

# Chapter 4

## SECTOR PERFORMANCE AND POLICY & REGULATORY ISSUES



### 4.1 Sector Performance

#### 4.1.1 Measuring Performance

There are no simple ways to compare the PRC's road transport performance with that of other countries. Some measures indicate aspects of performance—economy (minimizing the

cost of a given transport task), productivity (the efficiency with which resources are used for a particular transport purpose), accessibility (the extent to which services are available to everyone), affordability (the relationship between prices and income), safety (the risk of accidents), and environmental protection (noise, water, and air pollution)—but even collectively they do not indicate how well the transport system meets the needs of its users. Unit transport costs are, of course, a key indicator but levels of service (comfort, speed, reliability of schedules, security, risk of damage, or pilfering) are often more important, especially in a modern logistics chain. Unit costs alone do not capture these aspects of performance.

Many factors affecting unit costs and service standards can, however, be influenced by policies and regulations. For both truck and bus services, these include :

- the quality of management, affecting marketing, operations, procurement, safety standards, staffing practices, and the productivity of staff and equipment, often depending on whether the operator is state- or privately-owned and the degree of competition in the industry ;
- the size of vehicle –( larger trucks and buses offer economies of scale ) their use can be influenced by better roads, the structure of road user taxes, vehicle import and manufacturing policies and access to capital for fleet replacement or expansion ;
- the age, technology, and condition of trucks and buses, which affect availability, speed, and consumption rates for fuel, spares, and other inputs—these can also be influenced by regulatory controls and market incentives ;
- the quality of service – higher-quality, more reliable, specialized services with added features are more expensive ;
- return load factors, which depend on the pattern of demand but can be influenced by policies and regulations governing service licensing and the structure of routes, the role of transport intermediaries like freight forwarders, the location and operation of terminals, and information-sharing on transport market opportunities ;
- restrictions on working hours ( influenced by regulation ), enforcement procedures ( e.g., the frequency of checkpoints ) and the pro-

portion of empty running and idle time, often due to variations in demand but also influenced by policies governing market entry and competition ;

- road conditions – expressways offer better pavements, lower traffic congestion, and lower-cost running conditions than lower-class roads, but they also involve tolls ; and
- the unit prices of vehicles, spare parts, fuel, and labor, all of which vary with tax or subsidy policies and distances from major markets.

Vehicle utilization ( vehicle-km per year ) affects the balance between fixed and variable costs<sup>[ 1 ]</sup> and gives an overall indication of efficiency. Low utilization rates are caused by poor road conditions ( e.g., due to poor construction or maintenance standards or traffic congestion ), poor condition of vehicles, poor operating practices ( e.g., low availability due to repairs, high proportion of waiting, loading and unloading time ), or regulatory or security constraints that limit operating hours. Utilization may also be low, however, where customers value and are willing to pay for the greater reliability and flexibility of a customized service, in which case, low utilization and high costs are not necessarily indicators of poor performance. So while unit costs are usually the single most important characteristic of freight transport services, customers also attach importance to speed, door-to-door delivery time, avoidance of damage and theft, and predictability of delivery time. In the trade-off between service quality and cost, customers in a modern logistics chain often prefer higher-quality services if they help reduce inventory costs and improve delivery reliability.

For buses, similar influences apply. Units costs are affected by patterns of demand ( which determine

[ 1 ] Fixed costs are those components of total cost that do not vary with vehicle-kms. They include staff costs, depreciation, interest charges, and overheads. Variable costs do vary with vehicle-kms and include the costs of fuel, oil, tires, and spare parts.

schedules , also influenced by route licensing controls ) , quality of service demanded ( seat availability , schedule predictability , comfort , special features ) , and degree of competition in the market ( also a function of market-entry and route licensing ). Like freight customers , bus passengers attach importance to service quality as well as fares , especially travel time ( including access and waiting times , which are affected by route density , service frequency and reliability of departure/arrival , and rate of breakdowns ) , and comfort ( type of seating , air-conditioning , video , etc. , and the facilities at bus stations ).

