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Introduction

The year 2004 was a year of natural disaster. During the year, Japan suffered significant damage from a host of torrential rains and a succession of typhoons as well as the Mid Niigata Prefecture Earthquake. Overseas, the countries facing the Indian Ocean were devastated by the Major Earthquake off the Coast of Sumatra and subsequent tsunamis.

This is the background in which the White Paper on Land, Infrastructure and Transport for 2004 begins with the description of both the ministry’s responses to major natural disasters that occurred during 2004 and its efforts to enhance disaster-preparedness in the special introductory part titled “Toward a More Disaster Resistant Nation.”

Part I focuses on “New Relationships with East Asia and Development of MLIT Policy to Accommodate Them.” Along with relationships with Western countries, remarkable economic growth in East Asian countries in recent years is an increasingly important factor for the future of Japan. We are entering the period of unprecedented global interaction, where people and goods come and go freely. And economic relations among nations are deepening.

Part II reports on the developments in the activities of the Ministry of Land, Infrastructure and Transport (MLIT), with a focus on cross-sectoral policy issues.
Toward a More Disaster Resistant Nation

Public awareness about natural disasters is higher than ever. During 2004, Japan suffered major damage in many parts of the country due to a succession of typhoons and torrential rains and the Mid Niigata Prefecture Earthquake in October. In December, the Major Earthquake off the Coast of Sumatra brought about tsunamis, ravaging countries along the Indian Ocean. In addition, the year 2005 marks the tenth anniversary of the Great Hanshin-Awaji Earthquake.

With these circumstances in mind, this special part describes major natural disasters during 2004 and the progress in restoration of the devastated areas. It also discusses what should be done to prevent such disasters.

Responses to natural disasters that occurred in 2004

[Responses to damage from torrential rains and typhoons]

○ Extent of damage

A total of ten typhoons made landfall on Japan during 2004—the largest number on record—with Typhoon No. 4 in June of 2004 being the first one. These typhoons and other torrential rains left more than 230 people dead or missing and flooding some 170,000 homes across the country.

Two separate torrential rains in July 2004 caused major deluges, including urban areas. A torrential rain in Niigata and Fukushima led to the collapse of riverbanks along the Ikarashi, Kariyata and other rivers in the Shinano River system. Another torrential rain in Fukui resulted in bursts in the riverbanks of the Asuwa and other rivers in the Kuzuryu River system.

Typhoon No. 16 in August brought storm surges and heavy rains to many areas mainly in Chugoku and Shikoku. Typhoon No. 21 in September caused many large-scale sediment related disasters to Mie, Ehime and other prefectures. In October, Typhoon No. 23 brought about large-scale flood damage to the northern part of Hyogo Prefecture and other areas with the collapse of the riverbanks of the Maruyama and other rivers in the Maruyama River system. This typhoon also caused coastal disasters associated with storm surges in Kochi Prefecture.

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Damage from torrential rains and typhoons

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(ii) Typhoon No. 16 in August [storm surge disaster]
(Takamatsu city, Kagawa Prefecture)
(iii) Typhoon No. 21 in September [sediment related disaster]
(Saijo city, Ehime Prefecture)

(iv) Typhoon No. 23 in October [coastal disaster]
(Muroto city, Kochi Prefecture)

Disaster relief and restoration efforts
The Ministry of Land, Infrastructure and Transport (MLIT) conducted damage assessment and prompt relief and restoration activities.

With allocations from the supplementary budget for fiscal 2004, MLIT organized relief and restoration works and disaster preparedness associated with torrential rains, typhoons and so on.

Record-breaking number of typhoon landfalls on Japan
One of the major factors for repeated landfalls of typhoons is considered to be the location of the Pacific High shifted northward and extended toward Japan in summer and autumn, which led the typhoons to Japan’s vicinity.

The number of heavy rain events, with an hourly precipitation of 50 mm or more, and its year-to-year variations have been on the rise. More research is needed to clarify relationship between global warming and the growing number of torrential-rain events.

Note: The yearly total of torrential downpours as observed by the AMeDAS (Automated Meteorological Data Acquisition System) at some 1,300 points
Source: Japan Meteorological Agency
Response to the Mid Niigata Prefecture Earthquake

Extent of damage

On October 23, 2004, an earthquake measuring 6.8 on the Richter scale struck the Chuetsu region of Niigata Prefecture. Kawaguchi-town, Niigata Prefecture, registered a maximum seismic intensity of 7 on the Japanese scale of 0-7 for the first time after the Great Hanshin-Awaji Earthquake. The devastating earthquake left 40 people dead. Over 100,000 people had to evacuate their homes at least temporarily. Damage from the earthquake included the derailment of a running Joetsu Shinkansen train, landslide dams, road damage, and damage to utilities.

Disaster relief and restoration efforts

MLIT promptly moved to assess the damage, with the dispatch of investigating teams to the disaster areas right after the earthquake. The ministry also sent experts and equipment to facilitate restoration efforts and support the victims.

With allocations from the supplementary budget for FY2004, MLIT is now working on both disaster restoration projects and disaster-preparedness with priority given to projects designed to minimize earthquake disasters.

Damage from the Mid Niigata Prefecture Earthquake

A project to cope with a landslide dam at the Imo River channel
(Yamakoshi-village, Niigata Prefecture)

Emergency diversion channel
Wire sensor
Temporary diversion pipe
Drainage pump
Temporary diversion channel

As a result of restoration operations, the water level fell some 12 meters from the peak level in two months after the earthquake.

Sediment related disaster
(Nagaoka city, Niigata Prefecture)

The scene where staffs of the Public Works Research Institute provided technical advice for rescuing a mother and her two children in a car buried in a landslide.

National Highway 252
(Horinouchi-town, Niigata Prefecture)
### Disaster relief and restoration efforts

<table>
<thead>
<tr>
<th>Restoration of infrastructure and facilities and related support</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The central government conducted a restoration project for National Highway 291, which was under the prefectural management by law, as a national project (direct MLIT intervention). The start of work was announced on November 11.</td>
</tr>
<tr>
<td>• The central government decided on November 5 to conduct an emergency project to cope with landslide dams at the Imo River channel as MLIT directly-control Sabo works request from the Niigata Prefectural Government.</td>
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<tr>
<td>• A decision was made on December 20 to take a special measure that designed to expand the scopes of two types of projects—disaster-related steep slope failure emergency prevention works and disaster-related steep slope failure regional prevention works—to include retaining walls and others.</td>
</tr>
<tr>
<td>• MLIT set up a sewerage engineering study committee in the wake of the earthquake. The committee put together a set of recommendations titled emergency technical advice on the rehabilitation of sewer systems and reported it to the Niigata Prefectural Government on November 22.</td>
</tr>
<tr>
<td>• Work to make emergency risk assessment of damaged buildings was launched on October 24.</td>
</tr>
<tr>
<td>• The headquarters and regional development bureaus of MLIT, research institutions and local governments sent experts in various fields to the disaster areas to assess damage, prevent secondary disasters, inspect hazardous places and support restoration and other efforts on the ground.</td>
</tr>
<tr>
<td>• MLIT’s regional development bureaus and others sent or provided disaster relief machinery, snowplows and other equipment.</td>
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<tr>
<td>• MLIT streamlined the disaster assessment process for its prompt completion on November 17.</td>
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<tr>
<th>Disaster relief and support</th>
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<tbody>
<tr>
<td>• Japan Coast Guard rescued stranded victims and transported doctors and other personnel to the disaster areas.</td>
</tr>
<tr>
<td>• Niigata airport operated 24 hours a day between October 27 and November 11.</td>
</tr>
<tr>
<td>• MLIT provided part of the Echigo Hillside National Government Park for relief purposes on request from the Self-Defense Forces, effective from November 8.</td>
</tr>
<tr>
<td>• The Public Works Research Institute assigned staff members to support the operation to rescue a mother and her two children buried in a landslide.</td>
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<tr>
<th>Special arrangements for administrative procedures</th>
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<tbody>
<tr>
<td>• MLIT special arrangements for administrative procedures included: the extension of the term of validity of vehicle inspection certificates for vehicles of disaster-area residents; and easier procedures to change vehicle inspection places for damaged vehicle maintenance workshops.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Information services</th>
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<tbody>
<tr>
<td>• Local governments provided information on the vacancies of both public and private apartments for those who lost their homes.</td>
</tr>
<tr>
<td>• Geographical Survey Institute provided geographical information and information on crustal movements (maps, aerial photos, etc.).</td>
</tr>
<tr>
<td>• The Japan Meteorological Agency strengthened information services regarding the weather and aftershocks in and around the disaster areas.</td>
</tr>
<tr>
<td>• MLIT provided damage information by taking advantage of aircraft, optical cables and the satellite transmission system.</td>
</tr>
<tr>
<td>• MLIT also compiled and released disaster information with the help of GIS.</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Activities by the industries and organizations concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Industries and organizations provided experts in various fields to support restoration efforts.</td>
</tr>
<tr>
<td>• The Japan Prefabricated Construction Suppliers &amp; Manufacturers Association constructed temporary housing.</td>
</tr>
<tr>
<td>• Relevant organizations provided consultation services on repairing damaged housing.</td>
</tr>
<tr>
<td>• Carpenters and other skilled construction workers set up a support team for housing repair.</td>
</tr>
<tr>
<td>• As many as 39 prefectural trucking associations transported relief supplies to the disaster areas.</td>
</tr>
<tr>
<td>• The Niigata Trucking Association and major haulers offered full support for the transportation of relief supplies from the Niigata Prefectural Government to the disaster areas, including the dispatch of physical distribution experts.</td>
</tr>
<tr>
<td>• The Niigata Prefectural Government established a prefectoral relief supplies distribution center in cooperation with institutions and organizations concerned.</td>
</tr>
<tr>
<td>• Bus operators began to use detour routes to maintain expressway bus services and started to provide alternate services for the disrupted railway sections on October 25.</td>
</tr>
<tr>
<td>• Air carriers offered special services between Haneda and Niigata airports (between October 24, 2004 and January 4, 2005).</td>
</tr>
<tr>
<td>• Many hotels and inns offered accommodations, bath services and meals for earthquake victims at no or low charges.</td>
</tr>
<tr>
<td>• The Niigata Prefectural Government launched a program whereby the elderly and disabled among the quake victims were invited to stay at inns within the prefecture free of charge.</td>
</tr>
</tbody>
</table>

Source: Compiled by MLIT from:
- MLIT, Niigata-ken wo Shingen to Suru Jishin ni Tsuite [Regarding the Earthquake Centering Niigata Prefecture].
- Hokuriku Shinetsu District Transport Bureau, MLIT, Niigata-ken Chuetsu Jishin Ou ku yu Taisaku no Gaiyo to Kongo no Kadai (Gaiyo-ban) [Outline of Emergency Measures for the Mid Niigata Prefecture Earthquake and Issues to be Addressed (Summary)].

