerk each to these flying squads, provided that the RTOs feel that clerical staff can be spared for this purpose. In other words, clerical staff with the PFS will have to come out of the staff allotted to the RTO/DTOs at regional head quarters. Each of the Pollution Control Flying Squads will maintain a daily register of vehicles checked, vehicles challaned, offences compounded and compounding money collected, etc., in the proforma.

Pollution control flying squads will work at places and at times prescribed by the RTO concerned. It is, however, expected that these pollution control vehicles will be deployed at the major traffic points in the city by rotation and that they will be available at these spots at least during the peak hours of 9.00 A.M. to 11.00 A.M. and 4.30 P.M. to 7.00 P.M. It shall be the personal responsibility of the Inspector in charge of the vehicle to ensure that there are not traffic jams or hold ups on account of checking done by the pollution control flying squad. This can be done by careful stationing of the flying squad and by ensuring that not more than 2 three/four wheeled vehicles or 4 two wheelers are stopped at any given point of time. When one of these vehicles has been dealt with another can be stopped, thus ensuring that there is never a big enough crowd at the checking point to obstruct traffic.

24 Scheme for Maintenance and Expenditure of Secret Service

2.4.1 Funds in the Transport Department

1. This scheme is called as “The Maintenance of Secret Service Funds in the Transport Department Scheme, 1995’.
2. A sum of Rs. 50,000/- per financial year will be kept at the disposal of the Transport Commissioner for use as specified subsequently under the scheme. Further, another sum of Rs. 50,000/- will be available for use by RTOs as and when these funds are allotted to the RTOs by the Transport Commissioner, and the Transport Commissioner authorises expenditure of the same by the RTOs.
3. The funds under the scheme shall be drawn by the Transport Commissioner or by the RTOs, under authorisation of the Transport Commissioner, from imprest as and when

required for expenditures/disbursement. The concerned officer will issue an order to the cashier to pay him the money required for disbursement/expenditure.

2.52 *Rotation of Clerical Staff for duty at Tax Collection Centres and at Head Quarters*

Ever since the abolition of check posts barriers, the question of how best to man tax collection centres has been under consideration in the Department. Amongst various factors to be taken in account in this regard was the reluctance of the staff to stay at Tax Collection Centres in the changed circumstances. Unfortunately, there is similar reluctance on the part of clerical staff to work in the head office of the Transport Department, the preference being to work in RTO/ DTO offices.

To check the unfortunate tendency, and also to ensure that the work of the Department progresses smoothly, it was decided that –

- a) Clerical staff will no longer be posted at the particular tax collection centres. Against the posts at the tax collection centres, staff will be posted to the District headquarters concerned. The DTO will then man the tax collection centres in his district from the entire group of LDCs at his disposal by ‘rotating them’. The rotation will involve sending all the LDCs in the district to the tax collection centres for a period of two months at one time. Suppose a district has six LDCs on tax collection centre requiring one LDC, then each of these six LDCs is to be sent by rotation for two months each to the tax collection centre for duty there.
- b) Exceptions to this rotation can be made only by mutual agreement. Thus, for example, if it is the turn of LDC ‘A’ to go to the tax collection centre and ‘B’ is prepared to go in his place (apart from doing his own two months also), then DTO will have the discretion to allow this mutual exchange.
- c) Exception can also be made for physically handicapped persons if they do not want to go for duty to tax collection centres.
- d) In no case, lady clerical staff be posted to a tax collection centre, unless the concerned lady clerk seeks such posting herself, in writing. Even in that case, the DTO should permit such a placement only after careful thought and consideration being given to safety and security.
- e) The clerical staff being thus posted at the tax collection centres for a period of two months each will be on ‘temporary duty’ and, therefore, not entitled to receive any daily allowance or transfer grant, etc. Only the clerk’s own expenses of going from district headquarters to the tax collection centres and back after two months, by the entitled mode of transport can be reimbursed to the clerk so posted at the tax collection centre.

- f) With regard to clerical staff posted at Jaipur it has been decided that no clerk will be stationed for more than six months at a time in the RTO office, Jaipur. After six months in RTO Jaipur's office, clerical staff will then have to do headquarter duty at head office and await their turn to go to the RTO office as and when vacancies arise from the six month rotation system.
- g) For this purpose, administrative wing at the headquarter will maintain a 'Rotation Register'.
- h) As the work of the RTO office should not be disturbed totally for the present 1/3 of all LDCs, 1/3 of all the UDCs and so on are to be posted out of RTO office, Jaipur, with effect from 1st November, 1995 and replaced with the staff from head office. The criteria for choosing the persons to be posted out of RTO office initially will be the length of stay in RTO office, Jaipur. The longest staying will leave first.
- i) Three months later, the another 33% of the staff in RTO office, Jaipur will be shifted to headquarter and replaced by staff at the headquarter. Then after three months, the final 33% of the staff will be shifted to head quarter and thereafter six monthly pattern will be followed for each tenure of employee.
- j) Exceptions with regard to this rotation can be made only for the persons not wanting to be posted to RTO office, Jaipur. In such cases the concerned clerk may make an application in writing to Additional TC(A) stating that he/she does not want his posting to RTO office, Jaipur. No exception in the reverse direction is possible.
- k) In case of all clerks, and especially those handling sensitive files such as tax record, cash or cash related matters, the RTO will ensure that proper handing over and taking over of books and papers takes place properly every six months and proper record of handing over and taking over is also made on the record which is being itself handed over.

PRIMARY PREREQUISITES for posting a person from head office to RTO office will be as follows:

- a) A minimum of six months work in head office period of (PL/Medical leave/ Leave without pay or period under suspension will not be counted for this purpose).
- b) A 'very good worker' certificate from the branch offices. In head office clerks who are unable to obtain this certificate from their branch offices will not be posted out from head quarter to RTO office, Jaipur.
- c) The above system is being introduced with a view to minimising the pulls and pressures in the department and does not give an absolute right to any employee to be posted in

any particular office. Exceptions with regard to this rotation policy can be made in the interest of departmental work or in the interests of the State.

25 Engineering Reform

Testing of vehicles for vehicular emissions is the central point to the policies of the Transport Department. Testing equipment has been provided to all the Districts and the annual maintenance contracts have been signed in respect of all the emission testing machines. The testing programme started in Jaipur has also been replicated in all the other districts of the State. In preparation for this, the department already issued orders declaring the offices of all DTOs as Authorised Testing Centres under the Motor Vehicles Act. Thus, all DTOs offices can also function as Authorised Stations for testing of vehicles for emissions, according to the prescribed standards, and for issue of certificates and stickers to vehicles certifying that the emission from them is under control.

The department decided that no separate posts of machine operators will be created nor any separate manpower provided for this purpose. Instead, the machines will be operated by the existing strength of Class IV employees / guards / drivers with the district offices. It is clarified that the work of operating these machines will be over and above the regular work done by these employees. In other words, if any employee selected for this purpose spends two hours carrying out testing, then it is expected that he will work for two extra hours to do his regular 8 hours duty each day.

For doing this extra work, each employee carrying out testing would be paid Rs. 150/- per month, subject to the following conditions :

- i) Each DTO will issue an office order specifying the employees who would be doing this work; before doing so, he will ensure that the employees being selected are trained and know how to operate the machines;
- ii) Each test will have to be entered in the control register, and fees received for each test shown in the last column of this register. A monthly return of the tests carried out and the fee realised is to be submitted to the head quarters.
- iii) On the basis of this monthly return the honorarium will be sanctioned by the headquarter on the following scale :

S. No.	Fee realised in month	Honorarium amount (Rs.)
1	Upto Rs. 1,499/-	No honorarium
2	Between Rs. 1,500/- and 2,999/-	150
3	Between Rs. 3,000/- and 5,999/-	300
4	Between Rs. 6,000/- and 8,999/-	450
5	Between Rs. 9,000/- and 11,999/-	600
6	For every subsequent Rs. 1,500/-	75

- iv) The DTO can divide the honorarium earned by his office amongst the class IV / Guards / Drivers selected by him for his work and mentioned in the office order.

2.6 Technological Reform

2.6.1 *Use of Water Marker Stationery for Temporary Permits*

The Department has shifted to the use of water marked stationery in respect of all crucial documents such as permits, licenses, registration certificates, etc. Water marked stationery is a special kind of paper, similar to that used for bank notes (currency). On seeing the paper by raising it against a source of light, a distinguishing mark can easily be seen. In the water marked stationery that the Department is using round seal/s of the Government of Rajasthan can be clearly seen.

For the use of the water marked stationery for temporary permits, the following measures are taken :

The numbering system on the stationery has been changed. The number now consists of two parts. The first part of the number is in boxes, and contains the region code, the district code and the calendar year to which the permit pertains. The second part of the number is the serial number of the permit.

The booklets of temporary permits are in duplicates. Only the first copy is on water marked stationery and is printed in blue ink. The office copy (second copy) is on ordinary paper and printed in black ink. In case a time table or a list of passengers is required to be given separately, these can be given on plain paper, duly signed by the RTO/DTO, but in that case a remark has to be made on the water marked temporary permit that “A time table and/or list of passengers is enclosed”.

2.6.2 *Use of Water Marked Stationery on Registration Certificates*

The Department has implemented the use of water marked stationery in registration certificates. In the case of registration certificates,

- Page numbers are printed on one sheet of paper, and
- Extra security printed on another sheet of paper.

These sheets are folded and stapled. Each sheet, however, has the water mark on it. Thus, the water mark/s have to be there.

If either of the sheets of paper constituting the registration certificate does not have water marks or any of the sheets have been torn (physically separated) or the page number on one sheet is missing, such a registration certificate could easily be false, and due care and caution should be taken dealing with such registration certificates.

For use of the water marked stationery for registration certificates the following steps are followed :

The numbering system on the stationery has been changed. The number now consists of two parts. The first part of the number is in boxes and contains the region code and the district code. The same way, water marked stationary has been used for fitness certificate, cash receipt.

**MANAGEMENT OF MOTOR VEHICLES DEPARTMENT
– THE CASE OF GUJARAT**

1.0 Introduction

- 1.1 The Motor Vehicles Department of Gujarat was administering its function and duties under the Motor Vehicles Act, 1939, and was in force up to 30th June 1989. The Central Motor Vehicles Act, 1988 and the rules framed there under The Central Motor Vehicles Rules, 1989, came into force on 1st July 1989. The Gujarat Motor Vehicles Rules, 1989, also were brought in force with effect from 1st July 1989.
- 1.2 The basic function of the Department is to administer the rules and also collect taxes on Motor Vehicles, passenger and goods carried by road under the following Acts and Rules made there under :
- The Bombay Motor Vehicles Tax Act, 1956 and its Rules, 1959
 - The Bombay Motor Vehicles (Taxation of Passenger) Act, 1958 and its Rules, 1958
 - The Gujarat Carriage of Goods Taxation Act, 1962 and its rules, 1962
- 1.3 Apart from State Transport Authority (STA) under the Section 68 of the CMVR, 1988, the Regional Transport Authorities (RTA) are also constituted to exercise and discharge the powers and functions conferred upon RTA under Chapter V of the Motor Vehicles Act, 1988. Each RTA has a Chairman and a Member-Secretary. In Gujarat, there are twelve Regional Transport Offices. Those are, Ahmedabad, Mehsana, Rajkot, Surat, Bhavnagar, Vadodara, Nadiad, Junagadh, Valsad, Kutch, Godhara and Jamnagar regions.
- 1.4 The organisational chart of State Transport Department of Gujarat has been shown in Chart 1.

2.0 Manpower Planning

- 2.1 It has been increasingly felt by the Department that the increase of staff is not keeping pace with the increase of vehicle population and revenue earning by the Department. It can be seen from the Table 1 that the vehicle population in Gujarat in the last 10 years has increased by ten fold, whereas the staff strength has decreased by twenty per cent. The most interesting fact is that the situation has worsened because there is no technological innovation in the Department as has been done in the Transport Department of Rajasthan.

Table 1

Year	Vehicle Population		Staff Strength		Total Revenue [in lakhs]		Total Expenditure		Registration nos..I	
	Raj	Guj	Raj	Guj	Raj	Guj	Raj	Guj	Raj	Guj
1986-87	6,50,981	12,39,101	200	260	-	10,741.58	-	321.14	3,255	4,765
1992-93	13,20,021	24,75,104	243	358	16,851.13	26,690.99	446.18 *	725.77	5,432	6,913
1993-94	14,44,061	27,28,972	243	321	18,063.23	29,210.59	557.47 *	797.38	5,942	8,501
1994-95	15,84,776	30,91,166	376	249	20,500.00	27,429.98	669.45 *	932.67	4,215	12,414
1995-96	17,68,709	33,76,781	376	250	24,165.00	41,181.26	1,127.94 *	1,051.05	4,704	13,507

* indicates plan expenses like

1) Control of population; 2) Road Safety; 3) Highway Patrolling;

4) Highway Amenities and Reorganisation of Depot

Source : Administrative Reports

22 In order to streamline the work and to have higher productivity, a Committee was set up by Finance Department Government of Gujarat and after conducting a detailed study on the following activities in ARTO's office. The Committee came to the conclusion, which are not at all technology oriented but manpower driven.

1. Registration of Vehicles
2. Taxation on Motor Vehicles
3. Permit work
4. Accounts work
5. Licence of drivers and conductors
6. Goods tax work
7. Verification and noting of insurance certificates and supply of information
8. Correspondence

23 After having a detailed study on the above mentioned aspects, the Committee suggested various reformative measures. Those are :

1. A region or a district having a population of 8,000 vehicles will qualify to have an office of RTO for that area and that if the vehicular population of any area for which the office of ARTO has been established reaches 8,000 or more vehicles, that sub-region/office of ARTO will qualify for upgradation to that of region entitled to the status of RTO.
2. It was recommended that the existing practice of dividing region into sub-regions each under a separate ARTO may be continued. When an area within the region has a vehicular population of 3,000 vehicles, it will qualify for the office or ARTO. Thus, if an area or a taluka or district where the office of the Inspector of Motor Vehicles is established has a population of 3,000 or more vehicles, that office will qualify for upgradation to that of ARTO.

It is recommended to continue the present practice of having at least one Assistant RTC under each office of the RTO.

