

# Automobile and Road Transport Policies in Japan

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## 1. Domestic modal share of transport and automobile transport statistics in Japan

Japan consists of four main islands (Honshu, Hokkaido, Shikoku, and Kyushu), all surrounded by sea. The feature of its geography is that it has no international land borders. The area of the country is approximately 380,000 square kilometers, where more than 127 million people live. Population, like in some other developed countries, is projected to decrease in the future; according to an estimate, it will have fallen to 44.7 million by 2100 — about one third of the current numbers. Japan's mountainous geography limits the habitable area. The population tends to be concentrated in city areas, where traffic congestion countermeasures are needed. By contrast, in rural areas, many places are facing depopulation; ensuring transport services (due to the withdrawal of conventional public transport, etc.) is becoming an urgent problem awaiting solution. Besides the four main islands, there are over 68,000 islands within Japan, of which over 400 are inhabited. For those inhabited islands, the current issue is how to continue providing transport services by sea and/or air over routes that are not likely to be profitable.

A highly mobile society inevitably depends on transport services provided by motor vehicles, railways, ships, and aircraft. In terms of the domestic transport share by mode of transport, motor vehicles take a high percentage for both passengers and freight transport. Passenger transport figures for the fiscal year 2008 assign the biggest share (74.2% of passengers, and 64.9% of passenger-kilometers) to motor vehicles. Railways come in the second with figures of 25.5% and 29.0%, respectively; for maritime transport, the figures are 0.1% and 0.3%; and for aviation, 0.1% and 5.8%. For freight transport in the same year, 91.7% of the tonnage, and 62.1% of ton-kilometers, were transported by motor vehicles. Those figures are 0.9% and 4.0% for railways; 7.4% and 33.7% for coastal shipping; 0.02% and 0.19% for aviation: so the motor vehicle percentage share was the highest here, too. Since 2005, passenger transport has shown a slight upward trend in the railway percentage; freight transport shows an increase in the motor vehicle percentage, and a decrease in the coastal shipping percentage (in terms of ton-kilometers). Those changes, however, were far from drastic; all in all, the trend has been toward stability.

Historically, ship and rail have been in the first stage mode of modern transport in Japan. It was after World War II that motor vehicles and aircraft began to be used in popular. In the fiscal year 1960 (about a half century ago), for passenger transport, the railway percentage was 60.6% for the number of passengers and 75.8% in passenger-kilometers — considerably above the motor vehicle percentage (38.9% for the number of passengers and 22.8% in passenger-kilometers). But in freight transport, the motor vehicle percentage in transported tonnage was 75.8% even in the fiscal year 1960. However, in ton-kilometers for the same year, it was only 15.0%; not until about 20 years later did it exceed 50%. We can identify a significant development in freight transport by pointing to the major role that coastal shipping used to play. In ton-kilometers, the coastal shipping percentage was close to 50% until it yielded first place to motor vehicles in the fiscal year 1985. Therefore, in Japan's case, coastal shipping would be able to play a fallback role in case of a "modal shift" from motor vehicle trunk line transport services to rail or marine transport.

In motor vehicle transport statistics, passenger transport is roughly divided into buses, passenger cars, and trucks for private use, with the biggest share going to passenger cars. Passenger cars are further divided into commercial use and private use vehicles; those for private use have the highest share of tonnage. Those for commercial use are required by the Road Transport Law to obtain a license (or, as is mostly the case in recent years, a permit), and to transport passengers (or freight) on request. Private use vehicles are defined as passenger vehicles other than those used for commercial use. A peculiar category in the Japanese system is that of "light motor vehicles," reserved for vehicles whose total engine displacement is less than 660 cc. Statistics for private-use passenger cars and trucks are therefore derived from combined lists of "registered motor vehicles" and "light motor vehicles."