— 5 —
Responses toward the rehabilitation of the disaster areas

MLIT supports post-disaster rehabilitation and reconstruction. As part of such support, the ministry has launched a number of support programs designed to promote tourism in Niigata Prefecture, where the tourism industry was significantly damaged by the Mid Niigata Prefecture Earthquake.

[Responses to the Major Earthquake off the Coast of Sumatra and resultant tsunamis in the Indian Ocean]

On December 26, 2004, an earthquake with a magnitude of 9.0 on the Richter scale occurred off the coast of northern Sumatra, Indonesia, to the west. The subsequent tsunamis devastated countries along the Indian Ocean, reportedly leaving some 300,000 people dead or missing.

MLIT assigned staff members of Japan Coast Guard to join the Japan Disaster Relief Teams sent to the disaster areas. The ministry also dispatched experts in tsunamis and those in restoration and reconstruction to Thailand, Sri Lanka, and the Maldives.

MLIT will continue to work together with other ministries, agencies and institutions concerned to assist affected countries in two major aspects: restoration and reconstruction of the devastated areas; and capacity development in disaster preparedness. As part of this initiative, MLIT will proactively support the establishment of a tsunami early warning system in the Indian Ocean.

Thorough examination of the existing disaster management and development of new measures

A spate of natural disasters in 2004 have prompted MLIT to thoroughly examine its disaster management measures and commit itself further to disaster prevention and mitigation, as part of efforts toward a more disaster resistant nation.

[Management of torrential rains and typhoons]

- Developing an emergency action plan for torrential rain disaster management

Based on the lessons learned from a spate of torrential rain disasters during 2004, MLIT has come up with an “emergency action plan for torrential rain disaster management.” This plan is made up of five key policies: (i) improving disaster information services; (ii) ensuring the sharing of disaster information; (iii) maintaining and improving the functions of disaster prevention facilities; (iv) rebuilding the local disaster management capacity; and (v) thorough reviewing disaster preparedness for improvement. Deadlines and numerical targets have been established for these policies.

- Sediment related disaster management

The year 2004 has seen some 2,500 cases of sediment-related disasters across the country—a record annual number since statistics were first compiled. MLIT is now studying measures that address structural and non-structural counter measures against sediment related disasters.
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Earthquake disaster prevention

Follow-up on the Shinkansen train derailment

MLIT’s Aircraft and Railway Accidents Investigation Commission, which reported in January 2005 the progress in its investigation into the derailment accident on the Joetsu Shinkansen train due to the Mid Niigata prefecture Earthquake, is still working to identify the cause of the accident. With reference made to this progress report, MLIT’s Shinkansen derailment prevention council is studying steps to prevent derailment, mitigate disasters, and reinforce the earthquake-resistance of railway infrastructure.

Promotion of more earthquake-resistant housing and other buildings

Many old buildings that failed to meet the current quakeproofing standards were damaged or destroyed altogether in the Mid Niigata Prefecture Earthquake. MLIT is thus studying ways to make such substandard buildings more quake-resistant, including target settings, measures to achieve them, and the use of earthquake insurance.

Anti-earthquake measures for sewerage

In light of sewerage damage from the Mid Niigata Prefecture Earthquake, MLIT is studying technical recommendations, including back-filling associated with damaged sewerage facilities.

Promoting seismic retrofitting of bridges, etc. for roads and Shinkansen lines

Over a three-year period between FY2005 and FY2007, MLIT plans to intensively conduct seismic retrofitting work for bridges for emergency transportation roads, piers of elevated bridges for Shinkansen lines, and bridges (overpasses) over Shinkansen lines and expressways.

Tsunami protection

Developing a tsunami protection roadmap

In light of the extensive damage from the Major Earthquake off the Coast of Sumatra and resulting tsunamis in the Indian Ocean, MLIT has decided to review Japan’s preparedness for tsunamis and identify issues to be addressed. Then MLIT plans to determine steps to be taken and establish mid- to long-term goals.

Large and comprehensive tsunami response drill

MLIT plans to organize a large and comprehensive tsunami response drill in July 2005 that will involves the central government and local governments, corporations and other organizations, and residents. This drill will contribute to the development of a mechanism to communicate accurate information in the case of tsunamis. It will also serves as an information campaign for tsunami preparedness.

Joetsu Shinkansen train derailment accident
(between Nagaoka and Urasa stations)
Part I: New Relationships with East Asia and Development of MLIT Policy to Accommodate Them

Introduction

With the barriers between nations being lowered in all socioeconomic fields in recent years, we are entering the period of unprecedented global interaction, where people and goods come and go freely. Economic interdependence among nations is deepening with progress in the international division of production. These developments, on the other hand, are intensifying international competition at all levels, including nations, regions, and corporations. Socioeconomic activities overseas are increasingly affecting Japan, as exemplified by global warming and other global environmental problems.

Japan has always maintained close relationships with other economies through international commerce and foreign direct investment. In the period of unprecedented global interaction, however, efforts to promote human interaction, including the "Japan Tourism" initiative, are more important than ever. Amid growing moves to promote international partnerships, Japan is working to promote Asia-Pacific Economic Cooperation (APEC) and conclude Economic Partnership Agreements (EPAs) and Free Trade Agreements (FTAs) with other countries.

Bilateral relations with the United States have long been crucial for Japan’s economy. APEC and other multilateral cooperation frameworks have been established among Pacific Rim countries, including the United States. Japan has played an important role in these frameworks. As more and more economic activities go global, both Japan-U.S. relations and the Pacific Rim cooperation frameworks will remain key factors for Japan.

On the other hand, East Asian countries/regions have recently been experiencing remarkable economic growth. In addition to Western countries, these countries/regions are increasingly indispensable for the future of Japan as the country’s production bases, markets, and competitors.

With these circumstances in mind, Part I first analyzes developments in Japan’s neighboring countries, mainly East Asian countries/regions. A special focus is placed on Japan’s interdependent and competitive relationships with these countries, and on international partnerships Japan’s local governments and communities have forged with their counterparts in East Asia. Then Part I explores MLIT policies that will benefit both Japan and East Asia.
Notes on representations definitions, abbreviations and notation in Part I

Definitions concerning counties/regions, abbreviations, and notation in Part I are as follows:

1. Countries and regions

(1) "Countries" may include regions.
(2) (i) ASEAN comprises ten countries: Indonesia, Singapore, Thailand, Philippines, Malaysia, Brunei, Vietnam, Myanmar, Laos, and Cambodia.
   (ii) Indonesia, Thailand, Philippines, and Malaysia are collectively referred to as ASEAN4.
   (iii) NIEs comprise Rep.Korea, Singapore, Taiwan, and Hong Kong.
   (iv) Rep.Korea, Taiwan, and Hong Kong are collectively referred to as NIEs3.
   (v) "East Asian countries/regions" collectively refers to the ASEAN countries, Rep.Korea, China, Taiwan, and Hong Kong, unless otherwise noted.
   (vi) Unless otherwise noted, "EU" collectively refers to the 15 member countries before May 2004, when the membership increased to 25.
   (vii) NAFTA collectively refers to the United States, Canada, and Mexico.

2. Abbreviations

ACI : Airports Council International
ASEAN : Association of Southeast Asian Nations
EU : European Union
IATA : International Air Transport Association
ICAO : International Civil Aviation Organization
IMD : International Institute for Management Development
IMF : International Monetary Fund
IRF : International Road Federation
JNTO : Japan National Tourist Organization
JETRO : Japan External Trade Organization
NAFTA : North American Free Trade Agreement
WTO : World Tourism Organization

3. Notation

Unless otherwise noted, "-" and "*" represent "not applicable" and "unknown," respectively.
Chapter I: Growing East Asian countries/regions

[Growing East Asian countries/regions]

Real GDP of East Asian countries/regions, growing production bases and markets for businesses, jumped 385% between 1980 and 2003—a rate faster than the world average. East Asia, including Japan, constitute a growing third economic block after North America and Europe, accounting for 32.0%, 20.5%, 25.5%, and 22.1% of the world population, GDP, exports, and imports, respectively.

\[ \text{Growth in real GDP (base year: 1980)} \]

2. The figures for the “world” are based on the sum of U.N. statistics (excluding Taiwan) and those of Taiwan.
Source: Compiled from U.N., National Accounts Main Aggregates Database, and IMF, World Economic Outlook Database. September 2004, for Taiwan.

\[ \text{Nominal GDP and share of each country/region (2003)} \]

Source: Compiled from IMF, World Economic Outlook Database, September 2004.
Expanding economic activity has increased the flows of people and goods in East Asian countries/regions. The share of East Asian countries/regions in the world has grown in terms of the number of overseas travelers, the amount of marine containers handled, the volume of air passenger traffic, and the volume of air freight traffic.

Source: Compiled from IMF, Direction of Trade Statistics 2004, and JETRO, AIDXT database.

**Increasing flows of people and goods**

Expanding economic activity has increased the flows of people and goods in East Asian countries/regions. The share of East Asian countries/regions in the world has grown in terms of the number of overseas travelers, the amount of marine containers handled, the volume of air passenger traffic, and the volume of air freight traffic.

Source: Compiled from IMF, Direction of Trade Statistics 2004, and JETRO, AIDXT database.

**Trend in the number of overseas travelers from East Asian countries/regions (base year: 1994)**

Notes:
1. East Asian countries/regions: Indonesia, Rep.Korea, Singapore, Thailand, China, Malaysia, Taiwan, and Hong Kong.
2. The number of overseas travelers is calculated based on the number of people entering the visiting countries. For this reason, if a traveler visits two countries, for example, he or she is counted as two travelers.
3. Base year: 1994 (= 100)

Sources: Compiled from:
- Asian-Pacific Tourism Exchange Center, World Tourism Statistics for the number of overseas travelers from East Asian countries/regions.
- WTO, Tourism Market Trends 2003 for the total number of overseas travelers in the world.
Expanding economic activity has increased the flows of people and goods in East Asian countries/regions. The share of East Asian countries/regions in the world has grown in terms of the number of overseas travelers, the amount of marine containers handled, the volume of air passenger traffic, and the volume of air freight traffic.

[Increasing flows of people and goods]

Expanding economic activity has increased the flows of people and goods in East Asian countries/regions. The share of East Asian countries/regions in the world has grown in terms of the number of overseas travelers, the amount of marine containers handled, the volume of air passenger traffic, and the volume of air freight traffic.