3. It was also recommended that one additional post of Assistant RTO should be created in the office of the RTO when the vehicular population reached 25,000 and thereafter, for every increase of 15,000 vehicles one additional Assistant RTO should be appointed.
4. It was recommended to sanction one Inspector for every 3,000 vehicles up to 12,000 vehicles and then one Inspector for increase of every 5,000 vehicles subject to further study by the Norms Unit. It was further recommended to sanction one Assistant Motor Vehicles Inspector for every two Motor Vehicles Inspectors, subject to further study and recommendations of the Norms Unit. This study has become necessary because it was found that the recommendations of the Norms Committee was on ad hoc basis.
5. It is recommended that the present structure of the Flying Squad consisting of one Motor Inspector, one Junior Clerk, one Driver and a Peon (attached to Inspector) may be continued.
6. It was recommended to continue the practice of setting up of the office of the Motor Vehicle Inspectors at Taluka or District level having vehicular population of 1,000 vehicles.
7. It was recommended that one post out of four posts of Assistant Inspectors at each check post may be upgraded to that of Motor Vehicle Inspector. Thus, one check post will be entitled to three Assistant Inspectors and one Inspector of Motor Vehicles.
8. It was recommended to continue the existing practice of having one post of Motor Vehicles prosecutor at each of the Regional Transport Offices.
9. It was recommended to continue the existing practice of having one post of Head Accountant (redesignated as Accountant) at each of the Regional Transport Offices.
10. It was recommended to create one post of Head Accountant (designated as Accountant) in the office of the Assistant Regional Transport Officer when the annual revenue exceeds Rs. 60 lakh.
11. It was recommended to continue the existing practice of providing P.A. to the each Regional Transport Officer. It may be pointed out that this aspect has already been examined by the study group of the Administrative Efficiency Section of General Administration Department and it has already been decided to redesignate the post of P.A. to that of Office Superintendent.

12. It was recommended to continue the existing practice of providing one post of Stenographer in each of the Regional Transport Offices.
13. It was recommended to continue the post of Statistical Assistant in the office of the Regional Transport and Sub-Regional Transport Officers.
14. It was recommended that there should be four posts of peons at the check post. For other Class IV posts in the Motor Vehicles Department, the general standard already fixed by Finance Department for Motor Vehicles Department is to be used.
15. It was recommended that there should be a minimum of ten posts and six posts of Clerks for office of the RTO/ARTO respectively instead of 14 and 9 Clerks as suggested by the Committee. In addition to the said minimum staff, there should be one-and-a-half clerks for every 1000 vehicles, fraction of half being rounded up to next one.
24. The study was conducted in early 70's but the recommendations of the study not yet been implemented, as a result the Department is facing serious problem.
25. Regarding the above problem, the Honourable High Court of Gujarat has expressed concern and given a verdict that the number of vehicles have increased many fold during the last two decades. It is also not in dispute that motor vehicle accidents are in the increase and valuable lives are being lost on the roads. No one can deny the fact that the staff in the Motor Vehicles Department has not increased to cope up was the increase in the number of vehicles registered with the Motor Vehicles Department. It is also a fact that the nature of persons applying for licence have increased many fold and the prospective license aspirants are not being properly tested by Motor Vehicle Inspectors.
26. It can be seen from Table 2 that licenses issued per employee in Gujarat in 1992-93 were 546 and it increased to 994 in 1994-95. The respective data for Rajasthan in corresponding years were 5946 and 6714 per employee respectively.

Table 2

Year	No. of Licenses Issued		Licence Issued per employee	
	Gujarat	Rajasthan	Gujarat	Rajasthan
1990-91	NA	NA	NA	NA
1991-92	NA	NA	NA	NA
1992-93	1,95,494	3,03,250	546	5,946
1993-94	NA	NA	NA	NA
1994-95	2,47,544	4,02,815	994	6,714

Source: Administrative Reports

Annexure 7.1

Truck Freight Rates from Mumbai (in Rupees)

Destination City/State	Distance From Mumbai	June				July				October			
		6/6/98		12/6/98	27/6/98	3/7/98	10/7/98	16/7/98	24/7/98	2/10/98		10/10/98	17/10/98
		Freight Rate per Truck	Rate per Km.							Rate per Truck	Rate per Km.		
Jammu	1994	17200	8.62	16200	17000	16000	16200	17000	17500	19500	9.78	19000	18000
Srinagar	2299	24000	10.44	23000	22000	21500	23200	24400	24000	25000	10.87	25000	24000
Shimla	1776	16000	9.01	15700	16000	15500	15500	16000	17500	18500	10.41	19000	18600
Delhi	1408	12000	8.52	11600	12500	1250	12500	13000	12500	16000	11.36	15500	15300
Panipat	1525	12500	8.19	11500	14500	12500	12800	13000	13000	16500	10.82	16200	15800
Ambala	1610	12300	7.64	12000	12500	12000	13100	13700	14000	16000	9.94	16000	15600
Amritsar	1854	14200	7.66	13200	14400	14000	14300	14500	15500	17000	9.16	17000	17000
Chandigarh	1657	14000	8.45	12800	14200	13800	13850	14000	14000	16300	9.84	16500	16200
Patna	1824	16000	8.77	16000	16200	16000	16000	16000	16500	18000	9.86	18800	18500
Tata Jamshedpur	1958	14200	7.25	14000	14500	14000	14500	14500	15000	16500	8.43	17000	16500
Lucknow	1370	11000	8.03	11000	11500	10800	11200	11300	13000	16000	11.67	15500	15000
Kanpur	1291	10500	8.13	10000	11400	10000	10800	11000	12500	16000	12.39	14800	14000
Ahmedabad	551	3400	6.17	3000	3000	3400	3500	3700	3000	4600	8.35	4500	4500
Surat	308	2900	9.41	2800	2500	2800	2900	3100	2800	3800	12.34	3800	4000
Jabalpur	1128	9200	8.15	9000	9300	9000	9000	9500	8800	11500	10.19	11500	11800
Indore	602	4500	7.47	4500	4500	4300	4000	4500	5500	6200	10.29	6200	6500
Jaipur	1176	8500	7.23	8000	8200	8300	8000	8700	9000	11200	9.52	11000	11000
Ajmer	1038	8300	7.99	7000	8000	8300	8000	8500	8200	10600	10.21	10300	10300
Pune	194	3500	18.04	2500	3300	3400	3400	3500	3000	3200	16.49	3000	2800
Nagpur	861	6000	6.96	5000	5800	6000	6000	6200	5000	5100	5.92	7500	7500
Guwahati	2847	27000	9.48	26000	25000	25500	26500	27000	26000	38000	13.35	39500	37500
Cuttack	1646	11700	7.11	12500	11700	11300	12000	12300	12500	13800	8.38	14800	15000
Vishakhapatnam	1376	9000	6.54	8500	9000	8500	9500	9200	8500	9300	6.75	8300	9000
Hyderabad	739	5700	7.71	4700	5500	5300	6300	6000	5000	6500	8.79	6600	6600
Bangalore	1033	8800	8.52	8500	8900	8500	8300	8200	8000	9500	9.19	8400	8500

Destination City/State	Distance From Mumbai	June				July				October			
		6/6/98		12/6/98	27/6/98	3/7/98	10/7/98	16/7/98	24/7/98	2/10/98		10/10/98	17/10/98
		Freight Rate per Truck	Rate per Km.							Rate per Truck	Rate per Km.		
Mysore	1168	9100	7.79	8800	9000	9000	8800	8500	8300	10000	8.56	9200	9300
Coimbatore	1386	11700	8.44	11000	11800	11200	11100	11200	11000	12000	8.65	11300	11200
Chennai	1367	11500	8.41	11000	11800	11300	11300	11450	11300	12000	8.77	11200	11200
Trivandrum	1568	15000	9.56	14500	15000	15000	14700	14900	14500	15000	9.56	14500	14700
Calicut	1162	12000	10.33	11500	12000	12000	12200	12000	11500	12500	10.75	12000	12200

Source: *Financial Express*, Mumbai

Fig. 7.1: Composite Freight Rate Index and M & HCV Industry Sale Index

Annexure 8.1

Union List (List I)	Entry
Duties of Customs on motor vehicles, spare parts, accessories fuel and lubricants	83
Duties of Excise on motor vehicles, spare parts accessories, fuel and lubricants	84
Inter-State sales tax on motor vehicles and spare parts	92-A
State List (List II)	
Tax on entry of goods into a local area for consumption, use or sale therein	52
Sales tax on motor vehicles, spare parts and accessories and motor fuel	54
Taxes on goods and passengers carried by road (and inland waterways)	56
Concurrent List (List III)	
Taxes on vehicles, whether mechanically propelled or not, suitable for use on road subject to provisions	57
Tolls	59

Annual Tax Burden on Commercial Vehicles

S.No.	State	No. of Vehicles (Bus+Trucks)	Total Tax on Vehicles (MVT +PGT) (Rs.Crore)	Average Tax Paid
1.	Andhra Pradesh	1,46,851	555.34	37,816
2.	Arunachal Pradesh	2,988	1.09	3,648
3.	Assam	70,679	72.52	10,260
4.	Bihar	1,08,214	189.77	17,536
5.	Goa	22,855	19.79	8,647
6.	Gujarat	2,23,813	430.13	19,218
7.	Haryana	66,776	321.23	48,105
8.	Himachal Pradesh	23,869	79.73	33,403
9.	Jammu & Kashmir	34,706	75.60	21,783
10.	Karnataka	1,28,724	525.19	40,800
11.	Kerala	84,217	247.59	29,399
12.	Madhya Pradesh	1,34,916	635.33	47,091
13.	Maharashtra	2,20,054	814.61	37,018
14.	Manipur	6,484	1.72	2,653
15.	Meghalaya	12,525	8.66	6,914
16.	Mizoram	2,752	1.23	4,469
17.	Nagaland	28,168	2.65	914
18.	Orissa	62,609	128.26	20,486
19.	Punjab	73,999	195.23	26,383
20.	Rajasthan	1,44,342	276.94	19,186
21.	Sikkim	1,185	1.22	10,295
22.	Tamil Nadu	1,90,183	612.68	32,215
23.	Tripura	6,141	1.40	2,280
24.	Uttar Pradesh	1,23,617	360.97	29,201
25.	West Bengal	1,90,776	134.33	7,041
26.	Delhi	1,70,494	86.87	5,095
All States		22,93,364	5779.96	25,206

Source : RBI Bulletin, 1996, 1997, 1998

Annexure 8.4
Revenue from Road Transport 1950-51 to 1996-97

(Rs. crores)

Year (Ending 31st March)	Central								Total
	Motor Vehicle & Accessories		Tyres & Tubes	High Speed Diesel Oil			Motor Spirit		
	Import Duty	Excise Duty	Import Duty	Excise Duty	Import Duty (A)	Excise Duty (A)	Import Duty	Excise Duty	
1950-51	9.4		0.1	4.0	19.4	1.9	(c)	-	34.8
1955-56	10.2		0.1	5.6	7.1	22.6	(c)	-	45.6
1960-61	14.8	10.5	0.9	13.4	7.5	64.6	(c)	-	111.7
1965-66	26.9	20.8	0.2	28.8	29.4	166.2	(c)	-	272.3
1970-71	14.3	28.0	1.0	54.9	4.3	349.3	(c)	-	451.8
1975-76	54.8	82.3	1.4	134.5	21.7	243.6	8.2	-	546.5
1980-81	52.7	250.4	1.6	288.3	106.7	223.2	8.0	-	930.9
1985-86	198.4	482.3	-	492.9	32.7	454.7	5.7	794.0	2460.7
1990-91	351.8	1510.9	-	803.4	-	727.6	-	1202.3	4596
1991-92	293.7	1803.7	-	810.7	-	743.0	-	1245.1	4896.2
1992-93	300.1	1591.5	-	836.6	-	776.9	-	1287.2	4792.3
1993-94	459.5	1423.1	-	1280.1	-	856.0	-	1358.5	5377.2
1994-95	706.3	1846.9	-	1553.4	-	1288.0	-	1523.6	6918.2
1995-96	1122.9	2446.1	-	1597.0	-	1235.2	-	1631.5	8032.7
1996-97	1463.1	3201.2	-	1754.8	-	2084.7	-	2116.8	10620.6

Annexure 8.4 (contd.)

Revenue from Road Transport 1950-51 to 1996-97					
(Rs.crore)					
Year	State				Grand Total (Central & State) Revenue
(Upto 31 st March)	Motor Vehicle Taxes & Fees	Sales Tax on Motor Spirit & Lubricants (B)	Taxes on Passenger and Good Traffic	Total	
1950-51	-	12.5	0.1	12.6	47.4
1955-56	13.9	8.9	3	25.8	71.4
1960-61	29.9	16.9	8.4	55.2	166.9
1965-66	61.8	31.5	33.4	126.7	399
1970-71	107.7	63.2	60.5	231.4	683.2
1975-76	209.7	92	160.5	462.2	1412.7
1980-81	356.3	154.5	239.6	750.4	2173.4
1985-86	835.5	322	395.7	1553.2	4013.9
1990-91	1374.3	631.5	884.9	3035.2	7631.2
1991-92	1849.5	1223.4	1128.8	4201.7	9097.9
1992-93	2162.9	1338.3	1262.6	4763.8	9556.1
1993-94	1526.7	1558.6	908	3993.3	9370.5
1994-95	1988.8	1474.5	961.4	4424.7	11342.9
1995-96	2554.5	1743.3	1536.2	5834	13866.7
1996-97	4117.34	1897.4	1662.62	7677.36	18297.96

Note : (A) Includes the figures for R.D. Oil and Diesel Oil

(B) Excludes Union Territories

(C) Includes in High Speed Diesel Oil

Source : 1 Figures of Central Revenue are taken from Directorate of Statistics & Intelligence (Central Excise and Customs)