### Japanese Transport Trends for Past Years

		FY 2007	FY 2008	FY 2009	
Transport volume <sup>1)</sup>	Passengers (×100 million passenger-kilometers)	Total	14128	13949	—
		Motor vehicles for private use	8360	8221	—
		Motor vehicles for commercial use	831	838	—
		Railways	4055	4046	—
		Maritime	38	35	—
		Aviation	843	809	—
	Freight (×100 million ton-kilometers)	Total	5822	5576	—
		Motor vehicles	3548	3464	—
		Railways	233	223	—
		Coastal shipping	2030	1879	—
Number of motor vehicles owned* (×1000) <sup>1)</sup>	Total	79081	78801	—	
	Trucks	6884	6568	—	
	Buses	231	230	—	
	Passenger cars	41469	40799	—	
	Special vehicles	1578	1528	—	
	Two-wheeled vehicles	1479	1505	—	
	Light motor vehicles	27440	28171	—	
Driving license holders** (×1000) <sup>2)</sup>	Total	79907	80448	80812	
	Male	45413	45518	45539	
	Female	34495	34930	35273	
Traffic accidents <sup>2)</sup>	Number of accidents (×1000)	832	766	737	
	Fatalities within 30 days	6639	6023	5772	

\* Figures as of end of March (registered vehicles + light motor vehicles)

\*\* Figures as of end of December

References for data:

- 1) Annual Statistical Report on Motor Vehicle Transport, Annual Statistical Report on Air Transport, Annual Statistical Report on Railway Transport, and Annual Statistical Report on Coastwise Vessel Transport
- 2) Traffic Statistics

In freight transport statistics, motor vehicles are divided into those for commercial use and those for private use. Under each category, volumes transported are assigned to both registered motor vehicles and light motor vehicles. Recently, both in terms of tonnage and in terms of ton-kilometers, there has been an upward trend in commercial use percentages, the reason being that commercial transport, which has a higher load factor, is now offering personalized services that make it competitive with private transport.

## 2. Japan's transport policies in transition

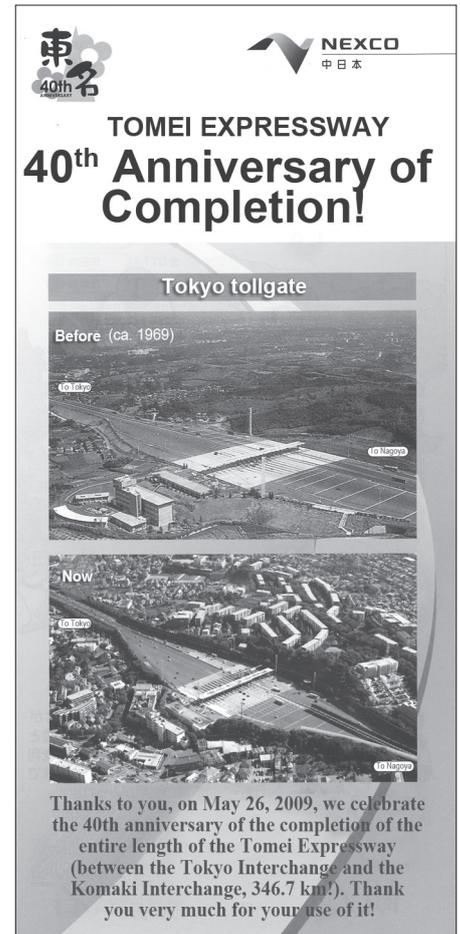
One of the biggest changes in policies regarding roads, which are playing a linking role for the motor vehicles transport services, was the privatization of the four road-related public corporations that had been building and managing toll roads. Another was the transfer of the special funding source system for road works, under which earmarked taxes (e.g., the so called gasoline tax) had been used for road improvement, to the general revenue fund (more about this in Chapter 4). At this point, let us look at the main changes in each mode of transport.

Railway services were at first under the direct control of the government. The Japanese National Railways (JNR), which became a public corporation after World War II in 1949, had the same management nationwide. Due to the inefficiencies in this unified nationwide organization and mismanagement of the public corporation, an enormous backlog of deficits had accumulated. The major change was finally brought about: Japanese National Railways was reformed, and, in April, 1972, it was regionally divided and privatized. Honshu was divided into three areas (east, central, and west Japan) served by three railway companies; one company was allotted each to the islands of Hokkaido, Shikoku, and Kyushu. The management form decided upon was joint stock companies. Traditionally, private railway companies, mainly in metropolitan areas, played a greater role in Japan than in other countries. Now, for more than half a century, there has been a history of cooperation between different railway companies in managing direct transport services over their own routes. The six established railway companies from JNR, in their form of management, are now no longer different from the already existing private railway companies; it is possible for them, for example, to be involved in new businesses. In railway stations in recent years, various commercial facilities have been set up and we can buy goods through multi-purpose magnetic tickets (SUICA, etc.) in those facilities. In urban transport, private management plays the same role with busses as it does with rail; the record of transport achievements for private management always exceeds that for public management. The freight railway company was created as a single company for the whole country. Because it didn't own railroad tracks, the separation system of operation and infrastructure was adopted. That system was implemented for the super express railway train Shinkansen (as a typical example) when the Japanese National Railways was reformed.