[<Trend in the number of overseas travelers from East Asian countries/regions (base year: 1994)>]

Notes: 1. East Asian countries/regions: Indonesia, Rep.Korea, Singapore, Thailand, China, Malaysia, Taiwan, and Hong Kong.
   2. The number of overseas travelers is calculated based on the number of people entering the visiting countries. For this reason, if a traveler visits two countries, for example, he or she is counted as two travelers.
   3. Base year: 1994 (= 100)

Sources: Compiled from: Asian-Pacific Tourism Exchange Center, World Tourism Statistics for the number of overseas travelers from East Asian countries/regions.
   WTO, Tourism Market Trends 2003 for the total number of overseas travelers in the world.
**Trend in the amount of marine containers handled in the world**

<table>
<thead>
<tr>
<th>Year</th>
<th>East Asian countries/regions</th>
<th>Others</th>
<th>Japan</th>
<th>(thousand TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>52.4%</td>
<td>42.8%</td>
<td>10%</td>
<td>303,108</td>
</tr>
<tr>
<td>2000</td>
<td>49.3%</td>
<td>50.7%</td>
<td>10%</td>
<td>85,597</td>
</tr>
</tbody>
</table>

Notes: 1. The figure for East Asian countries/regions is the total of the volumes handled in East Asian countries/regions that ranked within the top 60 every year.
2. East Asian countries/regions refer to:
   - Indonesia, Rep. Korea, Singapore, Thailand, Philippines, Malaysia, Taiwan, and Hong Kong for the 1990 figure
   - Indonesia, Rep. Korea, Singapore, Thailand, China, Philippines, Vietnam, Malaysia, and Taiwan for the 2003 figure
Source: Compiled from Informa UK Ltd., Containerisation International Yearbook.

**Trend in the volume of air passenger traffic in the world**

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia and the Pacific</th>
<th>North America</th>
<th>Europe</th>
<th>Other regions</th>
<th>(Billion passenger-kilometers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>30.3%</td>
<td>36.8%</td>
<td>41.8%</td>
<td>11.1%</td>
<td>5,120</td>
</tr>
<tr>
<td>2002</td>
<td>26.2%</td>
<td>26.9%</td>
<td>31.0%</td>
<td>26.1%</td>
<td>1,166,628</td>
</tr>
<tr>
<td>1992</td>
<td>21.2%</td>
<td>26.7%</td>
<td>33.2%</td>
<td>10.4%</td>
<td>1,928</td>
</tr>
</tbody>
</table>

Notes: 1. The figure represents the total traffic volume for the air carriers registered in each region.
2. “Asia and the Pacific” include East Asian countries/regions, South Asia (India and eastward), Oceania and the Pacific countries.
Source: Compiled from ICAO, Outlook for Air Transport to the Year 2015.

**Trend in the volume of air freight traffic in the world**

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia and the Pacific</th>
<th>North America</th>
<th>Europe</th>
<th>Other regions</th>
<th>(Million ton-kilometers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>41.1%</td>
<td>26.2%</td>
<td>26.5%</td>
<td>11.1%</td>
<td>233,850</td>
</tr>
<tr>
<td>2002</td>
<td>35.1%</td>
<td>36.8%</td>
<td>37.3%</td>
<td>9.6%</td>
<td>116,628</td>
</tr>
<tr>
<td>1992</td>
<td>30.3%</td>
<td>30.3%</td>
<td>41.8%</td>
<td>11.1%</td>
<td>62,675</td>
</tr>
</tbody>
</table>

Notes: 1. The figure represents the total traffic volume for the air carriers registered in each region.
2. “Asia and the Pacific” include East Asian countries/regions, South Asia (India and eastward), Oceania and the Pacific countries.
Source: Compiled from ICAO, Outlook for Air Transport to the Year 2015.

**Growth of East Asian countries/regions and infrastructure development**

Infrastructure development in East Asian countries/regions

In East Asian countries/regions, economic growth has been accompanied by the development of infrastructure, including roads, railways, ports and airports. Japan’s Official Development Assistance (ODA) has been playing an important role in such infrastructure development. More infrastructure development plans are in the works to both meet growing demand associated with economic growth and sustain such growth.
<Trend in the amount of marine containers handled in the world>

<table>
<thead>
<tr>
<th>Year</th>
<th>Others (thousand TEU)</th>
<th>Japan (thousand TEU)</th>
<th>East Asian countries/regions (thousand TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>85,597</td>
<td>64.5%</td>
<td>26.2%</td>
</tr>
<tr>
<td>2003</td>
<td>303,108</td>
<td>52.4%</td>
<td>42.8%</td>
</tr>
</tbody>
</table>

Notes: 1. The figure for East Asian countries/regions is the total of the volumes handled in East Asian countries/regions that ranked within the top 60 every year.
2. East Asian countries/regions refer to:
   - Indonesia, Rep.Korea, Singapore, Thailand, Philippines, Malaysia, Taiwan, and Hong Kong for the 1990 figure
   - Indonesia, Rep.Korea, Singapore, Thailand, China, Philippines, Vietnam, Malaysia, and Taiwan for the 2003 figure
Source: Compiled from Informa UK Ltd., Containerisation International Yearbook.

<Trend in the volume of air passenger traffic in the world>

<table>
<thead>
<tr>
<th>Year</th>
<th>Other regions (Billion passenger-kilometers)</th>
<th>North America (Billion passenger-kilometers)</th>
<th>Europe (Billion passenger-kilometers)</th>
<th>Asia and the Pacific (Billion passenger-kilometers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>19,28</td>
<td>1,942</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>2002</td>
<td>5,120</td>
<td>2,942</td>
<td>10,000</td>
<td>10,000</td>
</tr>
<tr>
<td>2015</td>
<td>11,120</td>
<td>3,942</td>
<td>30,000</td>
<td>30,000</td>
</tr>
</tbody>
</table>

Notes: 1. The figure represents the total traffic volume for the air carriers registered in each region.
2. “Asia and the Pacific” include East Asian countries/regions, South Asia (India and eastward), Oceania and the Pacific countries.
Source: Compiled from ICAO, Outlook for Air Transport to the Year 2015.

<Trend in the volume of air freight traffic in the world>

<table>
<thead>
<tr>
<th>Year</th>
<th>Other regions (Million ton-kilometers)</th>
<th>North America (Million ton-kilometers)</th>
<th>Europe (Million ton-kilometers)</th>
<th>Asia and the Pacific (Million ton-kilometers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>62,675</td>
<td>62,675</td>
<td>1,928</td>
<td>1,928</td>
</tr>
<tr>
<td>2002</td>
<td>116,628</td>
<td>116,628</td>
<td>2,942</td>
<td>2,942</td>
</tr>
<tr>
<td>2015</td>
<td>233,850</td>
<td>233,850</td>
<td>3,942</td>
<td>3,942</td>
</tr>
</tbody>
</table>

Notes: 1. The figure represents the total traffic volume for the air carriers registered in each region.
2. “Asia and the Pacific” include East Asian countries/regions, South Asia (India and eastward), Oceania and the Pacific countries.
Source: Compiled from ICAO, Outlook for Air Transport to the Year 2015.

[Growth of East Asian countries/regions and infrastructure development]

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In East Asian countries/regions, economic growth has been accompanied by the development of infrastructure, including roads, railways, ports and airports. Japan’s Official Development Assistance (ODA) has been playing an important role in such infrastructure development. More infrastructure development plans are in the works to both meet growing demand associated with economic growth and sustain such growth.
<Trend in China's expressway total length and real GDP>

![Graph showing trend in China's expressway total length and real GDP](image)

Note: Real GDP is at 1990 prices.
Sources: Compiled from Data from China’s Ministry of Communications and China Statistical Yearbook for the total expressway length. Compiled from U.N., National Accounts Main Aggregates Database for real GDP.

<Trend in the total lengths of expressways in East Asian countries/regions>

<table>
<thead>
<tr>
<th>Year</th>
<th>Japan</th>
<th>Indonesia</th>
<th>Rep.Korea</th>
<th>Singapore</th>
<th>Thailand</th>
<th>China</th>
<th>Philippines</th>
<th>Malaysia</th>
<th>Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>2,860</td>
<td>47</td>
<td>1,225</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>127</td>
<td>-</td>
<td>373</td>
</tr>
<tr>
<td>1990</td>
<td>5,074</td>
<td>287</td>
<td>1,551</td>
<td>104</td>
<td>27</td>
<td>522</td>
<td>127</td>
<td>942</td>
<td>382</td>
</tr>
<tr>
<td>2000</td>
<td>7,843</td>
<td>530</td>
<td>2,131</td>
<td>150</td>
<td>331</td>
<td>16,285</td>
<td>151</td>
<td>1,195</td>
<td>608</td>
</tr>
<tr>
<td>2003</td>
<td>8,540</td>
<td>*</td>
<td>2,778</td>
<td>150</td>
<td>331</td>
<td>29,745</td>
<td>173</td>
<td>1,228</td>
<td>872</td>
</tr>
</tbody>
</table>

Notes: 1. Japan: Arterial high-standard highways (total length at the end of each fiscal year), except for the figure for 1980, which represents the total length of national expressways, as the arterial high-standard highway network plan was formulated in 1987.
2. Indonesia: Toll Road.
5. Thailand: Intercity Motorways, Expressway, Concession Highways. First put into operation in 1981 (9 kilometers)
7. Philippines: North Luzon Expressway, South Luzon Expressway, R-1 Expressway, Metro Manila Skyway, Southern Tagalog Arterial Road, Subic-Tipo Expressway.
Sources: Compiled from statistics and national governments of the countries, IRF, World Road Statistics, and others.
### The current state of roads, railways, ports and airports in East Asian countries/regions

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (thousand persons)</th>
<th>Land area (km²)</th>
<th>Total lengths of expressways (km)</th>
<th>Total lengths of railways (km)</th>
<th>Port</th>
<th>Number of Berths</th>
<th>Number of run ways</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kobe</td>
<td>12 (2004)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Osaka</td>
<td>8 (2004)</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>7,050</td>
<td>1,075</td>
<td>*</td>
<td>*</td>
<td>Hong Kong</td>
<td>22 (2004)</td>
<td>Hong Kong 2 (2004)</td>
</tr>
</tbody>
</table>

Notes:
1. "Population" is a mid-year estimate. "Land area" is 2000 data.
2. "Port" represent those that are among the top 20 in the world ranking and/or the country's No. 1 port in terms of the annual amount of containers handled, except for Japanese ports, which represent the country's top 5 ports. Some of Japanese ports are not among the world top 20 ports.
3. The standards for berth depend on the country/region, precluding direct comparisons. The number of berths at a Japanese port is the number of berths for exclusive use for containers with a water depth of 12 meters or more. The details of the berths in other East Asian countries/regions, including their water depths, are not available. The figures with no survey year specified are based on Informa UK Ltd., *Containerisation International Yearbook 2005*.
4. "Airports" represent those that are among the top 80 in the world ranking and/or the country’s No. 1 airport in terms of the annual volume of passenger traffic, except for Japanese airports which represent the country's major international airports.
5. Runways with a length of 2,000 meters or more are represented.