2 Figures on sales tax on Motor Spirit are taken from RBI Bulletin

Annexure 8.5

State-wise Share of Taxes on Vehicles in the Own Tax Revenue																
SN	State	Own Tax Revenue					Motor Vehicle Tax					PGT				
		1970-71	1980-81	1985-86	1990-91	1995-96	1970-71	1980-81	1985-86	1990-91	1995-96	1970-71	1980-81	1985-86	1990-91	1995-96
1	Andhra Pradesh	13606	59410	146026	269337	412044	1487	5290	11253	18579	46143	0	0	0	114	2
2	Assam	2814	6578	23502	42016	78245	171	369	763	1274	3998	46	118	471	679	1608
3	Bihar	7917	27794	57736	101519	187327	548	1197	4320		15780	175	1120	11		611
4	Gujarat	10808	53102	107500	239983		699	2226	4137	9575	1253	872	3401	5881	10551	469
5	Haryana	4428	23391	50171	106954	216896	131	973	1501	3578	5282	547	3294	6616	10210	20116
6	Karnataka	10174	47809	108096	234862	527393	946	4737	9715	19243	45603	235	14	2568	6549	16834
7	Kerala	6798	34399	74502	134034	328268	682	2001	4711	7414	22287	63	3	1	1	0
8	Maharashtra	25556	113034	237715	511970	1093445	1398	5151	9576	20432	42319	1218	1789	8676	20186	24835
9	Madhya Pradesh	8659	37722	80493	174475	351819	419	2947	5235	7494	30870	523	3079	7992	14242	24532
10	Orissa	3327	13208	28590	60020	112719	293	970	2530	5229	10750	86	234	255	8	1
11	Punjab	8602	34886	67023	129141	265099	174	1078	2126	3743	19065	736	2635	3506	6995	0
12	Rajasthan	6046	23025	56595	121650	273060	348	1391	6598	10750	24651	136	1781	410	4	0
13	Tamil Nadu	14885	65408	157978	319916	715120	1745	8133	11054	22734	39221	439	0	0	2257	16100
14	Uttar Pradesh	15266	64568	129214	315365	546892	880	2609	4245	8542	115861	876	4105	8188	14248	12546
15	West Bengal	12897	51431	106116	191865	413287	658	1889	3794	7176	11913	485	5069	7416	12081	777

Source : Motor Transport Statistics of India 1997

Annexure 8.6

State-wise Revenue Significance of Tax on Vehicles
(1995-96)

						(Rs Crore)
S.No.	State	Tax on vehicles		Total Tax on Vehicles	Own Tax Revenue	Share of Total in Own Tax Rev. (Per cent)
		MVT	PGT			
1	Andhra Pradesh	461.43	0.02	461.45	4120.44	11.20
2	Arunachal Pradesh	0.99	0	0.99	7.67	12.91
3	Assam	39.98	16.08	56.06	702.45	7.98
4	Bihar	157.8	6.11	163.91	1973.27	8.31
5	Goa	12.53	4.69	17.22	271.7	6.34
6	Gujarat	305.69	107.3	412.99	5322.87	7.76
7	Haryana	52.82	201.16	253.98	2168.96	11.71
8	Himachal Pradesh	12.32	45.8	58.12	341.52	17.02
9	Jammu & Kashmir	9.6	61	70.6	284.79	24.79
10	Karnataka	456.03	168.34	624.37	5273.93	11.84
11	Kerala	222.87	0	222.87	3382.68	6.59
12	Madhya Pradesh	308.7	245.32	554.02	3518.19	15.75
13	Maharashtra	423.19	248.35	671.54	10934.45	6.14
14	Manipur	1.34	0.38	1.72	27.9	6.16
15	Meghalaya	3.14	1.46	4.6	66.26	6.94
16	Mizoram	0.79	0.31	1.1	5.78	19.03
17	Nagaland	2.53	0	2.53	20.8	12.16
18	Orissa	107.5	0.01	107.51	1127.19	9.54
19	Punjab	190.65	0	190.65	2650.99	7.19
20	Rajasthan	246.51	0	246.51	2730.6	9.03
21	Sikkim	1.25	0	1.25	20.72	6.03
22	Tamil Nadu	392.21	161.99	554.2	7151.2	7.75
23	Tripura	1.36	0	1.36	47.99	2.83
24	Uttar Pradesh	125.46	228.37	353.83	5468.92	6.47
25	West Bengal	119.13	7.77	126.9	4132.87	3.07
	Union Territories					
26	Delhi	70.51	3.2	73.71	2111.05	3.49
	All States	3726.33	1507.66	5233.99	63865.19	8.20

Source : Motor Transport Statistics of India 1997

Annexure 8.7

State-wise Revenue Significance of Tax on Vehicles 1996-97

(Rs. Crore)

S.No. State	Tax on Vehicles MVT	PGT	Total Tax on Vehicles	Own Tax Revenue	Share of Total MVT in Own Tax Rev. (%)
1. Andhra Pradesh	553.83	1.51	555.34	4881.83	11.37
2. Arunachal Pradesh	1.09	-	1.09	8.53	12.78
3. Assam	51.98	20.54	72.52	766.90	9.46
4. Bihar	160.83	28.94	189.77	2250.83	8.43
5. Goa	15.03	4.76	19.79	302.73	6.54
6. Gujarat	333.94	96.19	430.13	6065.95	7.09
7. Haryana	61.59	259.64	321.23	2143.12	14.99
8. Himachal Pradesh	14.47	65.26	79.73	412.10	19.35
9. Jammu & Kashmir	11.10	64.50	75.60	289.27	26.13
10. Karnataka	325.75	199.44	525.19	5767.84	9.10
11. Kerala	247.59	-	247.59	3898.50	6.35
12. Madhya Pradesh	338.16	297.17	635.33	4103.50	15.48
13. Maharashtra	613.74	200.87	814.61	11714.97	6.95
14. Manipur	1.34	0.38	1.72	14.20	12.11
15. Meghalaya	2.95	5.71	8.66	77.37	11.19
16. Mizoram	0.92	0.31	1.23	6.67	18.44
17. Nagaland	2.65	-	2.65	31.35	8.45
18. Orissa	128.25	0.01	128.26	1342.04	9.55
19. Punjab	195.22	0.01	195.23	2734.66	7.14
20. Rajasthan	276.94	-	276.94	3123.76	8.86
21. Sikkim	1.22	-	1.22	21.70	5.62
22. Tamil Nadu	425.42	187.26	612.68	7983.45	7.67
23. Tripura	1.40	-	1.40	60.50	2.31
24. Uttar Pradesh	139.54	221.43	360.97	6305.97	5.72
25. West Bengal	134.27	0.06	134.33	4258.91	3.15
26. Delhi	78.12	8.75	86.87	2534.87	3.43
All States	4117.34	1662.62	5779.96	71101.52	8.13

Source : RBI Bulletin, 1996, 1997, 1998

Annexure 8.8

State-wise Revenue Significance of Tax on Vehicles 1997-98 (RE)

(Rs. Crore)

S.No.	State	Tax on Vehicles		Total Tax	Own Tax	Share of Total
		MVT	PGT	on Vehicles	Revenue	MVT in Own Tax Rev. (%)
1.	Andhra Pradesh	618.20	40.01	658.21	7345.95	8.96
2.	Arunachal Pradesh	1.17	-	1.17	9.21	12.70
3.	Assam	68.04	16.81	84.85	965.03	8.79
4.	Bihar	193.90	70.24	264.14	3103.79	8.51
5.	Goa	28.00	5.40	33.40	347.11	9.62
6.	Gujarat	393.00	62.00	465.00	6804.57	6.83
7.	Haryana	72.00	298.80	370.80	2413.42	15.36
8.	Himachal Pradesh	22.39	78.00	100.39	436.52	23.00
9.	Jammu & Kashmir	13.50	81.12	94.62	367.41	25.75
10.	Karnataka	460.00	213.00	673.00	6709.50	10.03
11.	Kerala	363.00	0.03	363.03	4821.28	15.29
12.	Madhya Pradesh	405.00	332.00	737.00	4641.00	15.88
13.	Maharashtra	700.00	360.00	1060.00	14078.77	7.52
14.	Manipur	1.70	0.47	2.17	38.84	5.59
15.	Meghalaya	3.90	1.55	5.45	83.45	6.53
16.	Mizoram	1.56	0.38	1.94	7.34	26.43
17.	Nagaland	2.90	-	2.90	33.50	47.76
18.	Orissa	160.00	-	160.00	1615.42	9.90
19.	Punjab	227.15	-	227.15	3147.73	7.22
20.	Rajasthan	345.00	-	345.00	3768.78	9.15
21.	Sikkim	1.00	-	1.00	26.01	3.84
22.	Tamil Nadu	460.00	223.00	683.00	8999.50	7.59
23.	Tripura	1.83	-	1.83	71.65	2.55
24.	Uttar Pradesh	157.00	292.13	449.13	7021.05	6.40
25.	West Bengal	145.00	0.05	145.05	5052.95	2.87
26.	Delhi	100.00	-	100.00	3049.10	3.28
All States		4945.24	2074.99	7020.23	84958.88	8.26

Source : RBI Bulletin, 1996, 1997, 1998

Annexure 8.9

State-wise Revenue Significance of Tax on Vehicles 1998-99 (BE)

(Rs. Crore)

S.No.	State	Tax on Vehicles		Total Tax	Own Tax	Share of Total
		MVT	PGT	on Vehicles	Revenue	MVT in Own Tax Rev. (%)
1.	Andhra Pradesh	679.40	0.42	679.82	8318.67	8.17
2.	Arunachal Pradesh	1.26	-	1.26	9.88	12.75
3.	Assam	77.91	19.25	97.16	1126.02	8.63
4.	Bihar	220.00	53.00	273.00	3069.20	-
5.	Goa	15.00	5.00	20.00	367.69	5.44
6.	Gujarat	550.00	110.00	660.00	8480.47	7.78
7.	Haryana	81.00	334.65	415.65	3584.13	11.60
8.	Himachal Pradesh	23.45	85.00	108.45	465.46	23.30
9.	Jammu & Kashmir	15.00	88.50	103.50	448.16	23.09
10.	Karnataka	509.00	245.60	754.60	7664.00	9.85
11.	Kerala	425.00	0.04	425.04	5460.60	7.78
12.	Madhya Pradesh	477.37	380.00	857.37	5239.27	16.36
13.	Maharashtra	600.00	358.64	958.64	15174.78	6.32
14.	Manipur	2.00	0.50	2.50	45.78	5.46
15.	Meghalaya	4.10	1.65	5.75	94.33	6.09
16.	Mizoram	1.80	0.40	2.20	7.89	27.88
17.	Nagaland	3.85	-	3.85	32.80	11.74
18.	Orissa	200.00	-	200.00	1950.00	10.26
19.	Punjab	249.85	-	249.85	3514.56	7.11
20.	Rajasthan	395.00	-	395.00	4440.87	8.89
21.	Sikkim	1.05	-	1.05	29.25	3.59
22.	Tamil Nadu	539.00	270.00	809.00	10024.00	8.07
23.	Tripura	2.00	-	2.00	72.37	2.76
24.	Uttar Pradesh	212.40	437.60	650.00	9369.49	6.94
25.	West Bengal	156.60	0.05	156.65	5632.40	2.78
26.	Delhi	195.00	-	195.00	3595.12	5.42
All States		5637.04	2390.30	8027.34	98217.19	8.17

Source : RBI Bulletin, 1996, 1997, 1998

Annexure 8.10

State-wise Buoyancy Estimates of Taxes on Vehicles (1985-86 to 1995-96)		
S.No.	State	Buoyancy
1	Andhra Pradesh	0.79
2	Assam	1.48
3	Bihar	1.23
4	Gujarat	0.76
5	Haryana	1.08
6	Karnataka	0.82
7	Kerala	1.13
8	Maharashtra	0.69
9	Madhya Pradesh	1.33
10	Orissa	1.53
11	Punjab	0.85
12	Rajasthan	0.84
13	Tamil Nadu	1.01
14	Uttar Pradesh	0.77
15	West Bengal	0.87
	All States	0.87

Annexure 8.11

Major Central, States and Local Tax Burden on Road Transport Industry (%)				
State	Tax Levied	Motor cycles etc.	Light Vehicles (Motor cars)	Heavy Vehicles (Buses & truck)
Madhya Pradesh	Union Ex.duties	25	16	16
	Sales Tax	6	4	4
	Octroi	-	-	-
	MVT/PGT	3	3	Rs. 327.00
Mahatashtra	Union Ex.duties	25	40	40
	Sales Tax	10	10	10
	Octroi	5	5	3
	MVT/PGT	5	Rs.4800.00	Rs. 1730.00
Rajasthan	Union Ex.duties	25	40	40
	Sales Tax	6	6	6
	Octroi	4	5	3
	MVT/PGT	3	3	2
West Bengal	Union Ex.duties	25	40	40
	Sales Tax	4	4	4
	Octroi	-	-	-
	MVT/PGT	Rs. 800.00	Rs. 500.00	Rs. 312.50

Tax Burden on Heavy Passenger and Goods Vehicles

S.No.	State	Tax Levied	Buses (52 seaters)		Trucks (RLW 16200 kg./ ULW 7000kg)
			Stage Carriage	Contract Carriage	
1	Haryana	Motor Vehicles (road) tax	28600	28600	1500
		Passenger and goods tax	48672	48672	3500
		PGT - (for specified uses)		10400	
2	Punjab	Motor Vehicles (road) tax	26000	26000	1500
		Special road tax	53269	104000	1500
3	Rajasthan	Motor Vehicles (road) tax	5200	5200	3500
		Special road tax	40560	46800	3500
4	Uttar Pradesh	Motor Vehicles (road) tax	5590	5590	3250
			56784	85000	4666

**MOTOR VEHICLE TAXATION ENQUIRY COMMITTEE (1950)
(DALAL COMMITTEE)**

Major Conclusions/Recommendations

The present taxation policies of the central and state governments do not conform with their overall policy of developing road transport as a national enterprise.

i) Central Taxes

1. The recently imposed tariff are doing more harm than good.
2. The present duties are largely of the nature of luxury taxes.

ii) State Taxes

3. The basis and the assessment of motor vehicle taxation varies from state to state and these taxes have been growing rapidly in recent years.
4. Though states carry the main burden of expenditure on roads, they are left with a little margin to collect revenue from road transport which are grabbed by centre. Consequently, they are perforce imposing every increasing burden on motor vehicle user.
5. The average goods lorry pay in central and state taxes alone twice the earnings per ton mile of goods carried by rail.

iii) Local Taxes

6. The local taxes e.g. Octroi on commercial traffic is even more harmful to trade than taxes about which evasions are common and cost of collection high.

Recommendations

1. A scientific system of taxation of the motor vehicle user cannot be evolved unless the central and state governments accept on common transport policy.
2. Motor vehicle user as a general tax-payer should contribute to the general revenues only to the same extent as does the railways user. If that is so, the balance of proceeds of taxes on motor vehicle user after deducting the contributions to general revenues should be earmarked for expenditure on roads which should be paid into non-lapsing fund.