Just as for trucks , bus utilization ( bus-kms per year ) is an indication of overall efficiency. A low rate would indicate the influence of poor roads , unreliable buses or inefficient scheduling. But low utilization might not necessarily indicate inefficiency ; often , patterns of passenger demand are uneven , and low utilization results to some extent from the need to provide peak-period capacity.

It is only through interviews with transport companies , shippers , freight forwarders , and passengers , as well as analysis of operating records , that a true picture can emerge of the quality and performance of road freight and passenger operations. Much of the information presented in later chapters , therefore , is based on a series of interviews in the sample provinces of Yunnan , Gansu , and Heilongjiang.

While this approach is not comprehensive—a project of this sort cannot possibly cover all types of operation—by examining a selection of transport operations , it was hoped that the factors currently influencing the industry's efficiency and demand-responsiveness and the regulatory constraints that need to be removed to enable it to respond to the challenges outlined earlier , would be identified.

#### 4.1.2 Freight Transport

Earlier studies ( see Chapter 1 ) noted inefficiencies and high costs in the PRC's road freight transport system and identified many of the causes.<sup>[ 2 ]</sup> Since then , much has changed , and many of the factors inhibiting efficiency have been removed. Freight transport operators are largely free to compete for business , whether with SOEs , JVs , or private companies. Entry to the road freight market is largely unrestricted , even for foreign investors. Access to capital is somewhat easier. Restrictions on tariffs have been removed. SOEs and other customers are becoming less willing to protect local transport businesses or retain inefficient own-account operations if it means accepting lower service standards and higher overall logistics costs. Regulators are more aware of the benefits of competition , though some local protectionist measures still appear to be

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[ 2 ] These included restrictions on market entry and competition ( mostly through efforts to protect local enterprises or guarantee them market share ) ; a predominance of SOEs among for-hire transport companies and own-account operators ; inappropriate ownership and management structures and poor commercial management skills among SOEs ; difficulties in raising capital for fleet investment and expansion ; inappropriate vehicle sizes and technologies ; poor vehicle maintenance ; low vehicle and labor productivity ; high nonwage staff overheads ( SOEs tended to pay all-up wage costs 25 –35% higher than the private sector ) and difficulties in shedding inefficient or redundant staff ; outdated and inefficient cargo-handling methods and warehousing ; lack of attention to customers' needs ( and customers who were not sensitive to quality and cost pressures ) ; limited use of information technology ( IT ) ; lack of coordination of services between transport modes ; poor standards of road construction and maintenance ; poor highway , vehicle , and driver safety standards ; ineffective enforcement of traffic regulations ; and the many legacies of an economy that depended largely on heavy industry and prioritized low-cost raw material inputs and bulk commodity movements. The PRC's unit transport costs were significantly higher than other , more market-driven countries , even though the PRC's unit labor costs were—and still are—much lower.

applied. The range of vehicle technologies from overseas and domestic manufacturers is very much improved and better geared to the needs of the market. The road network is vastly of better quality, more extensive, and better interconnected. Links with railways and ports are better, though only a few truly integrated inter-modal services exist. Freight centers help consolidate loads. Freight forwarders and other intermediaries help bring together customers and suppliers and support those operators who provide the best service. Vehicle and driver safety standards have improved with growth in the fleet, replacement of older, unsafe vehicles, better education, and strengthened enforcement of safety regulations.

But most importantly, the industry has begun to adjust—by necessity—to customer pressure in a more open, competitive, dynamic, and diversified market. Rapidly rising demand for consumer goods, processed foods, and manufactured products, and producers' and distributors' need to get goods to markets quickly, reliably, and with minimal losses have forced the logistics industry—and, through it, the transport industry—to be more competitive and to pay more attention to what the customer wants. For their part, customers are more willing to pay for better-quality services, recognizing that the benefits of lower inventories, lower warehousing costs, and a quicker market response are greater than the additional costs of higher-quality transport services.