Source: Compiled from Statistics Bureau, Ministry of Internal Affairs and Communications, *Sekai no Tokei 2004* [World Statistics 2004], statistics from the countries in question, MLIT surveys and other data.

Construction investment in East Asian countries/regions and Japanese construction companies

East Asian countries/regions have sometimes seen a higher growth in gross fixed capital formation than GDP, suggesting that economic growth led to an increase in construction investment. Meanwhile, East Asian countries/regions represent significant portions in overseas orders for Japanese construction companies, and these companies play a role in the development of infrastructure and the construction industry in the region.
Chapter 2: Deepening Relationships between Japan and East Asian countries/regions

[Interdependence between Japan and East Asian countries/regions]

Trends in flows of people

Flows of people between Japan and East Asian countries/regions are on the rise. These countries/regions account for 50.2% of all international destinations for Japanese travelers overseas. People from these countries/regions represent 64.8% of all overseas visitors to Japan.

With such an increase in the flows of people, a close network of scheduled airline routes between Japan and East Asian countries/regions has been formed.

<Destinations for Japanese travelers overseas>

1994

- China: 1,141,225 (5.6%)
- Rep. Korea: 1,644,097 (8.1%)
- Hong Kong: 1,440,632 (7.1%)
- Taiwan: 823,882 (4.1%)
- United States & Canada: 2,858,851 (14.5%)
- EU: 4,475,327 (22.1%)
- ASEAN: 2,934,415 (14.5%)
- Other: 3,469,565 (17.2%)

Total: 20,214,994

2002

- China: 2,925,553 (13.0%)
- Rep. Korea: 2,320,837 (10.3%)
- Taiwan: 823,882 (4.1%)
- EU: 4,475,327 (22.1%)
- ASEAN: 3,679,954 (16.4%)
- Other: 3,229,058 (14.4%)
- United States & Canada: 4,063,774 (18.1%)

Total: 22,476,186

Notes: 1. The number of Japanese travelers overseas has been calculated based on the number of Japanese entering the visiting countries. If a traveler visits two countries, for example, he or she is counted as two travelers. For this reason, the number does not match the number of Japanese leaving Japan.
2. “EU” does not include Luxemburg.

(Number of overseas visitors to Japan by country/region)

1994

- EU: 427,428 (12.3%)
- NAFTA: 604,325 (17.7%)
- ASEAN: 284,118 (8.2%)
- China: 193,486 (5.6%)
- Hong Kong: 145,249 (4.2%)
- Others: 237,584 (6.9%)

Total: 1,557,783

2003

- EU: 484,293 (9.3%)
- NAFTA: 792,973 (15.2%)
- ASEAN: 424,508 (8.1%)
- China: 260,214 (5.0%)
- Hong Kong: 448,782 (8.6%)
- Rep. Korea: 1,459,333 (28.6%)
- Others: 556,243 (10.7%)

Total: 3,634,317

Notes: 1. “ASEAN” represents Indonesia, Singapore, Thailand, Philippines, and Malaysia.
2. “EU” represents U.K., Italy, the Netherlands, Sweden, Spain, Denmark, Germany, and France.
3. “No. of overseas visitors” represents the number of foreign nationals who entered Japan in the Ministry of Justice’s statistics minus that of those residing in Japan plus that of foreign nationals who landed on Japan temporarily.
Source: Compiled from data from the Ministry of Justice and others.
Number of passenger flights between Japan and East Asian countries/regions

<table>
<thead>
<tr>
<th>No. of flight services (round trip/week)</th>
<th>Harbin</th>
<th>Changchun</th>
<th>Dalian</th>
<th>Shanghai</th>
<th>Tianjin</th>
<th>Hangzhou</th>
<th>Nanjing</th>
<th>Nantong</th>
<th>Chengdu</th>
<th>Chongqing</th>
<th>Xi'an</th>
<th>Qingdao</th>
<th>Shenyang</th>
<th>Beijing</th>
<th>Harbin</th>
</tr>
</thead>
<tbody>
<tr>
<td>100–</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>50–99</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>8–49</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>1–7</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
</tbody>
</table>

Note: The figure shows the number of passenger flights (round flights) between Japan and airports in East Asian countries/regions. The number includes indirect flights.

Trends in the flows of goods

Flows of goods between Japan and East Asian countries/regions are on the rise in terms of both marine and air transportation. The share of these countries/regions in the volume of traffic to and from Japan (in tonnage and monetary value) is also increasing. With the growing marine transportation, a close network of regular sea routes between Japan and East Asian countries/regions has been formed.

**<Trend in the tonnage of exported port cargos (by destination)>**

<table>
<thead>
<tr>
<th>(thousand freight tons)</th>
<th>Others</th>
<th>NIEs3</th>
<th>ASEAN</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>152,495</td>
<td>111,7%</td>
<td>5.2%</td>
<td>12.4%</td>
</tr>
<tr>
<td>1990</td>
<td>171,066</td>
<td>68.5%</td>
<td>15.1%</td>
<td>14.3%</td>
</tr>
<tr>
<td>2000</td>
<td>202,886</td>
<td>13.9%</td>
<td>24.4%</td>
<td>26.2%</td>
</tr>
<tr>
<td>2002</td>
<td>222,900</td>
<td>14.0%</td>
<td>13.9%</td>
<td>17.5%</td>
</tr>
</tbody>
</table>

Note: The figure represents the volume of cargos handled at grade-A ports (key ports, etc.)
Source: Compiled from MLIT, Kowan Tokei [Port and Harbour Statistics].

**<Trend in the tonnage of imported port cargos (by origin)>**

<table>
<thead>
<tr>
<th>(thousand freight tons)</th>
<th>Others</th>
<th>NIEs3</th>
<th>ASEAN</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>662,466</td>
<td>16.2%</td>
<td>2.3%</td>
<td>2.3%</td>
</tr>
<tr>
<td>1990</td>
<td>793,969</td>
<td>11.7%</td>
<td>17.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2000</td>
<td>933,126</td>
<td>13.3%</td>
<td>13.9%</td>
<td>5.8%</td>
</tr>
<tr>
<td>2002</td>
<td>902,154</td>
<td>11.7%</td>
<td>13.3%</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Note: The figure represents the volume of cargos handled at grade-A ports (key ports, etc.)
Source: Compiled from MLIT, Kowan Tokei [Port and Harbour Statistics].
Trend in the volume of exported air cargos (by destination)

<table>
<thead>
<tr>
<th>Year</th>
<th>Other</th>
<th>ASEAN</th>
<th>NIEs3</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>6,688</td>
<td>10.8%</td>
<td>67.7%</td>
<td>20.8%</td>
</tr>
<tr>
<td>2000</td>
<td>52.1%</td>
<td>28.5%</td>
<td>4.2%</td>
<td>12.0%</td>
</tr>
<tr>
<td>2003</td>
<td>42.7%</td>
<td>16.7%</td>
<td>9.6%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Source: Compiled from Ministry of Finance, Trade Statistics of Japan.

Trend in the volume of imported air cargos (by origin)

<table>
<thead>
<tr>
<th>Year</th>
<th>Other</th>
<th>ASEAN</th>
<th>NIEs3</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>7,744</td>
<td>86.5%</td>
<td>4.7%</td>
<td>7.7%</td>
</tr>
<tr>
<td>2000</td>
<td>62.2%</td>
<td>86.5%</td>
<td>17.4%</td>
<td>13.4%</td>
</tr>
<tr>
<td>2003</td>
<td>58.0%</td>
<td>13.4%</td>
<td>15.6%</td>
<td>14.5%</td>
</tr>
</tbody>
</table>

Source: Compiled from Ministry of Finance, Trade Statistics of Japan.

Number of major regular routes within East Asia that call at ports

- **East Asian countries/regions**
- **China**
- **ASEAN**
- **NIEs3**

<table>
<thead>
<tr>
<th>Port</th>
<th>No. of major regular routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pusan</td>
<td>10 or more</td>
</tr>
<tr>
<td>Incheon</td>
<td>5–9</td>
</tr>
<tr>
<td>Dalian</td>
<td>2–5</td>
</tr>
<tr>
<td>Tianjin</td>
<td>2–4</td>
</tr>
<tr>
<td>Yantai</td>
<td>1</td>
</tr>
<tr>
<td>Qingdao</td>
<td>1</td>
</tr>
<tr>
<td>Shanghai</td>
<td>1</td>
</tr>
<tr>
<td>Hangzhou</td>
<td>1</td>
</tr>
<tr>
<td>Xiamen</td>
<td>1</td>
</tr>
<tr>
<td>Shanghai</td>
<td>1</td>
</tr>
<tr>
<td>Shenzhen</td>
<td>1</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1</td>
</tr>
<tr>
<td>Gaoxiong</td>
<td>1</td>
</tr>
<tr>
<td>Taichung</td>
<td>1</td>
</tr>
<tr>
<td>Keelung</td>
<td>1</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>1</td>
</tr>
<tr>
<td>Pasir Gudang</td>
<td>1</td>
</tr>
<tr>
<td>Tanjung Priok</td>
<td>1</td>
</tr>
<tr>
<td>Singapore</td>
<td>1</td>
</tr>
<tr>
<td>Port Kelang</td>
<td>1</td>
</tr>
<tr>
<td>Port Klang</td>
<td>1</td>
</tr>
<tr>
<td>Pasir Gudang</td>
<td>1</td>
</tr>
<tr>
<td>Kuantan</td>
<td>1</td>
</tr>
<tr>
<td>Laem Chabang</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: The figure represents the number of routes that call at the port out of the total 15 East Asian internal regular routes for container liners with an average of 1,500TEU or more.

Source: Compiled from Japan Maritime Public Relations Center, *Suuji de Miru Kaiun Zosen 2004* [Shipping and Shipbuilding—Facts and Figures 2004].
Deepening interdependence

East Asian countries/regions constitute the No. 1 trade partner for Japan, with exports to and imports from them accounting for 45.5% and 43.7%, respectively (2003). The distant second and third partners are EU (15.3% of exports and 12.8% of imports), and NAFTA (26.9% of exports and 17.8% of imports). Components makes up a large portion of both exports to and imports from East Asian countries/regions, suggesting that division of labor is already in place between Japan and these countries/regions. Such division of labor in turn may be a major factor behind increases in the flows of goods and those of people, especially business travelers.

Such division of labor in turn may be a major factor behind increases in the flows of goods and those of people, especially business travelers.

Deepening interdependence facilitates the flow of people and goods with East Asian countries/regions. To that end, Japan needs to do more to facilitate the flow of people and goods with East Asian countries/regions.

Interdependence is deepening in tourism as well. Visitors to Japan from East Asian countries/regions are increasing in number with their economic development, as well as due in part to mutual permeation of pop culture.