3. The taxation policy should be such that the motor vehicle user is not called to pay the expenses of implementing any extraneous policy of the government (e.g. Defence, Welfare etc.)
4. As regards the quantum of taxes, the Committee recommended a ceiling of $\frac{3}{4}$ of the then prevailing motor vehicle tax in Madras for adoption by all States.

ROAD TRANSPORT REORGANISATION COMMITTEE (1959) (MASANI COMMITTEE)

Major Conclusions/Recommendations

1. Octroi and terminal taxes constitute a severe deterrent to the expansion of motor transport.
2. Steps are needed to be taken to simplify the structure of taxation. It is recommended that octroi, wheel tax and other imposts charged by Municipalities as well as the tax on passengers and goods wherever levied should be discontinued, octroi being merged in the general sales tax or some other levy unconnected with motor transport and all other taxes being merged in the vehicle tax. In so far as sales tax on trucks and buses is concerned, it should not as at present be at luxury rates but at rates applicable to other essential goods.
3. As regards reciprocal tax arrangements, there is no uniformity in the taxes being charged by different state governments. There is no definite procedure under which a particular state has reciprocal agreement with all its adjoining states. Moreover, some states though having conceded to reciprocity, have a level point tax arrangements which means that the difference in rates of taxation between two states has to be paid to the state with a higher rate. It is concluded that there is no justification for any state not to accept as valid taxes paid in another state, as in fact is the practice in regard to private touring cars which can move freely from one part of the country to another without the question of taxation being raised. The Committee felt that there is no reason why the same facility should not exist for commercial vehicles also. It is recommended that legislation laying down the principles of taxation and providing for a single point taxation should be introduced in Parliament.

COMMITTEE ON TRANSPORT POLICY AND CO-ORDINATION (1966) (TARLOK SINGH COMMITTEE)

Major Conclusions/Recommendations

1. The broad approach to the taxation of commercial motor transport should be in line with the principle which determine the regulation and development of Road Transport. The tax system should be so devised as to contribute to the maximum extent to the development of an efficient, well organised and technologically progressive road transport industry.
2. Octroi should be abolished.

3. Since the state government levies a motor vehicle tax to enable a vehicle to operate on various specified routes, the imposition of further wheel tax is hardly justified.
4. Where passenger and goods tax exist, they should be levied as a lumpsum paid alongwith motor vehicle tax. This sort of consolidation has already been done in Andhra Pradesh. Further the same agency should be responsible for the collection of the motor vehicles tax and of passenger and goods taxes.
5. There would be a greater uniformity in the levels of taxation if taxation of motor vehicles throughout the country were regulated under Union legislation. For this purpose the minimum change needed is to bring taxation, now under exclusive jurisdiction of state legislatures, under entries 56 and 57 of the State List, within the concurrent jurisdiction of the states and centre under the Seventh Schedule of the Constitution. This would be advantageous since the scheme of road transport regulation will become capable of practical implementation on inter-state routes. There will be a single motor vehicle tax, the rates being adjusted according to capacity and distance of operation, but applicable uniformly throughout the country. The taxes will be paid at the place of registration though the proceeds will be distributed among various states according to appropriate criteria.
6. On inter-state routes, there should be no need to levy separate passenger and goods tax etc. Moreover, since uniform principles of motor vehicle taxation will be adopted, tax rates proposed by central for inter-state routes will provide a broad guide and some kind of upper limit of taxes levied directly by state government on vehicles operating on permits under their own authority.
7. In accordance with the general principles of motor vehicles taxation, individual states should be free to determine tax rates as applicable to operations on inter-state routes.
8. With greater uniformity in motor taxation and more common norms established it should be possible also to devise suitable concessions and incentives to stimulate the growth of road transport in the more backward region in hilly areas and in tracts in which transport facilities tended to lag behind.

**ROAD TRANSPORT TAXATION ENQUIRY COMMITTEE (NOVEMBER, 1967)
(KESKAR COMMITTEE)**

Major Conclusions/Recommendations

1. There are different rules/regulations in states regarding taxation of motor vehicle for intra-state as well as inter-state traffic. The necessity to develop inter-state transport in the present context of economic development is undisputed; such development is not feasible so long as the taxation and licensing policies are not simplified and the principles of taxation and regulation are not made uniform throughout the country. To achieve this, there is a

need for central legislation laying down uniform principles of taxation and licensing for the whole country so that a central authority can be constituted to carry out these objectives.

2. A commercial vehicle should be registered in a particular state where it normally resides and the primary permit should be issued by the home state to which it will pay all the necessary taxes including motor vehicles tax and passenger and goods tax. Those vehicles which are used for inter-state traffic also, should obtain an additional permit. Such additional permit should be granted by the ISTC, though actually issued by the authorities in the home state, acting on behalf of ISTC. The jurisdiction of the state in which the vehicle is registered in respect of levies of taxes and fees, vis-a-vis, inter-state transport will remain unfettered. Regulation by the central authority will be only for the purpose of inter-state traffic.
3. A scheme of standard tax for inter-state operation of goods vehicles is recommended as an interim measure.
4. The ISTC should be reconstituted which in addition to its existing powers should have powers regarding taxation. The Commission which should have a Chairman of high status preferably chosen from public life to be able to yield independent authority and take objective view of the demand of various interests, will have an authority to decide the number of permits for each state although the actual selection and issuing of permits will be done by state authorities on its behalf. The Commission will also levy and regulate taxes on inter-state transport vehicles. The taxes levied and collected will be realised normally by state authorities acting on its behalf to be ultimately distributed to the various states according to principles laid down under Article 269 of the Constitution.
5. The Committee felt that octroi is one of the greatest hindrances in way of commerce and economic development of the country. While the Committee would leave it to the state governments to choose the alternative that suits them best, they emphasised that Octroi should be abolished as quickly as possible.
6. The system of check-posts should be completely reorganised and the number of checkpoints reduced to minimum. The multiplicity of checkpoints should be put an end to and one consolidated check-post organisation created to serve the needs of all the departments.
7. The conclusion is inescapable that the tax element in the cost of operation has become a definite disincentive to the healthy development of road transport.
8. As a general principle, taxation on motor vehicles and their operation should be fair and impartial in comparison with other taxation on other modes of transport and should be so adjusted as to recognise and preserve the inherent advantages and efficiency of every mode of transport. In any scheme of taxation, the capacity of the tax payer and the operation has to be taken into consideration.
9. In estimating the capacity of the operator to pay the taxes the necessity to ensure a

reasonable return and also a provision for expansion of his business should be kept in view. Because of the nature of road transport industry it is desirable to allow the industry to earn a return on the capital larger than in other industries.

10. Both in the interest of general economic development and in the interest of augmenting revenue from road transport industry itself, it is essential and desirable to step up considerably on maintenance and development of roads should bear a reasonable relation to revenues from road transport.
11. The Committee commended the principle of present system in some states of relating the quantum of taxes with seating capacity and also the distance travelled. However, where the distance covered is uneconomic but is needed owing to public service pressure, there should be some tax rebate for its operation.
12. The number of taxes affecting motor vehicles should be minimum and it would be preferable for all of them to be collected by a single agency. There should be a provision for compounding of passenger and goods tax.
13. Uniformity in the tax procedures (Basis, level etc.) is the first step for rationalisation of tax structure on All India basis.
14. In determining the quantum of taxes, the following should be considered. (i) Cost of operation, (ii) prevailing fare and freight rate, (iii) Utilisation of vehicle (distance travelled, pay load, area of operation, capacity of tax payer, road construction programmes etc.).

NATIONAL TRANSPORT POLICY COMMITTEE(MAY, 1980)
(PANDE COMMITTEE)

Major Conclusions/Recommendations

1. Fuel taxation should not only serve as a means of raising revenue, but also a shadow price for ensuring socially efficient use of this scarce resource.
2. There is hardly any evidence to show that the overall tax-burden on the road transport industry is heavy or iniquitous or it has adversely affected the industry. While the contention that total tax raised from any source should be spent on that source is not tenable, taxes paid by road users as a whole bear a close relationship to public expenditure on road construction and maintenance.
3. There is a considerable scope for and urgent need to reduce the multiplicity of road transport taxes, rationalise the tax structure, simplify the methods of assessment and centralise collection for smooth inter-state road movements. Tax structure should have uniform basic rates between states so that the incidence of taxation, atleast between the neighbouring states is comparable.

4. Passenger and goods taxes need to be integrated with the motor vehicles tax and collected at a flat rate and at a single point rather than vehicle-wise and as a percentage of fare in case of buses.
5. The National/Zonal permits should be issued liberally, but the full fee applicable should be charged at a single point in home state.
6. The centre may consider the desirability of introducing a suitable legislation in the interest of smooth flow of inter-state traffic and for reducing wide disparity in taxation between states.

Annexure 9.1

THE SECOND SCHEDULE
Schedule for Compensation for Third Party Fatal Accident/Injury Cases Claims

**I Fatal
Accidents :**

Annual Income		Rs.3000	Rs.4200	Rs.5400	Rs.6600	Rs.7800	Rs.9000	Rs.10200	Rs.11400	RS.12000	Rs.18000	Rs.24000	Rs.36000	Rs.40000
Age of Victim	Multiplier	Compensation in case of death (Rs. In thousand)												
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Up to 15 yrs.	15	60	84	108	132	156	180	204	225	240	360	480	720	800
Above 15 yrs. But not exdg. 20yrs	16	57	79.8	102	125.4	148.2	171	193.8	216.6	228	342	456	684	760
Above 20 yrs. But not exdg. 25yrs	17	54	75.6	97.2	118.8	140.4	162	183.6	205.2	210	324	432	648	720
Above 25 yrs. But not exdg. 30yrs	18	51	71.4	91.8	112.2	132.6	153	173.4	193.8	204	306	408	612	680
Above 30 yrs. But not exdg. 35yrs	17	50	67.2	86.4	105.6	124.8	144	163.2	192.4	192	288	384	576	640
Above 35 yrs. But not exdg. 40yrs	16	50	63	81	99	117	135	153	171	180	270	360	540	609
Above 40 yrs. But not exdg. 45yrs	15	50	58.8	75.6	92.4	109.2	126	142.8	159.6	168	252	336	504	560
Above 45 yrs. But not exdg. 50yrs	13	50	50.4	64.8	79.2	93.6	108	122.4	136.8	144	216	286	432	480
Above 50 yrs. But not exdg. 55yrs	11	50	50	54	66	78	90	102	114	120	180	240	360	400
Above 55 yrs. But not exdg. 60yrs	5	50	50	50	52.8	62.4	72	81.6	91.2	96	144	192	286	320
Above 60 yrs. But not exdg. 65yrs	5	50	50	50	50	50	54	61.2	68.4	72	108	144	216	240
Above 65 yrs.	5	50	50	50	50	50	50	51	57	60	90	120	18	200

Note : The amount of compensation so arrived at in the case of fatal accident claims shall be reduced by 1/3rd in consideration of the expenses which the section would have incurred towards maintaining himself had he been alive.
Source : MV Act, 1988; The second schedule inserted by Act 54 of 1994
Sec.64

Supreme Court of India

(C.A. Nos. 7760-7761 of 1996 arising out of S.L.P. (C) Nos. 1066-65 of 1993; Decided on 7.5.1996)

Present : Mr. A.M. Ahmadi, C.J

Mr. Justice N.P. Singh

Mr. Justice M.K. Mukherjee

U.P. State Road Transport Corporation and Ors.

....Appellants

Versus

Trilok Chandra & Ors.

....Respondents

JUDGMENT

A.M. Ahmadi, C.J. - Special leave granted

2. The short question which we are called upon to consider in this appeal relates to the use of the correct multiplier for determination of compensation to be awarded to the legal representatives of a victim of a road accident. The question arises in the backdrop of the following facts.

3. Prem Chandra, aged about 26 years, met with a fatal accident on 1.08.1977. He was knocked down by an omnibus bearing registration No. UTW 1802 belonging to the UP State Road Transport Corporation. His legal representatives preferred a claim for compensation. Taking his earning capacity at Rs. 300/- per month, it was estimated that he spent Rs. 200/- per month on his family members. Fixing the life expectancy at 60 years, the Tribunal deducted 36 years and held that the family was deprived of his earning for 24 years. The compensation was thus worked out at Rs. 57,600/- (200 x 12 x 24). This amount was raised to Rs. 81,600/- as it was realised that the Tribunal had wrongly taken the age of the deceased at 36 instead of 26 years and had, therefore, committed an error in employing the multiplier of 24 years purchase factor instead of 34 years purchase factor. Thus the compensation came to Rs. 200 x 12 x 34 = Rs. 81,600/-. The question then is whether the Tribunal was right in employing the multiplier of 24 or the High Court was right in employing the multiplier of 34.

4. India is one of the countries with the highest number of road accidents. Motor accidents are every day affairs. A large number of claims for compensation for the injury caused by road accidents are pending in various Motor Accidents Claims Tribunals. In a fatal accident the dependents of the deceased are entitled to compensation for the loss suffered by them on account of the death. The most commonly practised method of assessing the loss suffered is to calculate the loss for a year and then to capitalise the amount by a suitable multiplier. To that is added the loss suffered on account of loss of expectation of life and the like. The Tribunals and High Courts have adopted divergent methods to determine the suitable multiplier. Even this Court has not been uniform; may be because the principle on which this method came to be evolved has been forgotten. It has, therefore, become necessary to examine the law and to state the correct principles to be adopted.

5. The topic of compensation for causing death by negligent driving came up for serious discussion

before this Court in *Gobald Motor Service Ltd. v. R.M.K. Veluswami*. The Court referred to the House of Lords decision in *Davies v. Powell Duffryn Associated Collieries Ltd.*, (1942) AC 601 AD and quoted the following passage from the judgment.

“The damages are to be based on the reasonable expectation of pecuniary benefit or benefit reducible to money value. In assessing the damages all compensation which may be legitimately pleaded in diminution of the damages must be considered.... The actual pecuniary loss of each individual entitled to sue can only be ascertained by balancing, on the one hand, the loss to him of the future pecuniary benefit, and, on the other, any pecuniary advantage which from whatever source comes to him by reason of the death.”