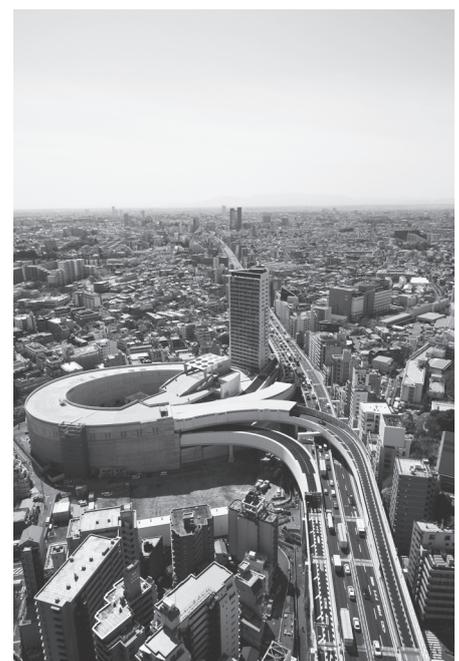
The reform of Japanese National Railways, by the way, gave considerable impetus to the reform of railways in the developed countries in Europe.

As for ocean shipping, the Japanese merchant marine fleet, which had been dealt a crushing blow in World War II, was reorganized into a grouping of ocean shipping companies in 1964 with preferential financing from the government. This was done in order for the fleet to play a role in the transport sector to help to sustain Japan's high economic growth. Ninety-five companies (which included most of the ocean shipping companies of those days) were organized into eighty-eight companies in six groups. This grouping of ocean shipping companies is considered to be the most significant event in Japan's maritime activity since World War II. After further mergers of the core companies among those six groups, there are now three major companies — Nippon Yusen Kaisha, MOK Lines, and Kawasaki Lines. Those three major companies account for about 70% of the total income in ocean shipping.

In 2008, the Japanese merchant marine fleet transported 11.3% of the world's cargo by volume. However, when it comes to the nationality of a ship, the number of



40<sup>th</sup> anniversary of the completion of the entire Tomei Expressway  
Material provided by: Central Nippon Expressway Company Limited, Tokyo branch



Ohashi Junction  
Photo provided by: Metropolitan Expressway Co., Ltd.



**Skyliner, Narita Sky Access Line  
(Nippori station)**

Photo provided by:  
Professor Dr. Katsutoshi Ohta

foreign chartered ships (e.g., flag-of-convenience ships) is overwhelming; increasing the number of Japanese ships and getting them registered is an ongoing policy problem that needs to be solved. Also, the international standing of ports in Japan is getting lower and lower; in terms of volume of containers handled, the Port of Tokyo and the Port of Yokohama dropped to the world's 26th and 36th places, respectively, in 2009. The Japanese government is attempting to salvage this situation by pushing for improvement of those ports in the Tokyo-Yokohama area and the Osaka-Kobe area, utilizing their strategic situation (i.e., with big cities as their hinterlands) to develop them as ports for container cargo.

After World War II, all Japanese commercial aviation was prohibited by GHQ (General Headquarters). It was reopened in 1951, and international flights started in 1954. The government policies of 1970 and 1972 had regulated the airline business area with a view to promoting coexistence and shared prosperity among airline companies. In 1985, however, following the trend toward the deregulation policy (started in the U.S.A.), those regulations were rescinded, which made it possible for new airline companies to enter into the market. Thanks to those policy changes, Skymark Airlines, Air DO, and others have already started up businesses. When commercial aviation went back into operation, the initial plan was to form two domestic airline companies. The reality configured itself as three major companies — Japan Airlines, All Nippon Airways, and Toa Domestic Airlines (later changed to Japan Air System). Later, Japan Airlines (handling mainly international flights) and Japan Air System (mainly domestic flights) merged as Japan Airlines, so that Japanese airline system was consisted in two major companies. Finally, Japan Airlines, which had been suffering from deficit after the merge, fell into bankruptcy in January, 2010; it is now trying to reorganize, with 2013 as the deadline, under the direction of the Enterprise Turnaround Initiative Corporation of Japan.