It is important for Japan—where the birthrate declines and the population ages—to maintain and even increase interaction with East Asian countries/regions amid deepening interdependence. To that end, Japan needs to do more to facilitate the flow of people and goods with East Asian countries/regions.

---

**<Trend in Japan’s exports (by destination)>**

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>Others</th>
<th>ASEAN</th>
<th>NIEs3</th>
<th>China</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>28,886,043</td>
<td>13,733,211</td>
<td>10,514,633</td>
<td>8,324,959</td>
<td>7,905,426</td>
<td>75,463,953</td>
</tr>
<tr>
<td>1990</td>
<td>33,855</td>
<td>19.6%</td>
<td>12.7%</td>
<td>17.5%</td>
<td>15.7%</td>
<td>15.4%</td>
</tr>
<tr>
<td>2000</td>
<td>40,938</td>
<td>19.6%</td>
<td>12.7%</td>
<td>17.5%</td>
<td>15.7%</td>
<td>15.4%</td>
</tr>
<tr>
<td>2003</td>
<td>44,362</td>
<td>19.6%</td>
<td>12.7%</td>
<td>17.5%</td>
<td>15.7%</td>
<td>15.4%</td>
</tr>
</tbody>
</table>

**<Trend in Japan’s imports (by origin)>**

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>Others</th>
<th>ASEAN</th>
<th>NIEs3</th>
<th>China</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>18,865,769</td>
<td>17,022,463</td>
<td>12,267,959</td>
<td>9,136,001</td>
<td>8,750,563</td>
<td>57,287,753</td>
</tr>
<tr>
<td>1990</td>
<td>40.9%</td>
<td>10.2%</td>
<td>7.3%</td>
<td>5.5%</td>
<td>5.2%</td>
<td>20.3%</td>
</tr>
<tr>
<td>2000</td>
<td>40.9%</td>
<td>10.2%</td>
<td>7.3%</td>
<td>5.5%</td>
<td>5.2%</td>
<td>20.3%</td>
</tr>
<tr>
<td>2003</td>
<td>40.9%</td>
<td>10.2%</td>
<td>7.3%</td>
<td>5.5%</td>
<td>5.2%</td>
<td>20.3%</td>
</tr>
</tbody>
</table>

**<Japan’s major trade items exported to and imported from East Asian countries/regions (2003)>**

<table>
<thead>
<tr>
<th>Item</th>
<th>Exports</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics apparatus</td>
<td>28,886,043</td>
<td>13.5%</td>
</tr>
<tr>
<td>Iron &amp; Steel Products</td>
<td>13,733,211</td>
<td>6.4%</td>
</tr>
<tr>
<td>Scientific &amp; Optical equipment</td>
<td>10,514,633</td>
<td>4.9%</td>
</tr>
<tr>
<td>Office Machines</td>
<td>8,324,959</td>
<td>3.9%</td>
</tr>
<tr>
<td>Plastic</td>
<td>7,905,426</td>
<td>3.7%</td>
</tr>
<tr>
<td>Organic chemicals</td>
<td>7,142,008</td>
<td>3.3%</td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>6,509,047</td>
<td>3.0%</td>
</tr>
<tr>
<td>Parts of Motor Vehicles</td>
<td>5,979,482</td>
<td>2.8%</td>
</tr>
<tr>
<td>Parts of Audio Visual apparatus</td>
<td>5,481,792</td>
<td>2.6%</td>
</tr>
<tr>
<td>Power generating machinery</td>
<td>4,219,340</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Imports</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Machines</td>
<td>18,865,769</td>
<td>11.3%</td>
</tr>
<tr>
<td>Apparel and similar products</td>
<td>17,022,463</td>
<td>10.2%</td>
</tr>
<tr>
<td>Thermionic, etc., valves, tubes, semiconductor devices, L.C., etc.</td>
<td>12,267,959</td>
<td>7.3%</td>
</tr>
<tr>
<td>L.N.G</td>
<td>9,136,001</td>
<td>5.5%</td>
</tr>
<tr>
<td>Audio &amp; Visual apparatus</td>
<td>8,750,563</td>
<td>5.2%</td>
</tr>
<tr>
<td>Fish &amp; Shellfish</td>
<td>6,515,498</td>
<td>3.9%</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>4,354,232</td>
<td>2.6%</td>
</tr>
<tr>
<td>Scientific &amp; Optical equipment</td>
<td>3,961,616</td>
<td>2.4%</td>
</tr>
<tr>
<td>Petroleum Crude and Parly refined</td>
<td>3,623,224</td>
<td>2.2%</td>
</tr>
<tr>
<td>Furniture</td>
<td>3,087,597</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Note: "Share" shows how much the exported (or imported) item accounts for the total amount of products of the same item that East Asian countries/regions import (or export).

Source: Compiled from JETRO, Boeki Tokei Database [Database of Trade Statistics].

Source: Compiled from Ministry of Finance, Trade Statistics of Japan.
[Competition between Japan and East Asian countries/regions]

Economic growth in East Asian countries/regions has not only deepened their interdependence with Japan but also competition between the two at all levels—among nations, regions, cities and businesses.

Under these circumstances, it is said that Japan’s competitiveness is decreasing in relation to East Asian countries/regions. For example, IMD’s World Competitiveness Yearbook 2004 ranks some East Asian countries above Japan.

<table>
<thead>
<tr>
<th>Country</th>
<th>Total rank</th>
<th>Basic infrastructure section rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>6</td>
<td>58</td>
</tr>
<tr>
<td>Taiwan</td>
<td>12</td>
<td>36</td>
</tr>
<tr>
<td>Malaysia</td>
<td>16</td>
<td>35</td>
</tr>
<tr>
<td>Japan</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>China</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>Thailand</td>
<td>29</td>
<td>41</td>
</tr>
<tr>
<td>Rep.Korea</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>Philippines</td>
<td>52</td>
<td>60</td>
</tr>
<tr>
<td>Indonesia</td>
<td>58</td>
<td>57</td>
</tr>
</tbody>
</table>

Notes: Ranking in the basic infrastructure section has been made based on the following survey and statistical items.

Survey items: urbanization, air transportation quality, physical distribution infrastructure, water-borne traffic infrastructure, infrastructure management and maintenance, and energy infrastructure.

Statistical items: the cultivated acreage, population (market) size, population density, road network, railway network, the number of air passengers, energy output, (GDP) – (energy consumption), energy consumption (/GDP), energy trade, and electricity charges for businesses.

Source: Compiled from IMD, World Competitiveness Yearbook 2004.

○Ports and airports in Japan and East Asian countries/regions

East Asian countries/regions are increasingly developing ports and airports, prompted by the growing flows of people and goods, the development of transportation means, and the shift toward large-capacity ships. As a result, the capacities of ports and airports in East Asian countries/regions have been increased. Some of these ports and airports have already surpassed or in the process of surpassing those in Japan in terms of the volume of cargos or passengers handled.

A number of trends point to a decline in the international status of Japanese ports. For example, increasing portions of the containers exported from or imported to Japan are transshipped at major ports in East Asian countries/regions. In addition, the number of major ocean liners that call at Japanese ports is decreasing. Some airports in East Asian countries/regions are ranked above some Japanese airports in terms of passenger traffic.

Amid progress in the international division of labor, Japan needs to maintain its competitive edge. To this end, Japan should strive to maintain and improve its collective capacity in all of its forms, including its software side.
Notes: 1. The ports in East Asian countries/regions were among the top 20 in the world ranking and/or the country’s No. 1 port in terms of the annual amount of containers handled. The ports in Japan were the country’s top 5 ports, some of which are not among the world top 20 ports.

2. The standards for berth depend on the country/region, precluding direct comparisons. The number of berths at a Japanese port is the number of berths for exclusive use for containers with a water depth of 12 meters or more. The details of the berths in East Asian countries/regions, including their water depths, are not available.

3. The number in parentheses after the number of berths indicates berths with a water depth of 16 meters or more included in the total.

4. The figures with no survey year specified are based on Informa UK Ltd., Containerisation International Yearbook 2005.

5. The transshipping rate represents the percentage of containers from aboard that are transshipped at the port for transport to other countries.

Source: Compiled from Informa UK Ltd., Containerisation International Yearbook 2005, MLIT surveys, and other data.
Notes: 1. "No. of runways" and "access to city center" are data as of February 2005 for Japanese airports and 2004 for those in East Asian countries/regions.
2. The chart represents airports that were among the top 80 in the world ranking and/or the country’s No. 1 airport in 2003 in terms of the annual volume of passenger traffic, except for Japanese airports, which were the country’s major international airports.
3. (Transit rate) = (No. of transit passengers) / (No. of passengers entering the country + No. of passengers leaving the country + No. of transit passengers)

Source: Compiled from ACI, 2003 Worldwide Airport Traffic Report, MLIT surveys, and other data.
### Ranking of major ports in East Asian countries/regions in term of the amount of containers handled (2003)

<table>
<thead>
<tr>
<th>World rank</th>
<th>2002 rank</th>
<th>Port</th>
<th>Country/region</th>
<th>2003 cargo volume (thousand TEU)</th>
<th>2002 cargo volume (thousand TEU)</th>
<th>Year-on-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Hong Kong</td>
<td>Hong Kong</td>
<td>20,449</td>
<td>19,144</td>
<td>106.8</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Singapore</td>
<td>Singapore</td>
<td>18,100</td>
<td>16,800</td>
<td>107.7</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>Shanghai</td>
<td>China</td>
<td>11,280</td>
<td>8,610</td>
<td>131.0</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>Shenzhen</td>
<td>China</td>
<td>10,614</td>
<td>7,614</td>
<td>139.4</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>Pusan</td>
<td>Rep.Korea</td>
<td>10,408</td>
<td>9,453</td>
<td>110.1</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>Gaoxianger</td>
<td>Taiwan</td>
<td>8,840</td>
<td>8,493</td>
<td>104.1</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>Port Kelang</td>
<td>Malaysia</td>
<td>4,840</td>
<td>4,533</td>
<td>106.8</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>Qingdao</td>
<td>China</td>
<td>4,239</td>
<td>3,410</td>
<td>124.3</td>
</tr>
<tr>
<td>16</td>
<td>21</td>
<td>Tanjung Pelapas</td>
<td>Malaysia</td>
<td>3,487</td>
<td>2,660</td>
<td>131.1</td>
</tr>
<tr>
<td>17</td>
<td>19</td>
<td>Tokyo</td>
<td>Japan</td>
<td>3,314</td>
<td>2,712</td>
<td>122.2</td>
</tr>
<tr>
<td>19</td>
<td>22</td>
<td>Leme Chabang</td>
<td>Thailand</td>
<td>3,181</td>
<td>2,657</td>
<td>119.7</td>
</tr>
<tr>
<td>21</td>
<td>24</td>
<td>Tianjin</td>
<td>China</td>
<td>3,015</td>
<td>2,410</td>
<td>125.1</td>
</tr>
<tr>
<td>22</td>
<td>32</td>
<td>Ningbo</td>
<td>China</td>
<td>2,772</td>
<td>1,860</td>
<td>149.0</td>
</tr>
<tr>
<td>23</td>
<td>27</td>
<td>Guangzhou</td>
<td>China</td>
<td>2,762</td>
<td>2,180</td>
<td>126.7</td>
</tr>
<tr>
<td>24</td>
<td>20</td>
<td>Tanjung Priok</td>
<td>Indonesia</td>
<td>2,758</td>
<td>2,680</td>
<td>102.9</td>
</tr>
<tr>
<td>25</td>
<td>23</td>
<td>Manila</td>
<td>Philippines</td>
<td>2,552</td>
<td>2,462</td>
<td>103.7</td>
</tr>
<tr>
<td>27</td>
<td>25</td>
<td>Yokohama</td>
<td>Japan</td>
<td>2,505</td>
<td>2,365</td>
<td>105.9</td>
</tr>
<tr>
<td>29</td>
<td>35</td>
<td>Xiamen</td>
<td>China</td>
<td>2,331</td>
<td>1,750</td>
<td>133.2</td>
</tr>
</tbody>
</table>

Source: Compiled from Informa UK Ltd., Containerisation International Yearbook 2005.