6. The court also referred to the judgment by Viscount Simon in *Nance v. British Columbia Electric Railway Co. Ltd.* (1951) AC 601, in which the same principles were enunciated for estimating the damages, the method adopted, however, differed, various factors that would enter the calculation as per Viscount Simon were set out in the judgement as under :

“...at first the deceased man’s expectation of life has to be estimated having regard to his age, bodily health and the possibility of premature determination of his life by later accidents; secondly, the amount required for the future provision of his wife shall be estimated having regard to the amounts he used to spend on her during his lifetime, and other circumstances; thirdly, the estimated annual sum is multiplied by the number of years of the man’s estimated span of life, and the said amount must be discounted so as to arrive at the equivalent in the form of a lump sum payable on his death; fourthly, further deductions must be made for the benefit accruing to the widow from the acceleration of her interest in his estate; and, fifthly, further amounts have to be deducted for the possibility of the wife dying earlier if the husband had lived the full span of life; and it should also be taken into account that there is the possibility of the widow remarrying much to the improvement of her financial position. It would be seen from the said mode of estimation that many imponderables enter into the calculation.”

7. The same principles were recalled by this court in the case of *Municipal Corporation of Delhi v. Subhagwanti*. In this case the claim for compensation arose on account of loss of life caused by the collapse of the Clock Tower abutting a highway. The Court had referred to both the aforementioned judgements and extracted the following passage from the judgement in the case of *Davies*, (1942) AC 601 :

“The starting point is the amount of wages which the deceased was earning, the ascertainment of which to some extent may depend upon the regularity of his employment. Then there is an estimate of how much was required or expended for his own personal and living expenses. The balance will give a datum or basic figure which will generally be turned into a lump sum by taking a certain number of years’ purchase. That sum, however, has to be taxed down by having due regard to uncertainties, for instance, that the widow might have again married and thus ceased to be dependent and other like matters of speculation and doubt.”

8. In the case before the court the deceased was Ram Prakash aged 30 years. The High Court found it proper to estimate the amount that the deceased would have spent on his wife and children in

a year and capitalised that for a period of 15 years and observed that the Trial Court's calculation was not excessive.

9. The compensation to be awarded has two elements. One is the pecuniary loss to the estate of the deceased resulting from the accident, the other is the pecuniary loss sustained by the members of his family for his death. The court referred to these two elements in the *Gobald Motor Service's* case. These two elements were to be awarded under Section 1 and Section 2 of the Fatal Accidents Act, 1955, under which the claim in that case arose. The Court in that case cautioned that while making the calculations no part of the claim under the first or the second element should be included twice. The Court gave a very lucid illustration, which can be quoted with profit :

“An illustration may clarify the position. X is the income of the estate of the deceased, Y is the yearly expenditure incurred by him on his dependents (we will ignore the other expenditure incurred by him). $X - Y$, i.e., Z, is the amount he saves every year. The capitalised value of the income spent on the dependents, subject to relevant deductions, is the pecuniary loss sustained by the members of his family through his death. The capitalised value of his income, subject to relevant deductions, would be the loss caused to the estate by his death. If the claimants under both the heads are the same, and if they get compensation for the entire loss caused to the estate, they cannot claim again under the head of personal loss the capitalised income that might have been spent on them if the deceased were alive. Conversely, if they got compensation under Section 1, representing the amount that the deceased would have spent on them, if alive, to that extent there should be deduction in their claim under Section 2 of the Act in respect of compensation for the loss caused to the estate. To put it differently, if under Section 1 they got capitalised value of Y, under Section 2 they could get only the capitalised value of Z, for the capitalised value $Y + Z$, i.e., X would be the capitalised value of his entire income.”

10. The High Court of Gujarat in the case of *Hirji Virji Transport v. Basiran Bibi*, referred to all the three judgements of this court mentioned above, considered the principle laid down in *Davies* (1942) AC 601, and *Nance*, (1951) AC 601 and explained the law to be applied for ascertaining the damages in such cases. Reference was also made to the judgement of *Lord Reid in Taylor v. O'Connor*, (1970) I All ER 365 and the High Court reiterated Lord Reid's words which we extract :

“In ordinary cases which do not involve special factors, as one in *Taylor's* case (supra) as regards the questions of income tax and surtax, the wealth of experience of Judges and Counsel would be an adequate guide to the selection of this multiplier without any necessity of any expert evidence, so that on this method by adopting a common multiplier the loss of dependency over a period of years can be worked out at a lump sum to be given to the dependents.”

11. The Gujarat High Court also pointed out that the principles laid down in the case of *Davies*, (1942) AC 601 and that in the case of *Nance*, (1951) AC 601, led to the same end-results because, although as per Viscount Simon the dependency amount is required to be multiplied by the figure of the expected useful life of the deceased, the sum has to be discounted because equivalent amount in lump sum has to be worked out keeping in view the fact that the sum was to be spread over a period of years and secondly, allowance had to be made for uncertainties like the possible premature death of the dependents or of the deceased had he been alive, remarriage of the widow, acceleration over other

interest of the estate, etc. The Gujarat High court expressed the opinion that if proper discount is done after arriving at the lump sum equivalent to this dependency, spread over for a period of years the end-result will be the same as that calculated by using a proper multiplier to the annual loss. This multiplier is the year's purchase factor. Referring to the decision of Lord Diplock in *Malett v. McMonagle*, wherein an annuity table was worked out, the High Court observed that 12 to 15 years' should be the normal multiplier and for the case before the Court the outer multiplier of 15 years' purchase would be proper. The same view in regard to the range for a healthy young man was expressed by this Court in *C.K. Subramonia Iyer V.T. Kunhi Kuttan Nair*.

12. For concluding the analysis it is necessary now to refer to the judgement of this Court in the case of *General Manager, Kerala State Road Transport Corporation v. Susamma Thomas*. In that case this Court culled out the basic principles governing the assessment of compensation emerging from the legal authorities cited above the reiterated that the multiplier method is the sound method of assessing compensation. The Court observed:

“The multiplier method involves the ascertainment of the loss of dependency or the multiplicand having regard to the compensation of the case and capitalising the multiplicand by an appropriate multiplier. The choice of the multiplier is determined by the age of the deceased (or that of the claimants, whichever is higher) and by the calculation as to what capital sum, if invested at a rate of interest appropriate to a stable economy, would yield the multiplicand by way of annual interest. In ascertaining this, regard should also be had to the fact that ultimately the capital sum should also be consumed up over the period for which the dependency is expected to last.”

The principle was explained and illustrated by a mathematic example :

“The multiplier represents the number of years' purchase on which the loss of dependency is capitalised. Take, for instance, a case where annual loss of dependency is Rs. 10,000/- is invested at 10 per cent annual interest, the interest will take care of the dependency perpetually. The multiplier in this case works out to 10. If the rate of interest is 5% per annum and not 10%, then the multiplier needed to capitalise the loss of the annual dependency at Rs. 10,000/- would be 20. Then the multiplier, i.e., the number of years' purchase of 20 will yield the annual dependency perpetually. Then allowance to scale down the multiplier would have to be made taking into account the uncertainties of the future, the allowances for immediate lump sum payment, the period over which the dependency is to last being shorter and the capital feed also to be spent away over the period of dependency is to last, etc. Usually in English Courts the operative multiplier rarely exceeds 16 as maximum. This will come down accordingly as the age of the deceased person (or that of the dependents, whichever is higher) goes up.”

13. It was rightly clarified that there should be no departure from the multiplier method on the ground that Section 110-B, Motor Vehicles Act, 1939 (corresponding to the present provision of Section 168 (1), Motor Vehicles Act, 1988) envisaged payment of 'just' compensation since the multiplier method is the accepted method for determining and ensuring payment of just compensation and is expected to bring uniformity and certainty of the awards made all over the country.

14. In the facts of that case the Court said that 12 years was the correct multiplier to be applied for assessing the compensation for the death of the victim of the road accident who was 39. Further it was observed that in the absence of evidence it is not unusual to deduct one-third of the gross income towards the personal living expenses of the deceased. The Court further awarded a conventional sum towards loss of consortium and loss of estate.

15. We thought it necessary to reiterate the method of working out 'just' compensation because, of late, we have noticed from the awards made by Tribunal and Courts that the principle on which the multiplier method was developed has been lost sight of and once again a hybrid method based on the subjectivity of the Tribunal/Court has surfaced. Introducing uncertainty and lack of reasonable uniformity in the matter of determination of compensation. It must be realised that the Tribunal/Court has to determine a fair amount of compensation awardable to the victim of an accident which must be proportionate to the injury caused. The two English decision to which we have referred earlier provide the guidelines for assessing the loss occasioned to the victims. Under the formula advocated by Lord Wright in *Davies*, (1942) AC 601, the loss has to be ascertained by first determining the monthly income of the deceased, then deducting therefrom the amount spent on the deceased, and thus assessing the loss to the dependents of the deceased. The annual dependency assessed in this manner is then to be multiplied by the use of an appropriate multiplier. Let us illustrate : X, male, aged about 35 years, dies in an accident. He leaves behind his widow and 3 minor children. His monthly income was Rs. 3,500/-. First, deduct the amount spent on X every month. The rough and ready method hitherto adopted where no definite evidence was forthcoming was to break up the family into units, taking two units for an adult and one unit for a minor. This X and his wife made $2+2=4$ units and each minor one unit, i.e. 3 units in all, totalling 7 units. Thus the share per unit works out to $\text{Rs. } 3,500/7 = \text{Rs. } 500/-$ per month. It can thus be assumed that Rs. 1,000/- was spent on X. Since he was a working member some provision for his transport and out-of-pocket expense has to be estimated. In the present case we estimate the out-of-pocket expense at Rs. 250/-. Thus the amount spent on the deceased X works out to Rs. 1,250/- per month leaving a balance of $\text{Rs. } 3,500/- - 1,250/- = \text{Rs. } 2,250/-$ per month. This amount can be taken as the monthly loss to X's dependents. The annual dependency comes to $\text{Rs. } 2250/- \times 12 = \text{Rs. } 27,000/-$. this annual dependency has to be multiplied by the use of an appropriate multiplier to assess the compensation under the head of loss to the dependants. Take the appropriate multiplier to be 15. The compensation comes to $\text{Rs. } 27,000 \times 15 = \text{Rs. } 4,05,000/-$ to this may be added a conventional amount by way of loss of expectation of life. Earlier this conventional amount was pegged down to Rs. 3,000/- but now having regard to the fall in the value of the rupee, it can be raised to a figure of not more than Rs.10,000/-. thus the total comes to $\text{Rs. } 4,05,000/- + 10,000/- = \text{Rs. } 4,15,000/-$.

16. In the method adopted by *Viscount Simon* in the case of *Nance*, (1951) AC 601, also first the annual dependency is worked out and then multiplied by the estimated useful life of the deceased. This is generally determined on the basis of longevity. But then, proper discounting on various factors having a bearing on the uncertainties of life, such as, premature death of the deceased or the dependant, remarriage, accelerated payment and increased earnings by wise and prudent investment, etc., would become necessary. It was generally felt that discounting on various imponderables made assessment of compensation rather complicated and cumbersome and very often as a rough and ready measure, one-third to one-half of the dependency was reduced, depending on the life-span taken. This is the reason why Court in India as well as England preferred the *Davies'* formula as being simple and more

realistic. However, as observed earlier and as pointed out in *Susamma Thomas* case, usually English Courts rarely exceed 16 as the multiplier. Court in India too as followed the same pattern till recently when Tribunals/Court began to use a hybrid method of using Nance's method without making deduction for imponderables.

17. The situation has now undergone a change with the enactment of the Motor Vehicle Act, 1988, as amended by the Amendment Act, 54 of 1994. The most important change introduced by the amendment insofar as it relates to determination of compensation is the insertion of Sections 163-A and 163-B in chapter XI entitled 'Insurance of Motor Vehicles Against Third Party Risks'. Section 163-A begins with a non-obstinate clause and provides for payment of compensation, as indicated in the Second Schedule, to the legal representatives of the deceased or injured, as the case may be. If now we turn to the second schedule, we find a Table fixing the mode of calculation of compensation for third party fatal accident injury claims arising out of accidents. The first column gives the age group of the victims of accident, the second column indicates the multiplier and the subsequent of compensation in thousand payable to the heirs of the deceased victim belonged. According to this table the multiplier varies from five to eighteen depending on the age group to which the victim belonged. Thus, under this Schedule the maximum multiplier can be up to 18 and not 16 as was held in *Susamma Thomas*' case.

18. We must at once point out that the calculation of compensation and the amount worked out in the Schedule suffer from several defects. For example, in item No.1 for a victim aged 15 years, the multiplier is shown to be 15 years and the multiplicand is shown to be Rs. 3,000/-. The total should be Rs. 3000/- x 15 = Rs. 45,000/- but the same is worked out at Rs. 60,000/-. Similarly, in the second item the multiplier is 16 and the annual income is Rs. 9,000/-; the total should have been Rs. 1,44,000/- but is shown to be Rs. 1,71,000/-. To put it briefly, the Table abounds in such mistakes. Neither the Tribunals nor the Courts can go by the ready reckoner. It can only be used as a guide. Besides, the selection of multiplier cannot in all cases be solely dependent on the age of the deceased. For example, if the deceased, a bachelor, dies at the age of 45 and his dependents are his parents, age of the parents would also be relevant in the choice of multiplier. But these mistakes are limited to actual calculations only and not in respect of other items. What we propose to emphasize is that the multiplier cannot exceed 18 years' purchase factor. This is the improvement over the earlier position that ordinarily it should not exceed 16. We thought it necessary to state the correct legal position as Courts and Tribunals are using higher multiplier as in the present case where the Tribunal used the multiplier of 24 which the High Court raised to 34, thereby showing lack of awareness of the background of the multiplier system in *Davies*' case (supra).

19. We had indicated we would not interfere with the amount awarded, since in our view, while the multiplier used is excessive, we are satisfied that a very low multiplicand was used as the loss of dependency. If we were to correct the multiplicand and use the correct multiplier, the compensation would work out to near about the same figure. Therefore, while agreeing with the learned advocate for the appellant, we are disinclined to interfere with the figure of compensation. We, therefore, hold that the Tribunal/Court fell into an error in the choice of the multiplier and allow the appeal to that extent but we do not, in the circumstances of the case, interfere with the quantum of compensation. No order as to costs.

