

1. VOLUME OF VEHICLE TRAFFIC
 2. LENGTH OF ROADS AND PAVEMENT RATIO
 NUMBER OF VEHICLES AND RATIO OF ROAD IMPROVEMENT

1. Volume of Vehicle Traffic

The importance of the role played by vehicle traffic in freight and passenger transportation in Japan is increasing with the progress in motorization brought about by economic growth and road improvement.

When the change in the traffic volume share for the twenty-year period from 1967 to 1987 is checked for freight (ton kilometers), a change from 24.4% to 4.6% occurred in the case of railway transportation; from 33.2% to 50.1% in the case of vehicle transportation; from 42.4% to 45.1% in the case of domestic marine transportation; and from 0.0% to 0.1% in the case of air transportation. For passengers (person kilometers), changes from 61.1% to 37.1% in the case of railway transportation; from 37.2% to 58.2% in the case of vehicle transportation; from 0.9% to 0.6% in the case of passenger vessel transportation; and from 0.9% to 4.1% in the case of air transportation. Thus, the ratio of vehicle transportation increased, reaching more than 50% for both freight and passenger transportation.

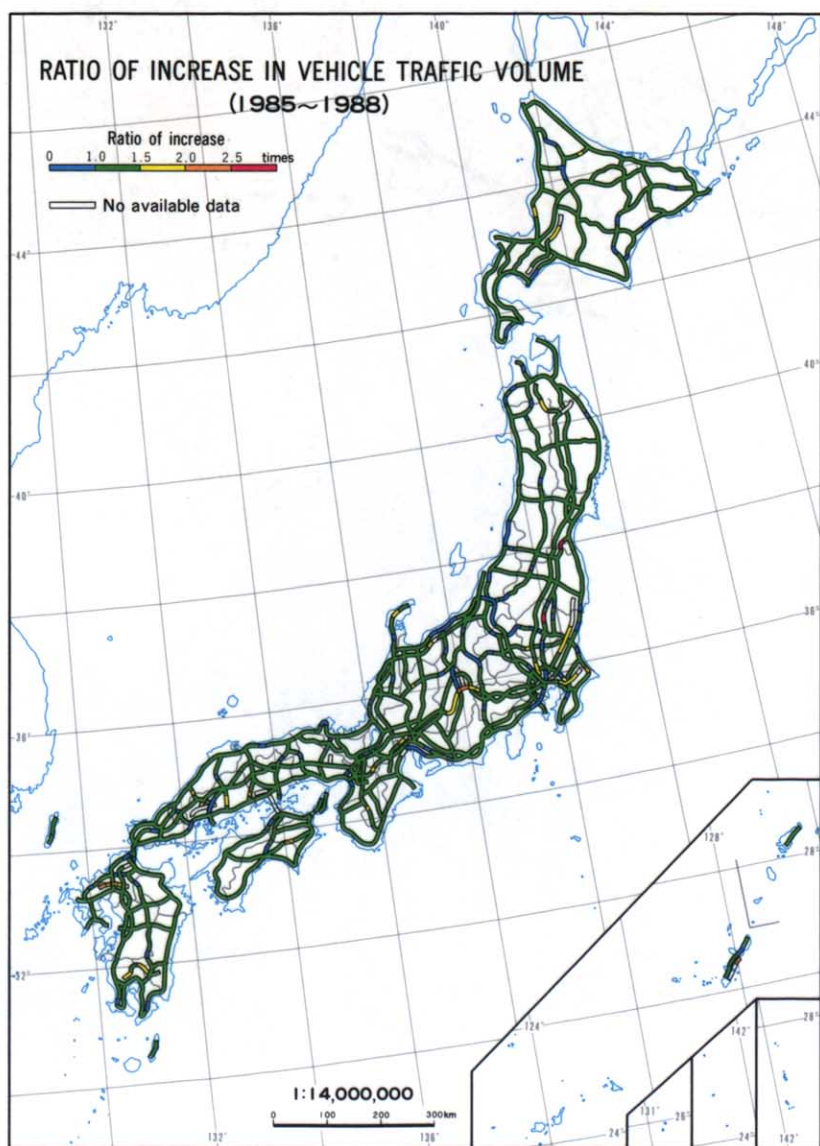
A check of 12-hour vehicle traffic volume revealed that areas recording a traffic volume of more than 50,000 vehicles were found in the three large cities; Tokyo, Osaka and Nagoya, while areas recording a traffic volume of more than 30,000 vehicles were found in cities such as Sapporo, Sendai, Sizuoka and Hukuoka, as well as the three large cities. The increase in vehicle volume is a nationwide tendency.