### Ranking of major airports in East Asian countries/regions (2003)

<table>
<thead>
<tr>
<th>World rank</th>
<th>World passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>750,000</td>
</tr>
<tr>
<td>2</td>
<td>462,000</td>
</tr>
<tr>
<td>3</td>
<td>393,000</td>
</tr>
<tr>
<td>4</td>
<td>365,000</td>
</tr>
<tr>
<td>5</td>
<td>310,000</td>
</tr>
</tbody>
</table>

### Top 10 air carriers in East Asian countries/regions (2003)

<table>
<thead>
<tr>
<th>World rank</th>
<th>Airlines</th>
<th>Country/region</th>
<th>Fare-paying passenger km (million people kilometer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Singapore Airlines</td>
<td>Singapore</td>
<td>63,816</td>
</tr>
<tr>
<td>7</td>
<td>Japan Airlines</td>
<td>Japan</td>
<td>56,549</td>
</tr>
<tr>
<td>11</td>
<td>Cathay Pacific</td>
<td>Hong Kong</td>
<td>42,727</td>
</tr>
<tr>
<td>12</td>
<td>Thai Airways International</td>
<td>Thailand</td>
<td>41,731</td>
</tr>
<tr>
<td>15</td>
<td>Korean Air</td>
<td>Rep.Korea</td>
<td>35,574</td>
</tr>
<tr>
<td>18</td>
<td>Malaysia Airlines</td>
<td>Malaysia</td>
<td>32,320</td>
</tr>
<tr>
<td>22</td>
<td>China Airlines</td>
<td>Taiwan</td>
<td>23,436</td>
</tr>
<tr>
<td>27</td>
<td>EVA Air</td>
<td>Taiwan</td>
<td>17,848</td>
</tr>
<tr>
<td>29</td>
<td>All Nippon Air</td>
<td>Japan</td>
<td>16,203</td>
</tr>
<tr>
<td>34</td>
<td>Air China</td>
<td>China</td>
<td>13,815</td>
</tr>
</tbody>
</table>

Source: Compiled from IATA, World Air Transport Statistics 2004

Transport-related industries in Japan and East Asian countries/regions

A look at transport-related industries shows that businesses in shipbuilding, shipping and airline industries in East Asian countries/regions are increasing their competitiveness. Some of these businesses are ranked higher than Japanese counterparts.

Under these circumstances, both lower barriers to entry abroad and less-costly structures and better institutional arrangements in Japan are necessary for Japanese businesses in these industries to maintain their competitiveness.
Tourism in Japan in relation to East Asian countries/regions

Japan lags behind East Asian countries/regions in terms of the number of overseas visitors, although overseas visitors to Japan are on the rise. To attract more visitors from overseas, Japan needs to make its tourist attraction more attractive and effectively promote them abroad.

Concerns accompanying economic growth in East Asian countries/regions may affect Japan, because these countries/regions may failed to fully function as a production base and market for Japan due to these concerns. In particular, environmental problems there may have a direct impact on Japan because of geographical proximity.

Deteriorating environmental and energy problems

Emissions of carbon dioxide (CO₂)—a major factor for global warming—from East Asian countries/regions are increasing. Major cities in China and other East Asian countries/regions have a problem of air pollution.

As economic activity expand, energy consumption is also on the rise in East Asian countries/regions. The percentage of energy consumption in these countries/regions to the world total, which have continued to increase driving by economic growth of China and others, is expected to outnumber the percentage for EU or NAFTA.

Growing energy consumption has led to an increasing number of ships carrying natural resources. It is thus important to secure stable transport of natural resources by, for example, ensuring navigation safety through strategic straits.

### Ranking of East Asian countries/regions in terms of overseas visitors

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong</td>
<td>1,656,382</td>
<td>1</td>
<td>10,199,994</td>
</tr>
<tr>
<td>China</td>
<td>13,439,497</td>
<td>6</td>
<td>5,886,716</td>
</tr>
<tr>
<td>Malaysia</td>
<td>13,292,010</td>
<td>3</td>
<td>7,468,749</td>
</tr>
<tr>
<td>Macao</td>
<td>11,530,841</td>
<td>2</td>
<td>7,752,495</td>
</tr>
<tr>
<td>Thailand</td>
<td>10,872,976</td>
<td>5</td>
<td>6,951,566</td>
</tr>
<tr>
<td>Singapore</td>
<td>7,567,039</td>
<td>4</td>
<td>7,136,538</td>
</tr>
<tr>
<td>Rep.Korea</td>
<td>5,347,469</td>
<td>8</td>
<td>3,753,197</td>
</tr>
<tr>
<td>Japan</td>
<td>5,238,963</td>
<td>9</td>
<td>3,345,274</td>
</tr>
<tr>
<td>Indonesia</td>
<td>5,033,400</td>
<td>7</td>
<td>4,324,229</td>
</tr>
<tr>
<td>Taiwan</td>
<td>2,977,692</td>
<td>10</td>
<td>2,331,934</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2,627,988</td>
<td>12</td>
<td>1,351,296</td>
</tr>
<tr>
<td>Philippines</td>
<td>1,932,677</td>
<td>11</td>
<td>1,760,063</td>
</tr>
<tr>
<td>Laos</td>
<td>735,662</td>
<td>13</td>
<td>346,460</td>
</tr>
<tr>
<td>Cambodia</td>
<td>522,980</td>
<td>14</td>
<td>219,680</td>
</tr>
<tr>
<td>Myanmar</td>
<td>217,212</td>
<td>15</td>
<td>117,000</td>
</tr>
</tbody>
</table>

Notes:
1. This ranking is limited only to East Asian countries/regions.
2. “East Asian countries/regions” here include Macao.

### Air pollution in East Asian countries/regions

![Atmospheric concentration of suspended particle substance (1999)](image)

Source: Compiled from World Bank, 2004 World Development Indicator.
Tourism in Japan in relation to East Asian countries/regions

Japan lags behind East Asian countries/regions in terms of the number of overseas visitors, although overseas visitors to Japan are on the rise. To attract more visitors from overseas, Japan needs to make its tourist attraction more attractive and effectively promote them abroad.

Concerns accompanying economic growth in East Asian countries/regions may affect Japan, because these countries/regions may fail to fully function as a production base and market for Japan due to these concerns. In particular, environmental problems there may have a direct impact on Japan because of geographical proximity.

Deteriorating environmental and energy problems

Emissions of carbon dioxide (CO₂)—a major factor for global warming—from East Asian countries/regions are increasing. Major cities in China and other East Asian countries/regions have a problem of air pollution.

As economic activity expand, energy consumption is also on the rise in East Asian countries/regions. The percentage of energy consumption in these countries/regions to the world total, which have continued to increase driving by economic growth of China and others, is expected to outnumbers the percentage for EU or NAFTA.

Growing energy consumption has led to an increasing number of ships carrying natural resources. It is thus important to secure stable transport of natural resources by, for example, ensuring navigation safety through strategic straits.

---

![Air pollution in East Asian countries/regions](source)

Source: Compiled from World Bank, 2004 World Development Indicator.

---

### Ranking of East Asian countries/regions in terms of overseas visitors

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th></th>
<th>1995</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank</td>
<td>foreign passengers</td>
<td>Rank</td>
<td>foreign passengers</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>1</td>
<td>16,566,382</td>
<td>1</td>
<td>10,199,994</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
<td>13,439,497</td>
<td>6</td>
<td>5,886,716</td>
</tr>
<tr>
<td>Malaysia</td>
<td>3</td>
<td>13,292,010</td>
<td>3</td>
<td>7,468,749</td>
</tr>
<tr>
<td>Macao</td>
<td>4</td>
<td>11,530,841</td>
<td>2</td>
<td>7,752,495</td>
</tr>
<tr>
<td>Thailand</td>
<td>5</td>
<td>10,872,976</td>
<td>5</td>
<td>6,951,566</td>
</tr>
<tr>
<td>Singapore</td>
<td>6</td>
<td>7,567,039</td>
<td>4</td>
<td>7,136,538</td>
</tr>
<tr>
<td>Rep.Korea</td>
<td>7</td>
<td>5,347,469</td>
<td>8</td>
<td>3,753,197</td>
</tr>
<tr>
<td>Japan</td>
<td>8</td>
<td>5,238,963</td>
<td>9</td>
<td>3,345,274</td>
</tr>
<tr>
<td>Indonesia</td>
<td>9</td>
<td>5,033,400</td>
<td>7</td>
<td>4,324,229</td>
</tr>
<tr>
<td>Taiwan</td>
<td>10</td>
<td>2,977,692</td>
<td>10</td>
<td>2,331,934</td>
</tr>
<tr>
<td>Vietnam</td>
<td>11</td>
<td>2,627,988</td>
<td>12</td>
<td>1,351,296</td>
</tr>
<tr>
<td>Philippines</td>
<td>12</td>
<td>1,932,677</td>
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</tbody>
</table>

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---
Problems associated with urbanization

In East Asian countries/regions, population concentration on urban areas has brought about traffic congestion, air pollution, lack of public spaces and other urban problems. Traffic congestion, in particular, a common problem for many major cities there. To lessen congestion, efforts are being made to develop ring road and urban railway networks in such cities.