As of April, 2010, there are 83 airports that conform with the Airport Law. The three international airports that are used for international air transport — Narita, Kansai, and Chubu — are structured as joint stock companies; Tokyo (Haneda) and Osaka (Itami) international airports are operated under government management. Narita, which is located in the metropolitan area of highest demand, is purposed mainly for international transport with two runways (4000 and 2500 meters), and 220,000 slots per year. Tokyo (Haneda), which has been used for domestic transport, has four runways (3000, 3000, 2500, and 3120 meters); total 350,000 slots per year. From October 2010, an international flight service was also reopened. Ultimately, Narita and Haneda airports are to have 747,000 slots per year in total.

### 3. The automobile industry and automobile transport policies in Japan

The automobile industry is the key industry of Japan. Currently, the number of people who work in motor vehicle-related businesses is over 8% of the total work force. Income from shipment of its products is less than 17% of the total income from all shipments. The automobile industry share for capital investment is less than 22% of all capital investment, and its share for research and development is over 19%; it is indeed the driving force in Japan's economy. Led by Toyota, Nissan, and Honda, there are 14 motor vehicle manufacturers. Normally, more than 10 million four-wheeled vehicles per year have been produced, but in 2008 and 2009, the numbers of vehicles produced were below these figures of previous years. In 2009, in particular, the number dwindled to only more than 7.9 million. The number of new four-wheeled vehicles sold decreased four years running; in 2009, it went down to 4,609,000. Since 2005, the number of motor vehicles owned has been over 75 million. Though its recent trend is downward, still the number of passenger cars is increasing slightly; as of December, 2009, it was 58 million. In 2009, the number of people who had a driver's license was more than 80 million; this signifies a move into an era in which everybody drives.

Though the issues of recent Japan's automobile industry are now facing to the worldwide economic recession, the progressive yen scale down and so on, still there have been steady improvements in environmental measures, both "hard" and "soft."

The amount of carbon dioxide emitted during the manufacturing process has been consistently reduced. Legal performance standards of new vehicles on fuel efficiency and emission gases have been very successful in reducing greenhouse gas emission and regional air pollution. By 2008, the average mileage of a gasoline-powered motor vehicle had been improved to 16.9 kilometers per liter; the reduced amount of emissions conforms to the world's strictest regulatory standard. In addition, steps have been taken to spread and promote ecological-driving (also energy-saving driving), to improve preventive equipment for safety to avoid accidents, and to develop and promote automatic safety equipment; those efforts have contributed to a reduction in the number of traffic accident fatalities. Though motor vehicle improvements can not by themselves reduce the number of traffic accidents, still the annual number of fatalities (4914 in 2009) has decreased nine years running, which achieved the government's goal three years in advance.

On the minus side, the automobile industry and users of motor vehicles are forced to bear an excessive tax burden. There are nine different taxes related to motor vehicles; in the initial national budget for 2010, the motor vehicle taxes were 10.7% (7,694.8 billion yen) of the total income from taxes. The purchaser's initial tax burden is heavy by international standards (motor vehicle tax, motor vehicle tonnage tax, and motor vehicle purchase tax).

Motor vehicle traffic policies are trending toward deregulation. Private motor vehicles are by far the biggest number of motor vehicles owned. (in 2008 percentage breakdown of motor vehicles in private use: passenger cars: 99.7% of ordinary cars, 99.0% of small cars; buses: only 21.6% of ordinary buses, but 81.4% of small buses; trucks: 62.4% of ordinary trucks, 98.1% of small trucks.) Although business activities are not permitted to use private motor vehicles, such illicit activities can still be occurring. The reality is, however, that given the overwhelming numbers of private vehicles, it is hard to take effective countermeasures. This is a problem in other countries as well.

As for commercial motor vehicles that provide transport services: in 1998, the Ministry of Transport (reorganized as the present Ministry of Land, Infrastructure, Transport and Tourism) announced its intentions to basically abolish the regulations and entrust market mechanism in supply-demand adjustment. Pursuant to that policy, access to the business shifted from a licensing system to a permit system. As far as fare regulations were concerned, bus business is only required to provide advance notification of fare changes. With the taxi business, the authorization system remained, but the criteria for authorization were now limited to the upper limit of the fare. As for trucking businesses and freight forwarding business, both of which had already been deregulated in 1990, fares can be freely determined. Basically, the expectation is for the business to regulate itself through competition in the marketplace.



