**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 volumes observed for the twenty-year period from 1967 to 1987 is checked for freight (ton-kilometers), a change from 34.4% to 64.6% occurred in the case of rail transportation, from 31.2% to 50.9% in the case of vehicle transportation, from 84.6% to 45.7% in the case of domestic marine transportation, and from 60.2% to 8.3% in the case of air transportation. For passengers (person-kilometers), changes from 83.7% to 77.2% in the case of railway transportation, from 17.2% to 38.2% in the case of vehicle transportation, from 8.5% to 6.8% in the case of air transportation, and from 8.9% to 8.7% in the case of domestic marine transportation. Thus, the ratio of vehicle transportation increased, reaching more than 60%, for both freight and passenger transportation. A check of the 12-hour traffic volume reveals that area recording traffic volumes of more than 20,000 vehicles were found in the three districts: Tokyo, Osaka, and Nagoya, while areas recording a traffic volume of more than 30,000 vehicles were found in cities such as Sapporo, Sendai, Fukuoka, and Hakata, as well as the three larger cities. The increase in vehicle volume is a nationwide tendency.

**Image:**
![Traffic Volume Graph](image-url)

**Image Notes:**
- The graph shows the change in traffic volume over time, with specific data points highlighted.
- The x-axis represents years, while the y-axis shows the volume in percentage.

**2. LENGTH OF ROADS AND PAVEMENT RATIO**

The length of general paved roads was 1,425,046 km and the ratio of paved roads to the total length of roads was 28.4%. The pavement ratio for main roads is as follows:

- National highways: 85.1%
- National roads: 62.6%
- National and local roads: 51.1%
- National, local, and minor roads: 48.8%
- National, local, and minor roads: 48.8%

**Image:**
![Road Length and Paved Ratio](image-url)

**Image Notes:**
- The image includes a bar chart showing the pavement ratio for different types of roads.
- The y-axis represents the pavement ratio, while the x-axis lists the types of roads.

**Number of Vehicles and Ratio of Road Improvement**

The number of vehicles in Japan has continued to increase since 1961, reaching 34,820,000 (including bicycles with motors) as of March 31, 1987. The total number of vehicles was 48,500,000 (including motorcycles with motors) as of March 31, 1995. The number of vehicles has increased 1.66 times. Of these, the number of passenger cars increased by 2.33 times, which was the largest increase, followed by trucks at 2.21 times, buses at 1.58 times and motorcycles (over 250 cc) at 1.32 times.

The length of road sections where improvement had been completed was 34,955 km as of April 3, 1987. The ratio of road improvement was 64.1%. What the improvement ratio is varied by types of road, it was 56.1% for national highways, 64.1% for prefectural roads and 80.9% for St. Mii 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 intertwining with urban city activities.

**Image:**
![Vehicle and Road Improvement](image-url)

**Image Notes:**
- The image includes a map showing the distribution of road improvement.
- The map highlights the areas where improvement has been completed.

**Sources:**
1. Ministry of Construction, Road Traffic Census, 1989

**Expressways Under National Land Development Project**

- **Total Length:** 4,890 km
- **Total Cost:** 3,500 billion yen
- **Average Cost per km:** 710 million yen

**Image:**
![Expressway Project](image-url)

**Image Notes:**
- The image includes a chart showing the completion status of expressways.
- The chart lists the expressways and their completion dates.