20. The copy of this judgement may be sent to all the High Courts with a direction to circulate it to the Courts/Tribunals dealing with the motor accident compensation cases.

Basic Conditions

The facilities will depend on the size of operation, investment, conversion facilities available with sub-contractors etc. However the core requirement to fabricate quality buses will depend on the quality of the structural members and the welding process, pre-treatment process, painting assembly operation and finishing. The support the manufacturing the utilities i.e. Air, Water and Power should be adequate to sustain the production functions. The facilities listed below are indicative and based on the experience. This list will help as a guideline and the bus body builder may suitably modify to suit the requirement without compromising the core process requirement.

TYPE OF MACHINES AND FACILITY

Tool Room/Maintenance Shop Facility

S.No.	Type of Machinery	Description/Specification	Min. Qty
1	Lathe	Bed len 2.5m	1
2	Lathe	Bed len 4/6 m	1
3	Grinder'	4'	1
4	Bench grinder	Std. Make	1
5	Vertical drill machine	25 dia	1
6	Shaper machine	Size	1
7	Sander 7"	7" diameter	1
8	Milling Machine	Ram type	1
9	Cutting Tools	Various Types	1set

Press Shop Facility

1	Mechanical Press	10 to 20 Ton	1
2	Mechanical Press	40 to 75 Ton	1
3	Mechanical Press	100 to 150 Ton	1
4	Mechanical Press	300 to 600 Ton	1
5	Hydraulic Press	Upto 25 Ton	1
6	Hydraulic Press	Upto 100 Ton	1
7	Press Brake Mech./Hydraulic	80 Ton/4mm Th. 2500mm length	1
8	Press Brack CNC	80 Ton/4mm Th. 12500mm width	1
9	CNC Turret Press	10/20 Ton	1
10	Nibbling Machine	10 ton 1.6mm Th. Capacity	1
11	Shearing Machine Mech./Hydraulic	4mm capacity 2500mm width	1
12	Treadle shear	1.2mm capacity	1
13	Notching Machine	2mm capacity	1

Paint Facility

1	Sealer System	Hand Operated	4
		Pneumatic	2
		Air less pump	1
2	Deadner spray equipment	Airless pump	1
3	Paint booth	As per requirement 70 Deg C.	1
4	Spray Equipment	Spray guns feed containers	2 sets

Annexure 11.1 (Cont.)

Paneling and Assembly Facility

S.No.	Type of Machinery	Description/Specification	Min. Qty
1	Pneumatic riveting gun	Various sizes	As req.
2	Pop riveting machine	Various sizes	As req.
3	Hand drill machine	Upto 12mm Dia.	As req.
4	Hand tools	Various sizes	As req.

Seat Facility

1	Sewing machine	Special	As reqd.
2	PUF injectn Mldng M/c	Special	1
3	Leather Cutting M/c	Special	1

Shower Test & Inspection Platform

1	Shower Tester	As per BIS Spec.	1
2	Hard Stand	3m x 10m platform	1

Fabrication Shop Facility

1	Power saw	0.5 HP/1HP	1
2	Circular saw	150 to 200 dia	1
3	Abrasive cut off M/c		1
4	Band saw	With tilting Table	1
5	Gas Welding Set	Oxy-Acetylene System	1
6	MIG Welding Set	.8mm to 1.6mm wire 250 A Cap.	2
7	MIG Welding Set	.8mm to 1.6mm wire 400 A Cap.	1
8	Arc Welding Set	250 to 400A	2
	TIG welding Set		1
9	Spot Welding M/c	75 to 150 KVA	1
10	Seam Welding M/c	150 KVA	1
11	Hemming Former		1
12	Auto Bending Machine	Special Machine for bending roof and pillar section	1
13	Pipe Bending Machine	Upto 40mm diameter	1
14	Frame bending M/c	As per profile	1
15	Welding jigs and fixtures	As per requirement	1 set

Pre Treatment Facility

1	Sand Blasting Equipment	Custom Design	1
2	Metal Spray Equipment	Custom Design	1
3	Phosphating	Seven Tank System	1
4	Passivation	Chromate/nonchromate system	1

Title : Bus Body Fabrication Facility

Source : Society of Indian Automobile Manufacturers

I-Sanjay Gandhi Transport Nagar at Delhi

Location

It is located on NH 1 near junction of Outer Ring Road and Delhi Karnal Highway. This was developed by Municipal Corporation of Delhi (MCD). While payment for land was accepted in 1976, the allotment of land was made in 1990. Four sizes of plots were allotted namely 55 sq. m, 110 sq. m, 220 sq. m and 440 sq. m. In all, there are 450 plots in the complex which is spread over an area of about 2,00,000 sq. m.

Facilities Status

At present, very few facilities are available in the complex. The road infrastructure is poor. There is shortage of water and electricity. There are no public toilets. Medical facilities are also absent. Though land for petrol pump is available, it is not yet in place. Nearest Police Station is one Km. away. While land for parks is earmarked, these are yet to be developed. As a result of the poor facilities, most of the allottees have not yet shifted from their old premises in the city. However, repair facilities for vehicles are seen to be satisfactory. The allottees use their facilities mainly for parking and repair of vehicles. The number of vehicles parked at any time of the day is around 1000-1500. Some of the allottees are utilising their space for truck body building. There are no snack bars or fast food counters except some hawkers. The transport nagar is not discharging the function of a true truck terminal.

Management

Transport Nagar is expected to be managed by the association of members. However, at present, there is no active association. As a result, the maintenance and upkeep of the Nagar is in bad shape.

Improvements Needed

A. Infrastructure

- (i) Infrastructure in the form of rest rooms and toilets for drivers, tree plantation, RTO office, police post be set up.
- (ii) Primary health centre should be set up. A chemist shop should also be provided.
- (iii) Petrol pump needs to be started without delay.
- (iv) Adequate supply of water and electricity is essential to attract allottee members to this complex.
- (v) The space meant for park be developed into a greenery with the assistance of an expert horticulturist and landscape architect.

- (vi) Roads are in very bad condition and need to be improved with proper arrangements for drainage.
- (vii) Banks and insurance facilities be considered in consultation with the allottees.

B. Management

The association of allottees should create a corpus fund through annual subscription and should have at their disposal two-three full time staff members who should be responsible for day to day upkeep of the transport nagar. Some kind of an entry fee can be collected from the transport operators when their trucks enter the complex. This amount can be credited to the pool account of the association for common improvements.

General Observations

The basic objective of the Transport Nagar to remove congestion from the city has not been achieved since the operators continue to operate from their old premises in the city. The MCD do not appear to have paid full attention to the infrastructure facilities needed for a transport nagar. The basic hurdles include lack of potable water and electricity supply, lack of good food, medical facilities and other infrastructure facilities.

Transport Nagar is proposed to be expanded by allotment of additional 216 plots at a reserve price of Rs.3,700/- per sq.m. However, more urgent need is to provide basic infrastructure facilities mentioned above. Care should be taken that the space meant for parking of trucks is not diverted for any other purpose.

II-Transport Nagar at Jaipur

Location

Jaipur Transport Nagar was set up sometime in late 80's on Delhi Jaipur Road. It was the second such Nagar to be set up in the country, the first having been set up at Kanpur. Land for this project was made available by Jaipur Development Authority on 100 years lease basis @Rs.35 per square yard. Three sizes of plots were allotted namely 100, 200 and 300 sq. yards. This complex is spread over an area of about 1,20,000 sq. yards in the form of a rectangle.

The Jaipur Development Authority had initially given a few plots through auction also. The complex is used largely for unloading of cargo. Loading operations continue to be undertaken within the city.

Facilities Status

- (i) Sulabh Sauchalya are available.
- (ii) Restaurants and Dhabas are available.

- (iii) Petrol Pump is at the entrance of the Transport Nagar.
- (iv) 30 per cent of the area was ear-marked for parking of vehicles. However, due to encroachment of the area by repair shops, the parking area has been substantially reduced. At any time of the day, about 500 trucks only are seen parked.
- (v) Vehicle repair facilities, banking facilities, general stores are available.
- (vi) Police booth is available near the gate. Police station is located within 1 Km. of the complex.

The following facilities are however, conspicuous by their absence.

- There are no rest rooms for drivers; they halt for the night within the premises of the transport operators.
- There are no bathrooms; drivers take their bath usually on the road side after leaving the complex.
- Medical facilities are not available.
- Sanitation is poor.
- Tree plantation is also absent
- Drinking water and electricity are in short supply.
- There is no RTO Office in the campus of the Nagar.

Management

Members have formed an association which has a few full time employees. The members contribute Rs.400 per annum to the Fund of the association.

Improvements Needed

A. Infrastructure

- (i) Primary health centre should be set up. A chemist shop should also be provided
- (ii) Encroachment of land by petty repair shops should be got vacated.
- (iii) Such Nagars should be located near the industrial base of the city.
- (iv) More such Nagars are required with the requisite facilities.
- (v) Trees should be grown at appropriate places and some space carved out of the complex to be converted into a park and developed with the help of an expert horticulturist and landscape architect

B. Management

The association is active. However, they need to have at their disposal two -three full time staff members who should be responsible to the association for day to day upkeep of the transport nagar. Apart from an annual subscription, some kind of an entry fee can be collected from the transport operators when their trucks enter the complex. This amount can be credited to their pool account for common improvements.

General Observations

The main function of Transport Nagars is to attract trucks which otherwise are to enter the city for loading/unloading; the objective is to remove congestion from the city. This objective has been achieved only partially. Many of the trucks with full loads still proceed direct to destination point in the city. One finds mainly trucks with parcel loads visiting the Transport Nagar.

Some regulatory measures by the transport authorities will be needed to reduce congestion within the city by banning entry of large trucks during certain hours and permitting only pick-up and delivery vans within the town area.

ESTIMATED COST OF CONSTRUCTING REST AREAS

A Facilities to be Provided

1. Parking for cars and buses
2. Parking for trucks
3. Garden
4. Rest Houses with Toilets, Restaurant, Public Telephone, First Aid Box, Rest Rooms

B Area of Land

1. The land required will be about 2 hectares (ha)

C Area of Buildings

1. Snack Bar and restaurant	300 Sq.m
2. Office / Lobby	50 Sq.m
3. Toilet	50 Sq.m.
4. Rest Rooms (4 Nos.)	80 Sq.m
5. Shopping Kiosks (4 Nos.) & Telephone Booth	120 Sq.m

Total	600 Sq.m

D Area for Parking

Cars 20 Nos @ 5 m X 3 m	300 Sq.m
Trucks 20 Nos @ 10 m X 3.5 m	700 Sq.m
Add for Trailers	125 Sq.m
Bus 5 Nos @ 10 m X 3.5 m	175 Sq.m
Space for free movement	1600 Sq.m

Total	2900 Sq.m

E Area for Road

@ 10 % of total area = 20.000 X 0.1 = 2,000 Sq.m

F Estimated Cost

1.Land 2 ha @ Rs.8,00,000	16,00,000
2.Building 600 Sq.m @ Rs.6,000	36,00,000
3.Parking 1600 Sq.m. @ Rs.500	08,00,000
4.Road area 2,000 Sq.m @ Rs.700	14,00,000
5.Garden and Landscaping (Lump Sum)	05,00,000
6.Electricity, Water Supply and Sewerage (L.S.)	10,00,000

Total	89,00,000

G Other Cost

Administration, Engineering	
Project Management including contingencies	11,00,000
Total (A to G)	100,00,000
	i.e.Rs.1.0 Crore

Annexure 16.6

Recommended Space Standards for Different Facilities in a Truck Terminal

S.No.	Item Description	Area Requirement	Unit	Per
1	Parking Area			
	1. Excluding Circulation Area	30	Sq.m.	One stall
	LCVs	50	Sq.m.	One stall
	Rigid Truck	75	Sq.m.	One stall
	Articulated	20	Sq.m.	One stall
	Car			
	2. Including Circulation Area			
	LCVs	60-90	Sq.m.	One stall
	Rigid Truck	140-170	Sq.m.	One stall
	Articulated	220-290	Sq.m.	One stall
	Car	40-60		
2	Eating Places	2.0	Sq.m.	Cot
3	Dormitory	10.0	Sq.m.	One Office
4	Truck Operator's Offices	50.0	Sq.m.	One no.
5	Filling station-cum-service station	1575.0	Sq.m.	One no.
6	Toilets and wash-rooms	20.0	Sq.m.	One no.
	(4WC's, 1 bath & 3 basins			
7	Urinals	10.0	Sq.m.	One no.
8	Telephone kiosk	1.65	Sq.m.	One no.
9	Loading/unloading bays	500 (4mx14m)	Sq.m.	One no.
	Rigid truck	80.0(4mx20m)	Sq.m.	One no.
	Articulated			
10	Fire Station	4125 (55mx75m)	Sq.m.	One no.
11	Police Station	375	Sq.m.	One no.
12	Bank	130	Sq.m.	One no.
13	Post Office	130	Sq.m.	One no.
14	Weigh Bridge	675	Sq.m.	One no.
15	Repair shops (for trucks)	675	Sq.m.	One no.
		(45mx15m)		
16	Washing Ramps	100	Sq.m.	One no.
		(5mx20m)		

Source : Research Study R-62 on infrastructural facilities for multi axle vehicles.