These changes are occurring mostly at the “top” end of the market, where high-speed, interregional services over integrated national networks are demanded by major brands. But their impacts are increasingly being felt lower down the market too, as subcontractors compete to provide better feeder and support services, smaller firms attempt to upgrade and con-

solidate in competition, and customers in fields unrelated to consumer markets start demanding better service. In response to the needs of the top end, services at the lower end are broadening, firms are becoming more specialized, handling methods are improving, vehicle technologies that perform better are being chosen, information technology (IT) and freight tracking systems are being used, and more premium is being placed on service quality and longer-term customer relations.

How does the PRC measure up in these areas against the performance of other countries? It is certainly catching up, but conventional measures of performance are not always useful in showing how far it has to go. The reason is that customers want more than just minimum-cost services. The same factors that drive industry reforms and efficiency in North America, Europe, and Australia are doing so in the PRC: a sharper focus on customers' needs; long-term planning within lasting customer relationships; partnering with customers and suppliers; continuous improvement; performance measurement and guarantees; and integrated IT.

Asia lags behind North America and Europe in adopting this model of distribution. Figure 10 shows one set of estimates of the proportion of logistics costs in total revenue for a range of types of commodity; in all cases, Asia's logistics costs are higher. Elsewhere, it has been claimed that overall logistics costs in the PRC (transport, warehousing, administration, and inventory) could account for 30.0–40.0 percent of the total cost of manufactured goods<sup>[3]</sup> compared with 5.0–20.0 percent for the US, and that in some areas transport costs may be 50.0 percent higher than in the US. Yet whatever the precise figures may be, the trend will be downward; in Europe logistics' share

[ 3 ] The Hong Kong Trade Development Council has estimated that logistics in the PRC account for 40 percent of general production costs and take up 90 percent of the production cycle time. In some sectors, e.g., food, logistics costs can be 50–60 percent of total revenue.

of revenues fell from 14.3 percent in 1987 to 10.1 percent in 1992 and 9.1 percent by 1997 and is lower again now ; leading firms were 35.0 percent lower than these. Transport is a significant logistics cost component , but most transport improvements allow significant reductions in other costs , especially inventory , administration , and warehousing. In addition , higher-quality logistics services would help reduce the cost of damage from the PRC's estimated 5.0 percent damage rate to the 1.0 percent or less experienced in developed economies.

With road transport management , technology and efficiency being driven more by external trade and market pressures than by technical regulation , an important question is : To what extent is regulatory reform necessary to achieve further gains in efficiency ? The answer must lie in an analysis of the difficulties still being faced by the larger foreign , JV , and

domestic firms when expanding and optimizing their operations , and the adjustments that still have to be made by other domestic firms when competing , providing support services or catering for other markets in mining , agricultural , forestry , or other less time-critical products. In both cases , from earlier surveys and reported discussions with service-providers , the constraints would appear to include :

- remaining restrictions on the ability of importers and traders to establish distribution agencies and networks , and hence , on the role and scope of logistics service providers ;
- unnecessarily costly or cumbersome restrictions on the establishment and licensing of logistics service providers , particularly when expanding network coverage to other provinces and negotiating alliances with operators in regional and local centers , as well as infor-