Growth of ring expressway networks in metropolitan areas of selected East Asian countries/regions

<table>
<thead>
<tr>
<th>City</th>
<th>Total planned length</th>
<th>Total length in service</th>
<th>Completion rate</th>
<th>Population</th>
<th>Population density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seoul (Rep. Korea)</td>
<td>approx. 130 km</td>
<td>89 km</td>
<td>70%</td>
<td>9.9 million</td>
<td>16,341 persons per sq. km</td>
</tr>
<tr>
<td>Beijing (China)</td>
<td>456 km</td>
<td>356 km</td>
<td>79%</td>
<td>14.56 million</td>
<td>867 persons per sq. km</td>
</tr>
<tr>
<td>Bangkok (Thailand)</td>
<td>165 km</td>
<td>131 km</td>
<td>70%</td>
<td>18 million</td>
<td>3,531 persons per sq. km</td>
</tr>
<tr>
<td>Jakarta (Indonesia)</td>
<td>approx. 120 km</td>
<td>82 km</td>
<td>70%</td>
<td>1 million</td>
<td>1,745 persons per sq. km</td>
</tr>
</tbody>
</table>

Notes:
- Road length: 2003 data
- Population: 2001 data
- Source: Road length: Data from the Seoul Metropolitan Government
- Population: Government statistics

Growth of urban railway networks in metropolitan areas of selected East Asian countries/regions

<table>
<thead>
<tr>
<th>City</th>
<th>lengths in operation (km)</th>
<th>planned lengths (km)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jakarta (See 1)</td>
<td>161</td>
<td>9.3</td>
<td>Urban transportation</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>20.9</td>
<td>Subway</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>27.0</td>
<td>Monorail</td>
</tr>
<tr>
<td>Seoul</td>
<td>423.5</td>
<td>567.4 (Target 2007)</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>127.9</td>
<td>43.6</td>
<td></td>
</tr>
<tr>
<td>Beijing</td>
<td>114</td>
<td>approx. 140 (Until 2008)</td>
<td></td>
</tr>
<tr>
<td>Shanghai</td>
<td>82</td>
<td>approx. 170 (Until 2005)</td>
<td>Urban transportation</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>-</td>
<td>Transrapid</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>153</td>
<td>-</td>
<td>Urban transportation</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>-</td>
<td>LRT</td>
</tr>
<tr>
<td>Taipei</td>
<td>67.2</td>
<td>67.7</td>
<td>Monorail</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>201.3</td>
<td>10.9 (Under construction, other 7 routes are being planned)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1. There are also plans to double-track Serpong Line (23.2 kilometers) and Tangerang Line (19.3 kilometers).
2. The figure is the length of the section whose construction has already been approved by the Cabinet. The construction of an additional section of 180 kilometers is expected to be approved.
Source: Compiled from MLIT surveys.
Outbreaks of disasters, accidents, terrorism and so on

Some East Asian countries/regions are prone and vulnerable to natural disasters. Maritime accidents, oil spills, terrorism and piracy are not rare in East Asian countries/regions.

Map of earthquakes (1990-2000)

Note: The chart shows the distribution of the epicenters of earthquakes with a magnitude of 4.0 or more on the Richter scale and a focal depth of less than 50 kilometers.
Source: Japan Meteorological Agency

[Actions toward closer relationships between Japan and East Asian countries/regions]

Sustainable development of both Japan and East Asian countries/regions may not be possible without frameworks in which countries in the region promote exchange and partnerships. ASEAN and APEC are traditional examples of such frameworks.

On the multilateral front, it has recently been agreed to hold an East Asian Summit, and Japan presents some proposals such as Japan-ASEAN Comprehensive Economic Partnership (CEP). On the bilateral front, East Asia is quickly moving toward concluding Economic Partnership Agreements (EPAs) and Free Trade Agreements (FTAs). Japan is also actively working on such efforts; it has already concluded an EPA/FTA with Singapore and is in negotiation with other countries for such agreements, including Philippines and Rep. Korea.
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Chapter 3: Relations between East Asia and Regions within Japan

[Changing population structure of Japan]
Changes in Japan’s industrial structure once triggered rural-to-urban migration. A large scale of migration to the Big Three Metropolitan Areas occurred during the era of rapid economic growth. After the era such migration is on the wane and Japanese people seem to have settled down geographically.

Although the trend of a dwindling birthrate and an aging population is expected to continue, the changing pattern of the population scale and structure varies according to the scale of the urban area in question. For example, the total flows of people beyond prefectural borders, the percentage of the flows of people to the prefecture within the region tends to be aging more rapidly in larger urban areas.

[Formation of regional blocks in Japan and their relations with East Asia]

○Formation of regional blocks
As the nation’s population is increasingly settling down geographically, large-scale socioeconomic blocks are being formed thanks in part to the development of regional transportation networks. This trend is indicated by the fact that to the total flows of people beyond prefectural borders, the percentage of the flows of people to the prefecture within the regional block is higher than before.
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<Expressways in Shikoku and changes in the percentage of flows of people within the block>

<table>
<thead>
<tr>
<th></th>
<th>Length of arterial high-standard highways in operation (kilometers)</th>
<th>Percentage of flows of people within the block (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>108</td>
<td>46.8</td>
</tr>
<tr>
<td>2000</td>
<td>396</td>
<td>65.6</td>
</tr>
</tbody>
</table>

Notes:
1. Expressways include motorways of the national highways that run parallel to planned national expressways.
2. "Length of high-standard highways in operation" is the data as of the end of March each year.
Source: MLIT

The government ordinance designated cities, which accumulate urban functions, gradually serve as the center for their respective block.

<Trend in the population of Fukuoka Prefecture and its percentage to the total population of the Kyushu block.>

Source: Compiled from Ministry of Internal Affairs and Communications, National Census; and National Institute of Population and Social Security Research, Population Projections by Prefecture.
Japan’s regional blocks and East Asian countries/regions

Generally speaking, the regional blocks outside three metropolitan areas in Japan have close relationships with East Asian countries/regions. The percentages of people from these countries/regions who enter these Japan’s regional blocks and those who leave the country via them are higher than the national averages. This is partly because the regional blocks enjoy a growing number of direct flights to and from East Asian countries/regions. In trade, the relative importance of East Asian countries/regions is increasing for some regional blocks.

Change in the number of regional airports with scheduled flights to and from East Asian countries/regions and Far East Russia

<table>
<thead>
<tr>
<th>1986</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 airports in total (74 flights per week)</td>
<td>21 airports in total (342 flights per week)</td>
</tr>
</tbody>
</table>

Note: The number of flights are based on those from Japan.

Percentage of people from Five East Asian countries/regions to the total visitor arrivals to Japan (FY2002)

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hokkaido</td>
<td>80.4%</td>
</tr>
<tr>
<td>Tohoku</td>
<td>63.2%</td>
</tr>
<tr>
<td>Kanto</td>
<td>52.1%</td>
</tr>
<tr>
<td>Hokuriku</td>
<td>40.2%</td>
</tr>
<tr>
<td>Chubu</td>
<td>53.5%</td>
</tr>
<tr>
<td>Kinki</td>
<td>56.9%</td>
</tr>
<tr>
<td>Chugoku</td>
<td>23.0%</td>
</tr>
<tr>
<td>Shikoku</td>
<td>31.5%</td>
</tr>
<tr>
<td>Kyushu</td>
<td>73.7%</td>
</tr>
<tr>
<td>Okinawa</td>
<td>49.1%</td>
</tr>
</tbody>
</table>

Note: Five East Asian countries/regions include Rep.Korea, Singapore, China, Taiwan, and Hong Kong.
Source: Estimates based on JNTO, Honichi Gaikokujin Ryokosha Chosa [Survey on Overseas visitors to Japan].
Regional blocks in Japan reaching out to neighboring countries/regions

Regional blocks outside three metropolitan areas in Japan are even reaching out to neighboring countries/regions for closer relationship or market development. The idea is to take advantage of the vitality of these growing countries/regions for the development of these regional blocks in Japan.

--Partnerships in the Sea of Japan zone--
Prefectures along the Sea of Japan are making efforts to promote partnerships with Rep.Korea, China and Far East Russia in the Sea of Japan zone. Among such efforts are the formation of a network of local governments, and discussions toward economic development of and economic exchange with Northeast Asia.

--Partnerships in Yellow Sea and Gulf of Zhili zone--
In November 2004, ten cities of Japan, Rep.Korea and China facing the Yellow Sea and the Gulf of Zhili set up the Organization for the East Asia Economic Development. With the ultimate goal to establish a regional economic cooperation zone, OEAED is aimed at strengthening partnerships and economic relations among the cities concerned, including facilitating physical distribution among them, thus promoting economic exchange among the cities concerned.

--Sakhalin Project and Hokkaido economy--
In the Sakhalin Region, Russia, the Sakhalin Project has heightened local expectations for infrastructure development and increased investment. In Hokkaido, geographically closed to the Sakhalin Region, efforts have been made to take advantage of business opportunities associated with the project. For example, firms affiliated to the Wakkanai Construction Association has set up a joint venture with construction companies in Sakhalin. Exports of construction machinery and vehicles from the Port of Wakkanai are growing.

--Initiatives to lure tourists from East Asian countries/regions--
Increasing the flows of people through tourism promotion is an important option for revitalizing regions. A number of initiatives involving broad-based partnerships are being taken to lure tourists from East Asian countries/regions—an important market for Japan’s tourism industry.
As more and more manufacturers relocated their production bases overseas, regions in particular suffered from a decline in new plant constructions until recently. In 2003, new plant constructions rebounded—a sign that the trend of overseas expansion is waning.

< Trend in new plant constructions >

![Graph showing trend in new plant constructions](image)

Note: Tokyo area: Tokyo, Kanagawa, Saitama and Chiba Nagoya area: Aichi, Gifu and Mie Osaka area: Osaka, Hyogo, Kyoto and Nara
Regions: Prefectures not included in any of the three areas.
Source: Compiled from Ministry of Economy, Trade and Industry, Kojiri Ritchi Doko Chosa [Survey on New Plant Constructions]
Chapter 4: MLIT Policies that Accommodate New Relationship with East Asia

Business activity goes global and so does regional development. As it stands, Japan, which will suffer a declining population in no distant future, should take advantage of the vitality of East Asia—a center of rapid economic growth—for its economic activity and regional development. MLIT, for its part, should take various measures to ensure that both Japan and the rest of East Asia will prosper.

Policies that accommodate deepening relationships with East Asia

Infrastructure that accommodates increasing flows of people and goods

Further deepening interdependence and intensifying competition with the rest of East Asia make it all the more important for Japan to facilitate the flows of people and goods and maintain its status as a major center of the traffic network in East Asia. Other important tasks for Japan include establishing international relationships that suit the characteristics of the regions within the country and developing domestic and international transport networks that meet the needs of such relationships.

Of special importance is the development of an integrated transport network that connect many parts of Japan with many parts of the rest of East Asia. To that end, three steps should be taken: (i) developing major metropolitan airports and hub ports that serve as gateways to the world; (ii) increasing the air traffic capacity; and (iii) improving access to the transport network in Japan with a focus on more convenient transfers.