Ministry of Surface Transport

Research Digest : produced in IRC Publication : Indian Highways, October 1999

**Description of forms prescribed under Motor Vehicle Act and the
important data/information collected through them**

Form 1

Application cum declaration
to the Physical Fitness

- * Name of the Applicant
- * Son/wife/daughter of
- * Permanent Address
- * Temporary Address
- * Office Address (if any)
- * Date of Birth
- * Age on the date of application
- * Medically fit/not fit to hold a
driving licence

Form 2

Application for the grant or renewal
of Learner's Licence

- * Type of Motor Vehicle
- * Educational qualification
- * Details of the previously holding
Driving Licence
- * Written consent of parent/guardian
(in case of applicant being a minor)
- * Payment of Fee for the Licence
- * Passed/Failed the test

Form 3

Learner's Licence

- * Licence number with date

Form 4

Form of application for Licence
to drive a Motor Vehicle

- * Description of Motor Vehicle
- * Whether exempted from the medical test
under rule 6 of the Motor Vehicles
Rules, 1989
- * Whether exempted from preliminary test
under Rule 11(2) of the Central Motor
Vehicles Rules, 1989
- * Passed/failed the test

Form 5

Driving Certificate issued by
Driving School or establishments

- * Course of Training of class of vehicle
- * Period of course training
- * Physically fit/not fit
- * Sense of responsibility

Form 6

Form of Driving Licence

- * Driving Licence No
- * Date of Issue
- * Description of Motor Vehicle
- * Validity period of the Licence
- * Badge Number

Form 7Form of Driving Licence
(Laminated and Card Type)

- * Driving Licence No
- * Date of Issue

Form 8Application for the addition of a new
class of vehicle to a driving licence

- * Description of Motor Vehicle to be added
- * Passed/failed the test

Form 9Form of application for the renewal
of Driving Licence

- * Driving Licence No
- * Date of Issue
- * Licence is renewed within 30 days/ not
renewed with reasons

Form 10

State Register of Diving Licence

- * Driving Licence No. and date of
initial issue
- * Licensing Authority which issued the
Licence
- * Name and address of the officer who has
taken driving test
- * Date of passing the test by the holder
of the licence
- * Date of expiry of the licence and further
renewal

Form 11Term of licence for the Establishment
of Motor Driving School

- * Driving Licence No
- * Description of Motor Vehicle
- * The period of validity of licence

Form 12Form of application for a licence to
engage in the business of imparting
instructions in driving of
Motor Vehicles

- * Place where the applicant desires to
start his business
- * Required facilities available/not
available

- * Qualification of staff engaged for imparting instructions
- * Whether model of engine to be used for training purposes is made or not
- * Details of the registration marks of the vehicles used for imparting driving instructions

Form 13

Form of application for renewing a licence to engage in the business of imparting instructions in the driving of Motor Vehicles

Form 14

Register showing the enrolment of trainee(s) in the driving school establishments

- * Enrolment number
- * Class of vehicle for which training imparted
- * Date of enrolment
- * Learner's Licence number and date of its expiry
- * Date of completion of the course
- * Date of passing the test of competence to drive
- * Driving licence number and date of issue

Form 15

Register showing the driving hours spent by Trainee

- * Hours spent in actual driving

Form 16

Form of application for grant or renewal of Trade Certificate

- * Whether the applicant is a manufacturer or dealer in Motor Vehicles, approved repairer of vehicles, engaged in building bodies to vehicles, engaged in the business of hire purchase/lease/hypothecation of vehicles
- * Number of certificates required
- * Class of Motor Vehicles(s) in respect of which each (certificate) is required

Form 17

Form of Trade Certificate

- * Serial number of certificate
- * Full name and address of certificate holder

- * Trade number of assigned in respect of the certificate
- * Class of Motor vehicle
- * Date of expiry of certificate

Form 18

Intimation of loss or destruction of a trade certificate and application for duplicate certificate

- * Trade Certificate No
- * Validity of the certificate

Form 19

Register to be maintained by the holder of Trade Certificate

- * Date Trade certificate No
- * The registration No. of vehicle
- * Description of Motor Vehicle
- * Driver's name
- * Licence No.
- * Hours of leaving the premises by the vehicle
- * Hours of return to premises by the vehicle
- * Mileage covered

Form 20

Application for the registration of Motor Vehicle

- * Name of the person to be registered as registered owner son/wife/daughter
- * Age of the person to be registered as registered owner
- * Permanent address of the person to be registered as registered owner
(Evidence to be produced)
- * Temporary address of the person to be registered as registered owner
- * Name and address of the dealer or manufacturer from whom the vehicle was purchased.....
- * Whether the vehicle is held under an agreement of Hire Purchase/Leased Hypothecation
- * Assigned registration No

Form 21

Sale Certificate

- * Brand name of the vehicle
- * Name of the buyer
- * Son/wife/daughter of
- * Address (permanent & Temp.)

	*	Date of delivery
	*	Agreement of
	*	Purchase/lease/hypothecation
Form 22		
Initial certificate of compliance with	*	Brand name of the vehicle
pollution standards, safety standards	*	Chassis No
of components and road worthiness	*	Engine No
	*	Complies with the provisions of the MV Act
		1988
Form 23		
Certification of registration	*	Registration No.
	*	Description of vehicle
	*	Purchase from the dealer name &
		address
	*	Name of the registered owner
	*	Son/wife/daughter of
	*	Address (permanent & Temp.)
Form 24		
Register of Motor Vehicle	*	Description of registration of motor vehicle
	*	Full name of owner on registration
	*	Son/wife/daughter of
	*	Full address
	*	Purchase of agreement like hire purchase
		lease hypothecation
	*	Registration No.
	*	Date of Registration
	*	Dealer name and address
	*	Previously assigned registration No.
	*	Date of expiry of previously
		assigned registration
	*	Previously registration under Hire Purchase/Leased
		Hypothecation
	*	Financier's name and address
Form 25		
Form of application for renewal of	*	Registered No.
certificate of Registration of a Motor	*	Date of Issue
Vehicle other than a Transport vehicle	*	Date of expiry
	*	Registering authority

Form 26

Application for the issue of
duplicate certificate of Registration

- * Registration mark of the certificate
- * Complaint no. and date with police
- * Date and duplicate registration no.

Form 27

Application for assignment of
new Registration mark to a
Motor Vehicle

- * Name
- * Son/wife/daughter of
- * Motor vehicle no.
- * Chassis No. Engine No.
- * Type of vehicle
- * Registered state
- * Date of valid registration
- * Assigned new registration mark

Form 28

Application for grant of no
objection certificate

- * Name and address, son/wife/daughter of
- * Registration number of the vehicle
- * Class of vehicle
- * Registering authority which originally registered
the vehicle
- * Engine number
- * Chassis number
- * Period of stay in the state
- * Period upto which motor vehicle tax has
been paid
- * Pending action under section 53, 54 or 55 of
the MVA 1988
- * Prohibited goods to be transported by the
vehicle
- * Name/address of the financier under an agreement
or HP/Lease/hypothecation
- * No objection certificate granted/not granted

Form 29

Notice of transfer of ownership
of a Motor Vehicle

- * Vehicle No.
- * Make
- * Chassis No.
- * Engine No.
- * Name of the transferee
- * Address of the transferee
- * Under the agreement of hire purchase/lease
hypothecation
- * Date of transfer effected from

Form 30

Application for intimation and
transfer of ownership of a
Motor Vehicle

- * Name of the transferor
- * Son/wife/daughter of
- * Full address
- * Date of selling of the vehicle
- * Name of the transferee
- * Son/wife/daughter of
- * Address of the transferee
- * Full name and address of the financier.....
- * Date of registration of transfer

Form 31

Application for transfer of
ownership in the name of the
person succeeding the
possession of the vehicle

- * Vehicle registration No.....
- * Make and model
- * Chassis No.
- * Type of vehicle
- * Name of the deceased registered
owner
- * Name and age of the person succeeding to the
possession of the vehicle
- * Son/wife/daughter of
- * Full postal address.....
- * Relationship with the deceased
registered owner
- * Date of registration of transfer of
ownership.....

Form 32

Application for transfer of
ownership in case of Motor
Vehicle purchased or
acquired in public auction

- * Name
- * Son/wife/daughter of
- * Full address
- * Vehicle No.....
- * Make
- * Model
- * Type of vehicle
- * Name of the auctioneer

Form 33

Intimation of change of
address for recording in the
certificate of Registration
and Office Records

- * Name.....
- * Son/wife/daughter of
- * Full address.....
- * Date of change of address.....
- * Present address.....
- * Name & full address of Financier.....

Form 34

Application for making an entry of an agreement of hire-purchase/lease/hypothecation subsequent to registration

* The Motor Vehicle No.....
 * Registration No.....
 * Agreement of hire purchase/lease/hypothecation.....
 * Name and full address of the Financier.....

Form 35

Notice of termination of an agreement of hire purchase/lease/hypothecation

* Vehicle No.....
 * Date of cancellation of the entry of an agreement.....

Form 36

Application for issue of a fresh certificate of Registration in the name of the Financier

* Name of the Financier.....
 * Motor Vehicle No.....
 * Make.....
 * Model.....
 * Defaulted registered owner's name.....
 * Full address of the defaulter.....
 * Agreement of hire purchase/license/hypothecation.....

Form 37

Notice of the Registered Owner of the Motor Vehicle to surrender the certificate of registration for cancellation and issue of fresh Registration certificate in the name of the Financier.

* Name of the registered owner.....
 * Name of the Financier.....
 * Registration No.....
 * Agreement of hire purchase/lease/hypothecation

Form 38

Certificate of fitness (in the case of Transport vehicle only)

* Vehicle No.....
 * Expiry date of certificate.....
 * Date of renewal of fitness certificate.....

Form 39

Form of letter of Authority issued to an authorised testing station

* Letter of Authority No.....
 * Date.....
 * Name of the Authority Holder.....
 * Address of the Authority Holder.....
 * Address of the testing station premises.....
 * The validity period of authority.....
 * The period of renewal of authority.....

Form 40

Application for grant or
renewal of Letter of Authority

- * Name of the Applicant.....
- * Son/wife/daughter of.....
- * Address.....
- * Qualification of the applicant.....
- * Experience in automobile workshop.....
- * Whether connected direct or
indirectly in transport business.....
- * Machinery & equipment.....
- * Staff engaged in different cadres
 - (i) Manager.....
 - (ii) Mechanic.....
 - (iii) Helpers.....
 - (iv) Other administrative staff.....
- * Particulars of a person required under clause (a) of
sub-rule(3) of rule 63 of Central Motor Vehicles,
Rules, 1989
 - (a) Name
 - (b) Age
 - (c) Qualification automobile engineering.....
 - (d) Actual experience in automobile
workshop.....
 - (e) Name of firm with full address
 - (f) Driving experience of various types of transport
vehicles
 - (i) Driving licence No.....
 - (ii) Issued by
 - (iii) Date of issue
 - (iv) Type of vehicle
 - (v) Period of validity of driving licence
 - (vi) Endorsement on driving licence, if any.....
- * Proof of land owned by or hired by the
applicant.....
- * Whether garage is equipped with following facilities:
 - (i) Water supply
 - (ii) Electricity
 - (iii) Toilet
 - (iv) Rest room
- * Source of finance.....
- * Number of existing letter of authority
- * Date of issue
- * Period of validity

Form 41

State Register of Motor Vehicles

- * Registration No.
- * Previous registration No.
- * Whether the Motor vehicle is
 - (a) New vehicle
 - (b) Imported vehicle
 - (c) Ex-army vehicle
- * Maker's name
- * Year of manufacture
- * Engine No.
- * Chassis No.
- * No. of cylinders
- * Cubic capacity/horsepower
- * Type of fuel used
- * Class of Motor vehicle
- * Name and full address of the registered owner
- * Seating capacity
- * Gross weight of the vehicle

Form 42Form of application for
the Registration of Motor
Vehicle by or on behalf of
a Diplomatic/Consular Officer

- * Full name, designation and address of the
diplomatic officer/consular officer
- * Age of the person to be registered as registered
owner
- * Name and address of the person from whom the
vehicle was purchased/name of the port through
which the vehicle was imported/name of the person
or company from whose bonded stocks the vehicle
was purchased and the name of the port
- * Country from which imported
- * Class of vehicle
- * Type of body
- * Maker's name
- * Year of manufacture
- * Number of cylinders
- * Horse power
- * Maker's classification or, if not known,
wheel base
- * Chassis number
- * Engine number
- * Seating capacity (including driver)
- * Unladen weight
- * Particulars of previous registration and registered
number (if any)

- * Number description and size of tyre
 - (a) front axle
 - (b) rear axle
 - (c) any other axle
- * Maximum laden weight kgs.
- * Maximum axle weight (in the case of heavy motor vehicle only)
 - (a) front axle kgs
 - (b) rear axle kgs
 - (c) any other axle kgs

Form 43

Certificate of registration of
a motor vehicle belonging to
a diplomatic or consular officer

- * Registration No.
- * Description No.
- * Full name and address of the diplomatic officer/
consular officer
- * Class of vehicle
- * Maker's name
- * Type of body
- * Year of manufacture
- * Number of cylinders
- * Engine numbers
- * Horse power
- * Maker's classification or wheel base
- * Seating capacity (including driver)
- * Unladen weight
- * Registered laden weight
- * Size of front axle
- * Size of rear axle
- * Size of any other axle
- * Registered axle weight (in the case of heavy motor vehicle only)
 - (a) front kgs
 - (b) rear kgs
 - (c) any other axle kgs

Form 44

Intimation of change of state of
residence and application for
assignment of fresh registration
mark by or on behalf of a
diplomatic or consular officer

- * Name and designation
- * Type of motor vehicle
- * Motor vehicle No.
- * Place of registration
- * Period of stay in the state

Form 45

Application for grant of permit
in respect of tourist vehicle

- * Name of the applicant
- * Status of the applicant (whether individual, company firm etc.)
- * Name of father or husband (in the case of individual) and in the case of firm or company the particulars of managing partner or managing director as the case may be
- * Full address
 - (a) whether applicant himself intends to drive the vehicle?
 - (b) if so, whether, applicant
 - i) holds heavy passenger motor vehicle driving licence
 - ii) the number, date and validity period of driving licence
 - iii) name and address of the licensing authority
- * Registration certificate along with the date of first registration, insurance certificate No.....
- * Details of other permits if any held in respect of particular vehicle
- * Details of total number of tourist permit held by the vehicle

Form 46

Form of application for grant
of authorisation for Tourist
Permit or National Permit

- * Name of the applicant(s) in full
- * Son/wife/daughter of
- * Address
- * Registration mark and year of manufacture and date of registration of the motor vehicle
- * Engine number of the motor vehicle
- * Chassis number of the motor vehicle
- * Permit number, the authority which has issued the permit and date of issue and date of expiry of the permit
- * Unladen weight of the motor vehicle
- * Gross vehicle weight of the motor vehicle
- * Pay load of the motor vehicle (seating capacity in the case of tourist vehicle)
- * Period for which the authorization is sought from

Form 47

Authorisation for Tourist
Permit or National Permit

- * Authorisation No.
- * Date of authorisation

- * Authorised through out India/state(s)
- * Name in full and complete address of holder of the permit
- * Registration make of the motor vehicle and mark.....
- * Year of manufacture
- * Engine number of the motor vehicle
- * Chassis number of the motor vehicle
- * Permit number of the motor vehicle
- * Name of the permit issuing authority
- * Date of expiry of the permit
- * Gross vehicle weight of the motor vehicle
- * Unladen weight of the motor vehicle
- * Seating capacity in the case of tourist vehicle
- * Period of validity of the authorisation from

Form 48

Application for the grant
of National Permit

- * Name of the applicant(s) in full
- * Status of the applicant, whether individual, company or partnership firm etc
- * Name of father or husband (in case of individual) and in case of company or firm the particulars of managing partner or managing director as the case may be
- * Full address
 - (a) whether applicant himself intends to drive the vehicle.....
 - (b) if so, whether applicant holds heavy goods vehicle driving licence
 - i) The number, date and validity period of the driving licence
 - ii) Name and address of the licensing authority
- * Registration certificate alongwith the date of first registration, insurance certificate
- * Details of any other permits if held in respect of a particular vehicle
- * Details of number of National Permits held by the applicant.....
- * Type of vehicle, whether two-axle truck, or articulated vehicle or multi-axle or tractor-trailer combination
- * Make of Motor vehicle

Form 49

* Bill No.
* Date.....