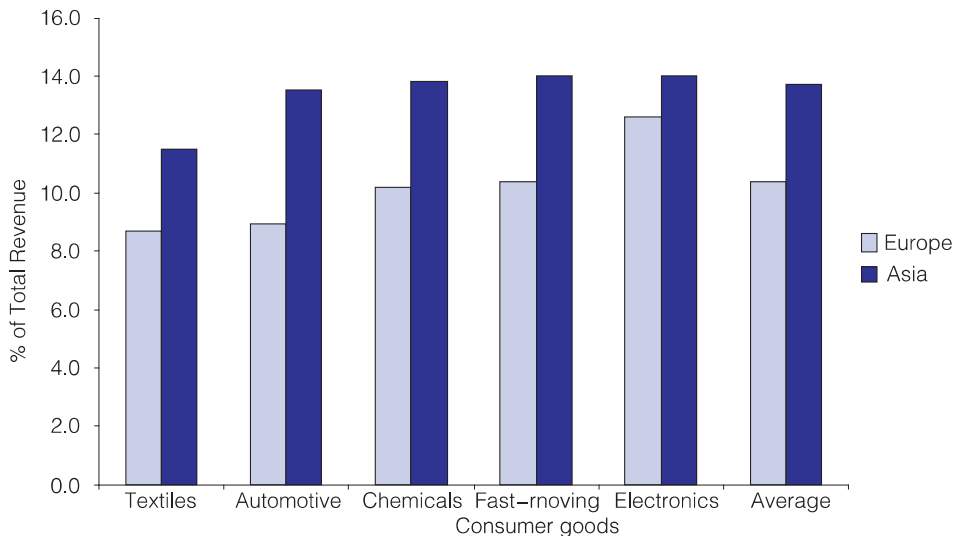


Figure 10 Logistics Costs as a Share of Total Revenue , Europe and Asia , 2001<sup>[4]</sup>

[ 4 ] Source : Gibson , Ken , Analyzing the Trends : Predicting the Future of Logistics in Asia , Presentation Toward the Final Frontier : Logistics and the Efficient Supply Chain , September 2001.

- mal restrictions on transport between provinces [ 5 ]
- informal restrictions on the freedom of SOE customers—whether shippers or purchasers—to utilize foreign-owned or JV transport services , including pressure from local governments , as owners , to prioritize local companies ;
  - difficulties experienced by government-owned transport services in restructuring their ownership and management and in positioning themselves for competition , including difficulties in shedding staff , recruiting new commercial skills , and changing their business model ;
  - restrictions on access to efficient transport and handling technologies , and limitations on access to capital for expansion or fleet replacement , particularly on the part of private companies ;
  - a failure to use pricing , cost-recovery , taxation , and subsidy policies to promote efficiency—e.g. , by using taxation policy to penalize older vehicles and encourage the use of multi-axle vehicles that do comparatively less road damage per ton of payload ;
  - the present policy of recovering expressway operating and financing costs from tolls ( exacerbated by fragmented network ownership ) which often amount to 20–40 percent of transport costs and hinder trade by discouraging drivers from using expressways in preference to alternative non-toll routes ;
  - unnecessary controls over the location , design , and use of freight centers and other transfer points , restrictions on truck access to

- ports and terminals on congested networks , and other inefficiencies in intermodal transfer arrangements ;
- shortages of staff trained in new management , marketing , IT , and customer relations skills ; and
- shortcomings in enforcement of safety-related regulations , including procedures for vehicle inspection , restrictions on vehicle overloading , and arrangements for the carriage of dangerous cargoes.

### 4.1.3 Passenger Transport

In some ways , the changes that have affected passenger transport services are similar to those for freight. A relaxation of market entry , greater price and quality competition , access to more suitable vehicles , and greater freedom to set prices and quality standards have led to significant improvements in the availability , quality , and efficiency of services—as has the rising incomes of passengers. Though controls over routes still exist , in most respects , they are not exercised in a way that would prevent appropriate services—i. e. , with the right combination of capacity , frequency , price and comfort—from being offered if the demand were there. And service quality continues to rise while there is competition. Long-distance operators , for example , have to offer more and better service features like air-conditioning , in-vehicle toilets , video TV , and refreshments. The safety and environmental features of vehicles also continue to improve as more modern designs are brought into service. In many respects , the existing regulatory framework is serving the public well. Competition is putting

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[ 5 ] These are reported to include non-standard licensing practices by the transport and Administration Bureaus ( TABs ) and the Administration Bureaus of Industry and Commerce ; restrictions on city access to outside companies , and fines if they are violated ; conditions imposed on representative office rentals ; non-standard/additional administration fees and bond requirements.

pressure on operators to improve their services and adjust to customers' needs. And competition will increase as low-cost air transport and railway services start to become attractive alternatives.<sup>[ 6 ]</sup>