**Emblem encouraging use of the Aqua-Line**

Material provided: Chiba Prefecture

#### 4. Japan's road policies

Japan really had no era of coach transport. Because there was an abrupt shift from transport on foot to motor vehicles, there were insufficient road capital stock for building a system to accommodate automobile transport. The situation of those days is characterized in the report of the Watkins Commission (1956), which made a feasibility study for the expressway between Nagoya and Kobe (requested by the Japanese government, which was inquiring the expressway plan). In the beginning of the report it was stated that "The roads of Japan are incredibly bad. No other industrial nation has so completely neglected its highway system." After World War II, the toll road system and the special(earmarked) funding source system for road works were introduced as the two main road policy. For the former, with the Law Concerning Special Measures for Highways (1952) as a basis, the building and management were conducted by public corporations. For the latter, in accordance with the Emergency Measure Law for Road Improvement (1953), a system was established in which road users paid for their road usage, creating a source of revenue to be used only for road improvement. Those systems enabled the Five-year Road Improvement Program that was started in 1954 to be carried forward. The Five-year Road Improvement Program was combined with other transport infrastructure programs to become the Priority Plan for Social Infrastructure

Improvement. Those two systems played a significant role in accumulating Japan's road capital stock.

Toll roads were built and managed by (among others) four public corporations that included the Japan Highway Public Corporation (founded in 1956). As part of the program, started in 2002, for streamlining special public corporations, privatization of these corporations was considered. In 2005, the four road-related public corporations (the Japan Highway Public Corporation, Metropolitan Expressway Public Corporation, Hanshin Expressway Public Corporation, and Honshu-Shikoku Bridge Authority) became joint stock companies. At that time, the separation system of infrastructure was adopted. That is: Japan Expressway Holding and Debt Repayment Agency (JEHDRA) would hold expressways and repay the debt, and six expressway companies (the Japan Highway Public Corporation alone was divided among three regions) would build, manage, and collect tolls. Unlike the privatization of railways, it typifies a separation system of infrastructure provision from its operation.

While many countries with advanced road systems are opting for road pricing, the Democratic Party of Japan, when it came into power, announced its new policy on toll-free expressways. In June, 2010, social experiments started in which the toll was eliminated in limited areas. That toll-free policy goes against the redemption principle, which was the rationale for setting the toll. The new policy means that the burden will now shift from the user to the taxpayer. It will distort the competitive abilities of transport modes that are competing with the expressway service; there are many problems to be reconsidered.

As of August, 2010, the total length of Japan's expressways is 7722 kilometers. The final goal is to construct 14,000 kilometers, which is based on the following criterion: wherever you live in Japan, it will take you no more than an hour to access to the nearest interchange.

The special (earmarked) funding source system for road works was based on the principle that those who are benefited are to pay; the system was excellent in its rationality (paying for the benefit you received from the service), fairness (avoiding free-riders), and stability (insuring a necessary source of revenue by usage). Eight different tax sources (e.g., the so called gasoline tax) were utilized to fund road improvement. Nevertheless, in the face of those advantages, the financial authorities started to propose, beginning around 1980, the transfer of the road improvement system to the general revenue fund, on the pretext that the total amount of tax paid was too great, or, that road improvement, in their opinion, had already reached a level of sufficiency.

It was after the turn of the 21st century that policies to transfer road improvement to the general revenue fund discussed concretely. In the beginning of 2005, government policies on reviewing the special(earmarked) funding sources for road works were announced; the decisions were made at the Cabinet level. In the end, by revising the Emergency Measure Law for Road Improvement and its successors, the system was transferred to the general revenue fund for the fiscal year 2009. The political process of discussion of such legislation is extremely complicated; unless directly involved in the discussion, there is much that is not easy to understand.

The logic of the transfer to the general revenue fund contains not a small number of contradictions. A typical example is how the provisional tax rate was treated. On the assumption that the fund for road improvement would be insufficient, the provisional tax rate for many of the taxes had been set to be approximately double the tax rate in the main rules. However, even after the transfer to the general revenue fund, the policy to keep the provisional tax rate was adopted. This obviously contradicts the argument that road improvement had reached a level of sufficiency. It is nothing but an excessive burden on road users. That is the first of many points regarding logical consistency in discussing the transfer to the general revenue fund. In 2006, members of the Japan Research Center for Transport Policy made the urgent suggestion that the logical inconsistency be corrected.

Future road improvement in Japan is to be carried forward under general revenue funding; this will require an objective and precise understanding of the road stocks so as to fulfill the needs of the actual users.