[Salient Points of the Legend and Map Compilation]

Vehicle transport volume is based on the results of the Traffic Volume Survey which constituted a part of the Road Traffic Census for 1988. For this survey, all road routes which are larger than general prefectural roads (including main city roads in designated cities) and sections of general city roads in designated cities were selected, and the volume of traffic in 12-hour and 24-hour periods on weekdays and holidays was checked. Traffic volume represents the number of vehicles passing each survey point. This map indicates the 12-hour traffic volume on weekdays. Vehicles refers to automobiles larger than or equal to light cars and does not include two-wheeled vehicles with motors.

2. Length of Roads and Pavement Ratio

The total length of roads was 1,098,931 km as of April 1, 1987, of which 3,910 km was national expressways and 1,095,021 km general roads. Of the general roads, 46,523 km were national highways; 127,682 km, prefectural roads and 920,817 km, Si, Mati and Mura roads. The total area of all such roads was 7,511 km². Of the general roads, the length of roads with a width of 5.5 m and over where large cars are able to pass each other was 230,752 km (21.1% of the total length). The ratio of roads with a width of 5.5 m and over was 86.9% of national highways, 54.7% of prefectural roads and 13.1% of Si, Mati and Mura roads. Although road paving is being promoted, as much as 199,951 km (18.3%) remain on which automobiles cannot travel.



(Compiled from Road Traffic Census)

The length of general paved roads was 223,046 km and the ratio of paved roads to the total length of roads was 20.4%. The pavement ratio by kind was as follows: national highways, 85.1%; prefectural roads, 44.2%; and Si, Mati and Mura roads, 13.8%. The pavement ratio, including simple paved roads, was 65.4%.

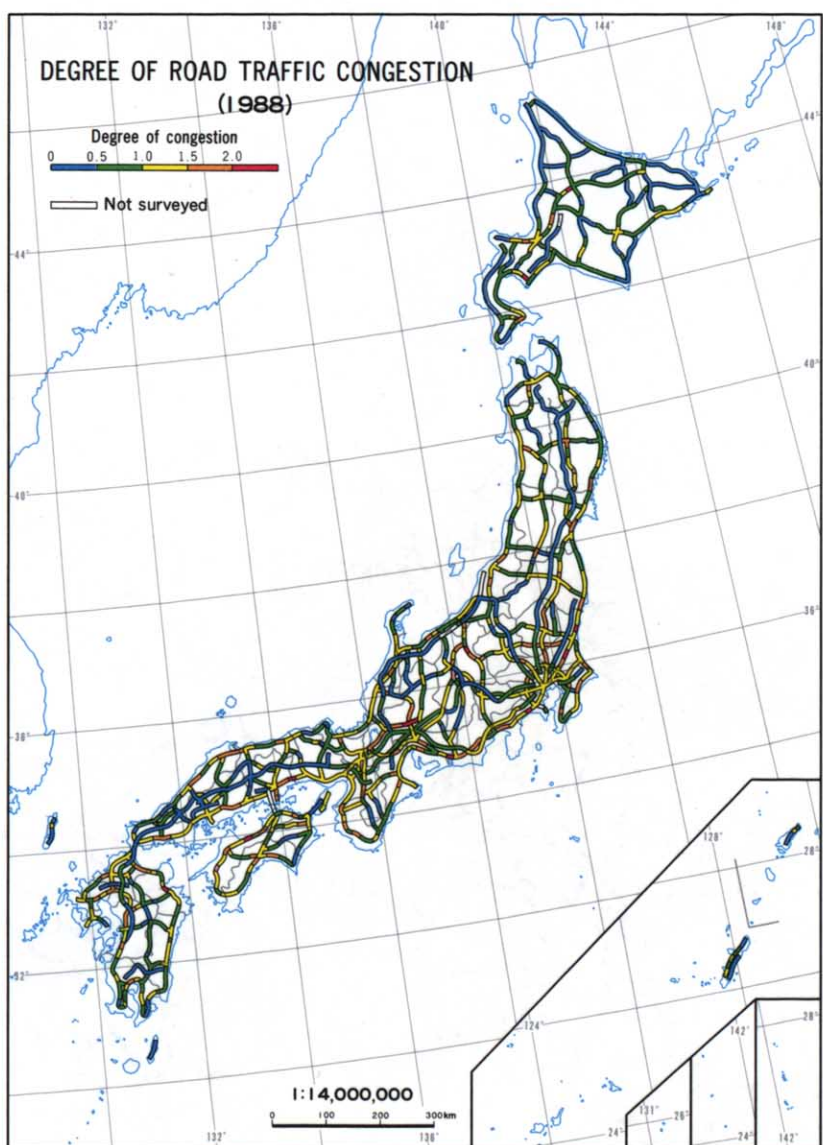
[Salient Points of the Legend and Map Compilation]