Are there areas where the regulatory framework for passenger transport needs adjustment or strengthening? There are two areas: licensing restrictions, including the categorization of operators and routes, and the conditions attached to route operations through terminals—discussed below—that leave little room for innovation and limit opportunities for improving bus and driver productivity. What about others? The regulatory framework is often criticized for lack of services in rural areas where demand is scarce. It is indeed true that services are of lower quality and less frequent in these areas, but the system of licensing is such that any entrepreneur is free to offer services if he perceives potential demand to exist. What critics often want is services in areas where they would be unprofitable. If that is what governments want, then they should pay subsidies to enable operators to recover their costs.

## 4.2 Issues Common to Freight and Passenger Transport

### 4.2.1 Licensing Procedures and Criteria

According to RTO, applicants for freight or passenger transport operating permits should possess suitable vehicles that have passed the relevant inspections, employ qualified drivers, and have suitable safety management systems. A qualified driver has a valid driving license, is less than 60 years old, has no serious traffic accident record in the previous 3 years, and has passed tests on the laws and regulations governing freight or passenger transport (as

appropriate), vehicle repair, and first aid. For truck drivers, this includes goods loading and storage. Applicants for regular bus routes should have specific plans for those routes and the stations to be used. A separate application is required for each route.

All freight transport operators are encouraged to secure and enclose their loads for safety and environmental protection. Applicants for hazardous goods transport should also possess five or more specialized vehicles and facilities exclusively for hazardous goods transport, employ drivers, loaders, and escorts holding specialized qualifications, and have communication facilities installed on their vehicles. They should have procedures to prevent ignition, explosion, radiation, or leakage of hazardous goods. Escorts must accompany hazardous goods being transported, and the goods must be clearly marked as hazardous. Consignors have an obligation to notify the freight operator of the name, properties, and treatment measures in case of emergency, and package and mark the goods clearly.

Applicants must also meet any registration or licensing arrangements applicable to their form of industrial or commercial organization, such as registration of a business with the Industry and Commerce Administration Department (ICAD).

Permits for operations within or between counties are issued by county road transport authorities; for interprovincial/municipal operations, they are issued by the road transport authorities in the province or municipality of domicile after consultation with the other provinces or municipalities involved.

Road transport authorities, when considering passenger transport applications, are expected to take into account the demand/supply situation in the market, and the public's convenience. If there are three or more applicants for the same route, the au-

[ 6 ] In Indonesia, for example, long-distance bus services are under considerable pressure from and are upgrading their services in response to low-cost air services in a deregulated air transport market.

thorities may decide on the basis of public bidding. Road transport authorities should regularly release information on the demand/supply situation in the passenger transport market.

If granted, a permit to provide a regular bus service on any route will expire after 4–8 years, when the operator should reapply if he wishes to continue providing the service. A 30-day notice must be given if an operator wants to terminate the service.

Licenses for freight transport operations involving hazardous goods are issued at provincial or municipal level.

An applicant for an international (cross-border) road transport permit must have a normal road transport permit and 3 or more years of experience in domestic road transport with no record of serious traffic accidents. Permits are issued by municipal or provincial road transport authorities. Chinese operators of international services must identify their vehicle as Chinese; vehicles from other countries must also show their nationality. Foreign operators are restricted to routes designated by MOC, and may not operate services with both origin and destination in the PRC. With the approval of the SC, they may establish permanent representative offices in the PRC, but these may not engage in business operations. International transport operations may be governed by international agreements.

Permits for the operation of road transport stations (terminals), motor vehicle repair services, and training services for motor vehicle drivers are issued by road transport authorities at county level. Applicants should possess inspected premises meeting authorized standards, with the necessary equipment and facilities; employ relevant professional and management staff; and maintain a formal set of instructions for operations and safety management. Among other things, requirements for driver training establishments include model vehicles and necessary space, but there is no requirement that trainees be

taught in a real driving environment.