Form 50

Bill of Lading

* Name and address of the National Permit holder.....
* Registration number of the Motor Vehicle with date
* Name of the consignor.....
* Name of the consignee.....
* Point of origin
* Point of destination
* Number of articles.....
* Type of goods
* Weight in Kg
* Freight charges paid.....
* Freight charges to pay
* Total charges

Form 51

Certificate of Insurance

* Certificate number
* Policy No.
* Registration mark of the vehicle insured
* Description of the vehicle
* Make & year of manufacture
* Engine No.
* Chassis No.
* Carrying capacity
* Name and addresses of the insured
* Effective date and time of commencement of insurance
* Date of expiry of insurance
* Persons or class of persons entitled to drive
* Vehicle is stage carriage/contract carriage/private service vehicle

Form 52

Cover Note

* Registration mark & number of description of the vehicle insured
* Name and address of the insured
* Effective date & time of commencement of insurance
* Date of expiry of insurance
* Persons or classes of persons entitled to drive
* The expiry date of the cover note

Form 53

Certificate in respect of
exemption of Motor
Vehicle from Insurance

- * Registration number of vehicle
- * Make of the vehicle
- * Class of the vehicle
- * Colour of body
- * The property belongs to the government/local
authority/state transport undertakings
- * The validity period of the certificate

Form 54

Accident Information Report

- * Name of the police station
- * CR No./Traffic accident report
- * Date, time and place of the accident
- * Name and full address of the injured/
deceased.....
- * Name of the hospital to which he/she was
removed
- * Registration number of vehicle and type of the
vehicle
- * Driving licence particulars :
(a) Name and address of the driver
- (b) Driving licence number and date of
expiry.....
- (c) Address of the issuing authority
- (d) Badge No. in case of public service
- * Name and address of the owner of the vehicle at the
time of the accident
- * Name and address of the insurance company with
whom the vehicle was insured and the particulars of
the divisional officer of the said insurance
company
- * Number of insurance policy/insurance certificate and
the date of validity of the insurance policy/insurance
certificate
- * Registration particulars of the vehicle (class of
vehicles)
(a) Registration No.
- (b) Engine No.
- (c) Chassis No.
- * Route permit particulars.....
- * Action taken, if any, and the result thereof

Form 55

Application for the approval
of a Foreign Insurer

- * Name of the foreign insurer
- * Domiciled at

Form 56

Notice to cease to act
as guarantor

- * Address of foreign insurer
- * Date of ceasing as guarantor

Form 57

Certificate for Foreign
Insurance

- * Certificate No.
- * Policy No.
- * Name and address of approved foreign
visitor
- * Name and address of guarantor
- * Registration mark and number of the motor
vehicle
- * Name and address of the visitor
- * Date of commencement of policy
- * Date of expiry of the policy
- * Person or class of person entitled to drive
the vehicle in India

Form 58

Endorsement on certificate
of foreign insurance

- * Expiry date of validity period of
endorsement
- * The validity period of renewal of
endorsement

Annexure 17.2

Commonality of Data in Various Forms under Motor Vehicles Act

S.No.	Particulars	Form numbers										
		Issue of Driving Licence	Licencing for establishment of Motor Driving school	Registration of Motor Vehicle	Transfer of ownership of Motor Vehicle	Agreement of Hire Purchase/ Lease/ Hypothecation	Authorising Testing Stations	Registration of Motor Vehicle on behalf of Diplomat /Consular Officer	Grant of Licence in respect of Tourist Vehicle	Certificate of Insurance	Accident information report	Approval of foreign Insurer
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Name of the Applicant	F1,F1A, F2,F3,F4, F5,F6,F7, F8,F9,F10	F14,F15,F16 F18	F20,F27,F28, F41	F29,F30 F33		F40	F42,F44	F45,F46, F48			
2	Son/Wife Daughter of	F1,F2,F3, F4,F5,F7, F9,F10	F14,F16,F18	F20,F21,F23 F24,F26,F27 F28	F29,F30 F32,F33		F40	F42,F43	F45,F46, F48			
3	Permanent Address	F1,F2,F3, F4,F5,F6, F7,F9,F10	F14,F16,F17 F18	F20,F21,F23 F24,F25,F26 F28,F41	F29,F30 F32,F33		F40	F42,F43	F45,F46, F48			
4	Temporary Address	F1,F2,F3, F4,F5,F6, F7,F9,F10	F14,F16,F17 F18	F20,F21,F23 F24,F25,F28	F30,F32		F40					

		0										
5	Official Address (if any)	F1,F2,F3, F4,F5,F6, F7,F9,F10	F14,F16,F17 F18	F20,F21,F23 F24,F25,F28	F30,F32 F33		F40	F42				
6	Date of Birth	F1,F2,F3, F4,F6,F10	F14									
7	Age on Date of application	F1		F20			F40	F42				
8	Identification marks (i) (ii)	F1,F1A,F2, F3,F4										
9	Any medical Deficiency	F1,F1-A										
10	Blood Group	F1A,F2,F3, F4,F6,F7 F8,F9										
11	RH Factor	F1A,F2,F3, F4,F5,F8 F9										
12	Medical Fitness	F1A,F2,F3, F4,F5,F7, F8,F9										
13	Name and Designation of the Medical Officer/Practitioner	F1-A										
14	Registration number of Medical Officer	F1-A										
15	Description of Motor Vehicle(s) (a)Motor Cycle without gear (b)Motor Cycle with gear	F2,F3,F4, F6,F7,F8 F9,F10	F11,F14,F15, F16,F17,F19	F20								

[illegible]

28	The validity period of Learner's Licence	F3	F14									
29	Previously held driving lincence No. with date	F4,F7										
30	Driving Certificate No.	F4						F48				
31	Full name and designation of testing authority	F4,F6,F8, F10										
32	Date and enrolled No. of driving school	F5	F14,F15									
33	Course of training of class of vehicle	F5										
34	Period of training	F5	F14									
35	Driving Licence No. with date	F6,F7,F8, F9,F10	F14			F40		F48		F54		
36	Validity period of licence to drive motor vehicle	F6,F7, F9,F10				F40		F45,F48		F54		
37	Badge No.	F6,F7								F54		
38	Licensing authority by which the licence was issued	F9,F10	F14			F40		F45,F48				
39	Licensing authority by which the licence was las renewed	F9								F54		
40	Name of the school and extent of facilities available for training		F12									
41	Qualification of staff engaged for imparting instructions		F12									
42	Make and model of engine to be used for training purposes		F12									
43	Details of the registration marks of the vehicles used for imparting driving instructions		F12									
44	Hours spent in actual training school		F15									
45	Whether the applicant is a manufacturer of dealer in motor		F16	F23								

	vehicle, approved repairer of vehicles, engaged in building bodies of vehicles, engaged in business of higher purchase, lease, Hypothecation											
46	Number of certificates required		F16									
47	Serial number of trade certificate		F17									
48	Trade number assigned in respect of the certificate		F17,F18,F19									
49	Date of expiry of the trade certificate		F17,F18									
50	Name and address of the dealer or manufacturer from whom the vehicle was purchased			F20								
51	Vehicle is ex-army vehicle, imported vehicle, locally manufactured vehicle			F20,F24,F41								
52	The Motor Vehicle is (a) New vehicle (b) Ex-army vehicle (c) Imported vehicle			F20,F23,F24, F25,F41	F30			F42,F43		F51		
53	Type of body			F20,F24,F25				F42,F43				
54	Type of vehicle			F20,F21,F22, F23,F24,F27, F28	F29,F30,F32	F36	F40	F42,F43	F45,F48	F51	F54	
55	Maker's name			F20,F21,F23 F24,F25,F4	F32	F36			F45,F48	F53		

				1								
56	Month and year of manufacturer			F20,F21,F23 F24,F25								
57	Number of cylinders			F20,F21,F23, F24,F25,F41				F42,F43				
58	Horse power			F20,F21,F23, F24				F42		F53		
59	Cubic capacity			F20,F21,F23 F24,F25,F41								
60	Wheel base		F20,F23,F24									
61	Chassis number			F20,F21,F22, F23,F24,F25, F27,F28,F41	F29,F30			F42	F46,F47	F51	F54	
62	Engine Number			F20,F21,F22, F23,F24,F25, F27,F28,F41	F29			F42,F43	F46,F47	F51	F54	
63	Seating capacity(including driver)			F20,F21,F22, F23,F24,F25, F27,F28,F41	F29			F42,F43	F46,F47	F51	F54	
64	Fuel used in engine			F20,F21,F23, F24,F25,F41								

65	Unladen weight			F20,F21,F23, F24,F25,F41				F42,F43	F46,F47			
66	Previously held registration number of the vehicle			F20,F21								
67	Colour or colours of body wings and front end			F20,F21,F24				F42,F43		F52		
68	Number description and size of tyres			F20,F21,F24				F43				
69	Front axle			F20,F21,F23, F24					F48			
70	Rear axle			F20,F21,F23, F24					F48			
71	Gross vehicle weight			F20,F21,F23, F24,F41					F46,F47			
72	Maximum axle weight (a) Front axle (b) Rear axle			F20,F21,F23, F24				F42,F43				
73	Overall length			F20,F23,F24				F43				
74	Overall height			F20,F23,F24								
75	Overall width			F20,F23,F24								
76	Overhang			F20,F23,F24								
77	Type of body of semitrailer			F20,F24								
78	Weight of semitrailer			F20,F23,F24								
79	Number, description and size of			F20,F23,F24								

	each axle of trailer											
80	Maximum axle weight in respect of each axle			F20,F23,F24								
81	Valid insurance certificate number with validity period			F20,F24						F51,F52	F54	
82	Motor vehicle is subject to hire purchase lease/hypothecation			F20,F21,F25,F26,F27,F28	F29,F30,F31, F33,F34	F35,F36, F37						
83	Motor vehicle registration number with validity period			F20,F25,F26, F28,F41	F30,F31, F33,F34	F35, F37	F38	F42	F45,F46 F47,F50	F53	F54	F57
84	Brand name of the vehicle delivered			F21								
85	Date of delivery			F21								
86	Name of the buyer			F21,F23,F24, F25,F26	F31,F34							
87	Vehicle complies with the provisions of the Motor Vehicle Act, 1988 with respect to pollution standards			F22								
88	Vehicle complies with the provisions of the Motor Vehicle Act, 1988 with respect to body of the vehicle			F22								
89	Markers' classification			F25								
90	Police complaint registration number for loss of registration certificate			F26								
91	Motor vehicle number			F27	F29,F32	F35,F36	F38	F44	F46			
92	Name of the state of registration			F27								
93	Date and period of registration			F27	F29							
94	Previous registration number			F27,F41								

	with validity period											
95	New registration mark			F27								
96	Registering authority which originally registered the vehicle			F28								
97	Period of stay in the state			F28								
98	Period upto which motor vehicle tax has been paid			F28								
99	Pending tax details			F28								
100	Vehicle involved in any theft cases with details			F28								
101	Action pending against section 53,54 or 55 of motor vehicle act 1988			F28								
102	Any case against transporter prohibited goods			F28								
103	Name of the purchaser				F29,F30	F36,F37						
104	Address of the purchaser				F29,F30	F36,F37						
105	Effective date of transfer				F29,F30,F31							
106	Full name of the financier				F30,F31,F33 F34	F36						
107	Address of the financier				F30,F31,F33 F34							
108	Relationship with the deceased registered owner				F31							
109	Date of transfer of ownership in case of motor vehicle purchased or aquire in public auction				F32							
110	The new address				F33							
111	The period of renewal of fitness certificate in case of transport vehicle					F38						
112	Number of letter of authority					F39,F4						

	for testing station with date						0					
113	Name of authority holder						F39					
114	Address of authority holder						F39					
115	Address of the premises of the testing station						F39					
116	Period of validity of authority for testing station						F39,F49					
117	Renewed period of authority						F39					
118	Experience in automobile workshop						F40					
119	Directly/indirectly in all in transport business						F40					
120	Machinery & equipment						F40					
121	Staff engaged in different cadres (I) Manager (ii) Mechanic (iii) helper (iv) other administrative staff						F40					
122	Driving experience of various type of transport vehicles						F40					
123	Endorsement on driving licence, if any						F40					
124	Proof of land owned by or held by the applicant						F40					
125	Whether garage is equipped with (I) water supply (ii) electricity (iii) toilet (iv) rest room						F40					
126	Source of finance						F40					
127	Designation of Diplomatic							F42,F43				

	officer/ consular officer							F44				
128	Name and address of the person from whom the vehicle was purchased							F42				
129	Country from which imported							F42				
130	Year of manufacture							F42,F43				
131	Register number of motor vehicle belonging to diplomatic or consular officer							F43				
132	Registering place of vehicle							F44				
133	Period of stay of the vehicle in the state							F44				
134	Status of the applicant, whether individual company or partnership firm or cooperative society etc.								F45,F4 8			
135	If applicant holds Heavy passenger motor vehicle licence								F45,F4 8			
136	Details of other permits, if any, held in respect of particular vehicle								F45			
137	Details of total number of tourist permits held by the applicant								F45,F4 8			
138	Registration mark and year of manufacture								F46,F4 7	F51,F5 2		
139	Permit number, the authority which has issued the permit and date of issue and date of expiry								F46,F4 7			

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