Road length refers to the length for general roads (national highways, prefectural roads, and Si, Mati and Mura roads) excluding national expressways. Road length is the actual length, excluding road sections which are overlapped by higher grade routes, roads not in use, and extensions to harbors, etc.

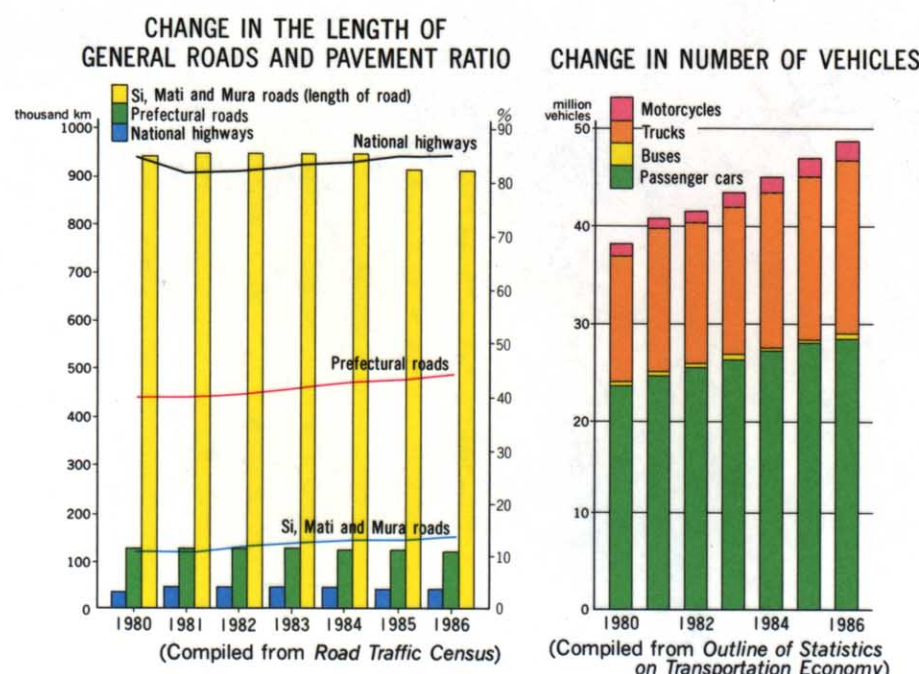
Pavement ratio represents the pavement ratio of paved general roads excluding national express ways (simple paved roads were not included).

2. Number of Vehicles and Ratio of Road Improvement

The number of vehicles in Japan has continued to increase since 1945, reaching 49,235,880 (excluding bicycles with motors) as of March 31, 1987. Classified by types of vehicles, passenger cars numbered 28,538,497 (57.9% of the total number); buses, 232,011 (0.5%); trucks, 18,252,347 (37.1%) and motorcycles (over 125 cc), 2,213,025 (4.5%). During the thirty-year period from March 31, 1957 to March 31, 1987, the number of vehicles increased 28.4 times. Of these, the number of passen-



(Compiled from Road Traffic Census)



(Compiled from Outline of Statistics on Transportation Economy)

ger cars increased by 151.5 times, which was the biggest increase, followed by trucks at 22.2 times, buses at 5.9 times and motorcycles (over 125cc) at 3.2 times.

The length of road sections where improvement had been completed was 450,219 km as of April 1, 1987. The ratio of road improvement was 41.4%. When the improvement ratio is viewed by types of road, it was 56.0% for national highways, 44.5% for prefectural roads and 39.9% for Si, Mati and Mura roads.

Road improvement cannot keep up with the increase in road traffic volume resulting from the promotion of motorization. Especially in cities, phenomena such as road traffic congestion, deterioration of the environment around roads and an increase in traffic accidents are interfering with normal city activities.