Road transport station (terminal) operators should forbid vehicles without permits from entering, conduct safety inspections on vehicles departing, and prevent overloaded vehicles or vehicles without safety inspection certificates from leaving the station/terminal. They should treat users impartially, and should not prevent vehicles from entering without good reason. They should provide safe, convenient, and efficient services to passengers and shippers, and maintain the stations in a clean and sanitary condition.

Operators of bus stations/terminals should arrange the allocation of departure times with operators; publicize routes, destinations, stops, departure times, and ticket prices; control bus arrivals and departures; control the movement of passengers through the station; and ensure orderly boarding and alighting from buses. They should provide facilities to passengers for buying tickets, waiting for vehicles, depositing luggages, etc. Freight terminal operators must load, unload, store, and take care of goods according to regulations specified by relevant transport administration authorities (i.e., TABs).

RTO sets conditions for relinquishing licenses, keeping vehicles clean, protecting passengers from harm, ticketing, and prohibiting dangerous goods on buses. It specifies that compensation by operators for accidents or loss or damage of luggage be made according to prior agreement with the passenger or, in the absence of such agreement, according to rules established for maritime or railway transport.

For both passenger and freight transport, RTO encourages safety training and compliance with the rules of the road; limits driving hours to a maximum of 4 hours without a break; requires the maximum legal capacity or load to be marked on vehicles; requires vehicles to be maintained to their approved technical standards; requires operators to have plans for dealing with accidents, natural disasters, emergencies, and to follow the instructions of relevant authorities if

accidents or emergencies occur ; requires vehicle permits to be kept in the vehicles and not transferred or rented ; limits the number of passenger or freight loads , lengths , widths , and heights of vehicles , to the authorized maxima ; requires operators to carry passenger or goods liability insurance ; and specifies that infringements will be punished according to the Road Traffic Safety Law by the traffic authorities of PSBs.

RTO specifies arrangements for enforcement and supervision , covering such matters as supervision of lower-level authorities by higher-level authorities , employee skills and training , internal supervision , public supervision of enforcement activities , reporting , procedures for and investigations of complaints , prohibition of illegal or arbitrary toll stations or fines and arbitrary stopping of vehicles , display of enforcement authority , access to information and protection of rights to privacy , removal of overloaded vehicles from the road , and care of detained vehicles.

It sets out fines and penalties for infringement : for no valid permit , suspension of business , confiscation of illegal profits , and a fine of 2 – 10 times the illegal profit ( or CNY30,000 – 100,000 if these were less than CNY20,000 ) ; for drivers with invalid permit , a CNY200 – 2,000 fine ; for illegal operation of terminal , motor-vehicle repair , and driver-training services , suspension of business , confiscation of illegal profits , and a fine of 2 – 10 times the illegal profit ( or CNY20,000 – 50,000 if these were less than CNY10,000 ) ; for unlawful transfer or rent of road transport operating permit , suspension of illegal operations , confiscation of permits and illegal profits , and a fine of CNY2,000 – 10,000 ; for failing to provide liability insurance cover , compulsory purchase within a given period or , if this is refused , revocation of operating permit ; for not keeping permits in the vehicle , a warning or fine of CNY20 – 200 ; immediate rectification or , for serious cases , revocation of permit for stopping at unauthorized passenger terminals , running on unauthorized routes or in unauthorized

shifts , changing vehicles without authorization , terminating services without notice , or failing to secure freight ; for failing to maintain vehicles or have them inspected , rectification and a fine of CNY1,000 – 5,000 ; for refitting vehicles without authorization , rectification and a fine of CNY5,000 – 20,000 ; for terminal operators who allow vehicles that are without permit , overloaded , or without safety inspection , or who reject vehicles without sound reason , rectification and a fine of CNY10,000 – 30,000 ; for arbitrarily changing the functions of terminals or routes , origins/destinations , stops , departure times , or ticket prices , rectification and a fine of CNY3,000 ; various penalties for infringement of regulations governing motor-vehicle repair and driver-training operations ; for infringement of regulations governing international road transport operations , suspension of operations , confiscation of illegal profits , and a fine of 2 – 10 times illegal profits ( or , if profits are less than CNY10,000 , a fine of CNY30,000 – 60,000 ) ; civil or criminal prosecution ( depending on severity ) for infringement of regulations by employees of road transport authorities , including failure to issue permits correctly or within the time prescribed , engaging in road transport operations or related business , failure to investigate illegal acts , restricting or inspecting vehicles not in accordance with regulations , detaining vehicle or transport operating permits not in accordance with regulations , and seeking or accepting bribes