[Salient Points of the Legend and Map Compilation]

The following types of vehicles are indicated on this map:

Passenger cars: general passenger cars, small-sized passenger cars and light cars

Buses: general and small-sized buses

Trucks: general trucks, small-sized trucks, small-sized three-wheeled trucks, light trucks, light three-wheeled trucks, trailers

Motorcycles: small-sized motorcycles with a displacement of more than 125 cc, light motorcycles with a displacement of less than 125 cc

The map does not show the number of special-purpose vehicles, such as fire engines; cranes; tankers; special cars with special structures, such as road rollers and shovel-dozers; and bicycles with motors.

Ratio of road improvement refers to the index indicating the condition of road improvement, and was calculated by the following formula:

Ratio of road improvement = Length of road on which improvement has been completed / Actual road length

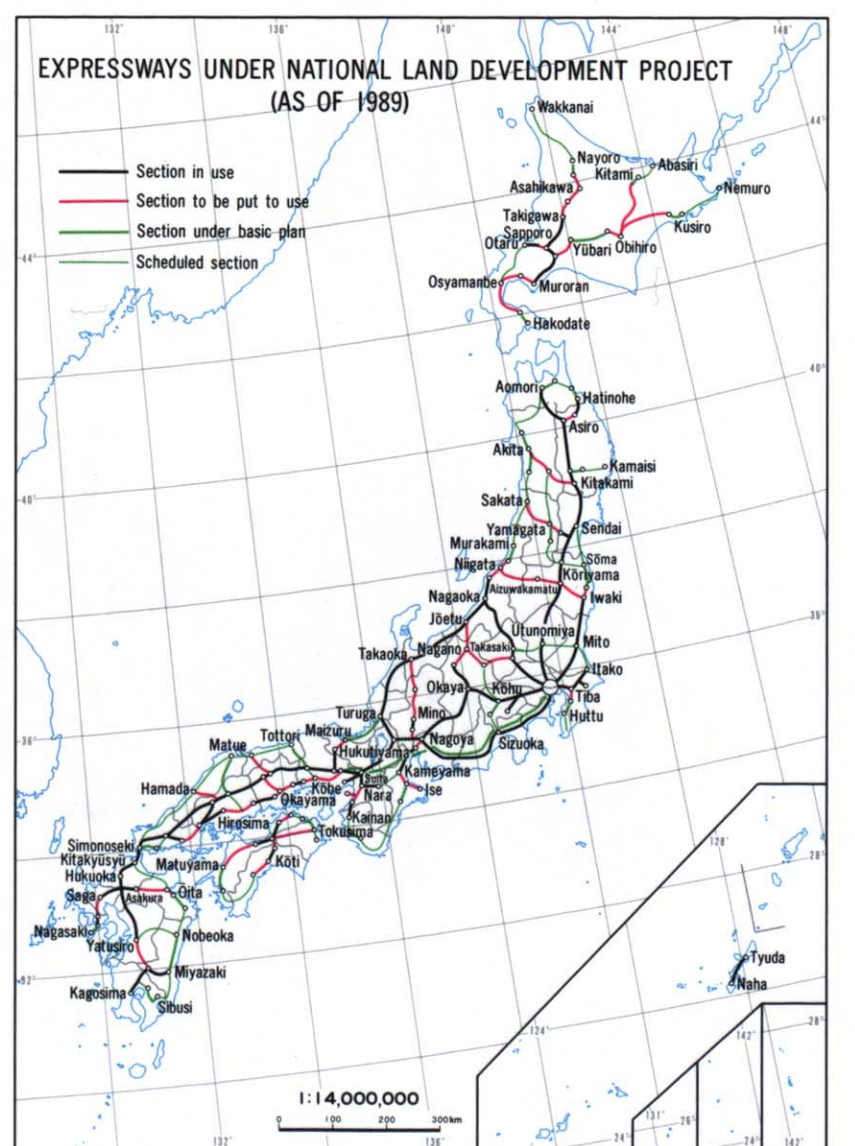
Length of road on which improvement has been completed = Length of road on which reform has been completed (road width of 5.5 m and over) and whose congestion degree is less than 1.0

Congestion degree = Traffic volume / Traffic capacity (estimated value based on Road Traffic Census, 1985)

In the case of Si, Mati and Mura roads, the ratio of road reform was used for the ratio of road improvement.

[Sources]

1. Ministry of Construction, Road Traffic Census, 1988
2. Ministry of Construction, Road Statistics Yearbook, 1988
3. Ministry of Transport, Monthly Statistics on Land Transport, March 1987
4. Ministry of Transport, Outline of Statistics on Land Transport



(Compiled from Ministry of Construction data)

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