Among other supplementary matters , RTO permits foreign businesspersons to invest in road transport and related businesses through JV , joint-stock company , or 100 percent foreign-owned company provided that this is in accordance with all related laws , administrative ordinances , or other national regulations ; and it authorizes road transport authorities to recover the cost of issuing permits , with charges determined jointly by relevant municipal/provincial financial departments , pricing authorities , and road transport authorities.

#### 4.2.2 Safety and Environmental Issues

Each province has its own safety management of road transport regulation in accordance with RTO and Road Traffic Safety Law. An important element of safety regulation for commercial road vehicles is the regulation on comprehensive inspection and maintenance of vehicles. This specifies three categories of safety maintenance ( routine inspection , first- and second-level maintenance ).

Routine inspection comprises the basic checks carried out by the driver before departure , including checking fuel , oil , and water levels and topping up as required , checking that tires , lights , brakes , and other equipment are in good condition and functioning correctly , and ensuring that the vehicle is clean. The driver is also responsible for ensuring that the vehicle remains in a safe condition while in operation. These checks may be carried out in the vehicle inspection facilities provided at most bus terminals. At freight terminals , there is some inconsistency in the provision of facilities for checking vehicle condition , and weighing equipment to check for overloading is not always available.

In addition to the checks carried out in routine inspections , first-level maintenance comprises a more thorough inspection of vehicle condition , and must be carried out by an authorized workshop. Normally , these are in larger terminals in the case of passenger transport. Requirements vary from province to province. In Gansu , first-level maintenance must be carried out every 3,000 kms. A certificate is issued as proof that the vehicle has undergone this maintenance , and the terminal operators should not permit a vehicle to leave the terminal without a valid certificate.

Second-level maintenance must also be carried out by an authorized workshop. In addition to items included in the first level , focus is on the inspection of safety-critical parts such as steering components ,

braking system , and chassis parts that are subject to wear and tear , removal of tires for checking , and re-positioning them on the vehicle , checking engine and exhaust emissions , and adjustments as necessary.

Every vehicle must undergo a comprehensive safety inspection each year at an inspection station authorized and supervised by the relevant road administration. A number of these inspection stations are now operated by private-sector enterprises.

In addition to the annual inspection , most PCDs require buses to undergo a similar , but not identical , comprehensive inspection before the Spring Festival , a peak season. This is carried out in a commercial vehicle repair workshop. Upon the recommendation of SC's Office of Burden Alleviation ( OBA ) , the Spring Festival inspection is no longer required if the annual inspection has been carried out within the previous 3 months.

As noted earlier , the laws on environment protection which affect the operation of road vehicles are the Law on Prevention and Control of Atmospheric Pollution ; Law on Prevention and Control of Noise Pollution , and Law on Prevention and Control of Radiation Pollution. Enforcement of the Law on Atmospheric Pollution is handicapped by the lack of a proper monitoring scheme , and depends on the vehicle inspection process. For vehicle inspection , the regulations and standards in force in each province are based on national standard 7258-2004 , technical requirements for vehicle operation safety. The enforcement authorities include the Bureau of Quality Technical Supervision and the transport management section of the PSB. For monitoring noise pollution , each province focuses on the cities and has a set of fixed monitoring stations. EPB and PSB transport management authorities conduct roadside inspections at least once a year.

The relevance of the Law on Prevention and Control of Radiation Pollution to transport affects freight transport only in the context of the carriage of hazardous cargoes.