It is important to ensure flawless physical distribution in East Asia, including Japan, as a whole. To that end, it is necessary to reduce distribution costs and lead time by streamlining relevant procedures and using them more efficiently.

Developing attractive and competitive regions and cities

To survive international competition, regions in Japan are required to take advantage of their ingenuity and characteristics for the benefit of regional development in the context of East Asia. The central government, for its part, needs to develop key domestic and international transport networks and other types of infrastructure. Support by the central government should enhance the autonomy and discretion of these regions.

The formation of regional blocks is thought of as an effective response to the geographical expansion of socioeconomic activity and an rapidly aging society with a declining birthrate. So various steps should be taken, including: developing a transport network that supports partnerships; creating frameworks for partnership by the stakeholders; and promoting public-private partnerships in developing internationally-competitive tourist resorts and in other fields.

There are concerns that the competitiveness of major cities in Japan is declining in East Asia. A number of steps should be taken to ensure that these cities continue to serve as centers for international activities. Among such steps are: improving networks that connect international airports and ports; and developing ring roads and urban railways.

<table>
<thead>
<tr>
<th>Trend in the number of international conventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cases/year)</td>
</tr>
<tr>
<td>Tokyo</td>
</tr>
<tr>
<td>1998</td>
</tr>
<tr>
<td>2002</td>
</tr>
</tbody>
</table>

Note: An international convention is defined as “a convention organized or supported by the headquarters of an international organization,” or “a convention organized by a domestic organization or a branch of an international organization that lasts three or more days and is attended by 300 or more participants with 40% or more of them being foreign nationals from more than four foreign countries.”

Source: Compiled from JNTO, Convention Statistics.
Creating an environment friendly to foreigners as well

It is necessary to practice policies based on the concept of universal design. This concept encompasses language barriers. MLIT continues to support an environment where overseas visitors can travel alone by, for example, providing signposts in major languages.

Promoting the "Japan Brand"

East Asia is a promising market in terms of increasing the number of overseas visitors to Japan. An increase of such visitors has a favorable impact on the economy, especially on the regional economy and development. This is why MLIT needs to promote the "Japan Brand" to the world by supporting efforts to make the country’s region more attractive and staging the Visit Japan Campaign. Special attention should be given to the improvement of physical and non-physical arrangements to welcome tourists from the rest of East Asia. Specific measures to that end include improving accommodation and other tourist facilities and training human resources in tourism-related industries.

Improving business environments for the transport, construction and tourism industries

Efforts directed at the growing East Asian markets in the transport, construction and tourism industries will contribute to the development of the region. It is necessary to improve business environments and expand business opportunities. Specific measures to that end include negotiations toward EPAs/FTAs and the development of a framework for public-private partnerships.

International cooperation and partnership toward the development of East Asia

Developing transport networks

Uninterrupted flows of people and goods in East Asia constitute a crucial condition for the future development of the region. They are also an important condition for the activities of Japanese businesses there. These observations point to the need for MLIT to provide assistance in: the development of ports and airports that form part of international transport networks; the development of key roads and railways; infrastructure development projects with implications for a number of countries, including Mekong subregion development; system development for international physical distribution; and standardization of technologies related to transport.

International comparison in the proportion of physical distribution costs

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole region</td>
<td>5.6%</td>
</tr>
<tr>
<td>Asia</td>
<td>8.9%</td>
</tr>
<tr>
<td>China</td>
<td>7.9%</td>
</tr>
<tr>
<td>NIEs3</td>
<td>8.9%</td>
</tr>
<tr>
<td>ASEAN4</td>
<td>9.7%</td>
</tr>
<tr>
<td>North America</td>
<td>4.2%</td>
</tr>
<tr>
<td>EU</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

Notes:
1. (Proportion of physical distribution costs) = (Packing and transportation costs) / (Sales and general administrative costs) × 100
2. Sales and general administrative costs: Costs incurred for sales and general administration.
   Packing and transportation costs: Packing material costs, packing costs and/or transportation costs for Costs incurred for mining products, manufactured goods and other products.

Source: Compiled from Ministry of Economy, Trade and Industry, 32nd Survey of Overseas Business Activities.
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Management of disasters, accidents and terrorism

Japan shares some of the natural conditions with many of East Asian countries/regions. Based on the lessons learned from experience in natural disasters, MLIT should provide assistance in reinforcing disaster preparedness of other East Asian countries/regions, in both structural and non-structural measures, including observation and warning systems and evacuation procedures.

MLIT should also provide cooperation and assistance in transport security with respect to maritime accidents, post-accident rehabilitation, terrorism and piracy.

Responses to environmental and energy problems

MLIT should make good use of its expertise to support environmental conservation efforts in East Asia. MLIT should also support the development of cooperative frameworks, including Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) and the Northwest Pacific Action Plan (NOWPAP).

Measures for energy saving contribute to lessening the tight supply-demand situation. In this context, MLIT should support the development and promote environmentally-friendly vehicles.

It is also important for Japan to ensure reliable transport of natural resources. So MLIT should continue to study what it can do to ensure navigation safety in the strategically-important Straits of Malacca and Singapore with the countries concerned.

Solving urban and other related problems

Solving urban problems holds a key to maintaining the vitality of East Asian countries/regions. Banking on its experience, MLIT should continue to cooperate for systematic urban development and support the formation of urban transport networks.

Other fields where MLIT is expected to provide assistance include poverty reduction and community development. Community development can alleviate excessive urbanization, and MLIT has considerable experience in this field, including the establishment of roadside stations.

Integrated approach to water resources management

There are growing concerns about deteriorating water-related problems in East Asia. MLIT should provide its technologies and systems associated with integrated water resources management while promoting the sharing of related information among the countries concerned.

Utilization of tourism resources

Tourism promotion, among other things, may serve as an engine for further economic development of East Asia. MLIT should offer support in the development of tourism development plans and the utilization of tourism resources in the region.
Part II  Trends in MLIT Administration

Chapter 1:  New MLIT Policies accommodate the Needs of the Times

[Result-oriented policy initiative]

○ Implementing policies based on performance
  MLIT implements its policies based on its performance that has been assessed in their plan-do-see-cycle. With regard to the indicators identified in the Priority Plan for Social Infrastructure Development, MLIT has conducted follow-ups, announced their findings, and reflected them in its budgetary request.

○ Promoting policy assessment and strict implementation of project evaluation
  Under its policy evaluation basic plan, MLIT implements policy assessment (ex ante valuation), policy checkup (performance measurement), and policy review (program evaluation).
  The project evaluation system for individual public works projects is already in place that integrates evaluation at project approval, reevaluation, and ex-post evaluation after project completion. From FY2004 onward, MLIT maintains and releases project evaluation records that describe the results of a series of evaluations.

[Efficiency and competitiveness-oriented policy initiative]

○ Promoting reform of the cost structure of public works projects
  MLIT is reviewing the whole processes of public works projects in terms of cost reduction under the ministry’s "program of cost structural reform on public works projects." This review is aimed at speeding up the project processes, optimizing the all processes from planning to maintenance, including procurement, in addition to present cost reduction policies. MLIT reduced the total costs by 6.1% in FY2003 over the previous year.

Cost structural reform

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Project cost reduction planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>13.6%</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999</td>
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<td></td>
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<td>2002</td>
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<tr>
<td>2003</td>
<td>6.1%</td>
<td></td>
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<tr>
<td>2004</td>
<td></td>
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<tr>
<td>2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>15%</td>
<td></td>
</tr>
</tbody>
</table>

*Following up progress and target every year.

In addition to present cost reduction in construction works, the following review items have been added:
1. Cost reduction in construction works by reviewing specifications and standards
2. Early realization of benefits by speeding up the project processes
3. Reduction in administrative and maintenance costs

○ Ensuring appropriate biddings and contracts
  MLIT has taken a number of steps regarding public works projects under the direct control, including: the adoption of the integrated evaluation bidding system; full-fledged introduction of competitive bidding that places a high value on construction performance; and the establishment of measures designed to streamline the public purchase process under the "MLIT plan for greater efficiency in public service delivery." The ministry has also prodded local governments to take steps to ensure appropriate biddings and contracts.
Making better use of the existing infrastructure stock

MLIT is committed to making better use of the existing infrastructure stock for better service delivery. For more efficient and effective management of such stock, the ministry promotes the use of an integrated assess management approach.

Examples of the effective use of the existing infrastructure stock

- Promoting ETC on the Tokyo Metropolitan Expressway to alleviate congestion
  
  For example, the introduction of the electronic toll collection (ETC) system at tollgates on the Tokyo Metropolitan Expressway reduced traffic congestion by 70% in two years.
  
  (ETC utilization rate: 4.8%  Congestion: 123.4 kilometer-hours/day [November 2002])
  → (ETC utilization rate: 28.1%  Congestion: 33.4 kilometer-hours/day [November 2004])

- MLIT focused on improving both the maintenance and operation of all government buildings and the repairs to rehabilitate or even improve the function of those buildings, in order to achieve a longer life of the existing buildings and to reduce costs in the life cycle.

- MLIT promoted the formation of broad-based railway networks through: the extension of existing lines; construction of short-distance lines that connect existing lines; and improvement of existing train stations for through services between different lines.

Streamlining administrative procedures

MLIT promoted the introduction of a system that makes it possible to submit applications on-lines to government agencies, the adoption of a one-stop service system for procedures regarding import and export, port use, car ownership, and the introduction of unified standards for government buildings service.

Reform of quasi-governmental corporations

As part of reform efforts, new entities were established during 2004, including: Tokyo Metro Co., Ltd; Narita International Airport Corporation; Urban Renaissance Agency; and the Fund for the Promotion and Development of the Amami Islands. The ministry is steadily working toward the privatization of the four highway-related public corporations slated for October 2005. The government has already submitted to the Diet a set of bills designed to replace in April 2007 the Government Housing Loan Corporation with a new independent administrative institution that will also provide securitization support services.

New partnership between the central government on one hand and local governments and the private sector on the other

New partnership between the central and local governments

The central government is pressing ahead with reform that will lead to the transfer of tax revenue sources to local governments. MLIT, for its part, has been reviewing state subsidies so that local governments can enjoy more autonomy. The ministry is also phasing in flexible standards that allow for local governments to make appropriate choices in light of local realities (introduction of local rules). In July 2004, MLIT put together the Priority Policies for Social Infrastructure Development in regional blocks.

Utilization of the private sector’s creativity and ingenuity

MLIT is committed to promoting the private finance initiative (PFI). As of December 2004, a total of 33 MLIT-related PFI projects were in the works. In addition, the ministry is promoting special zones for structural reform. MLIT allowed five regulatory exceptions, which were originally applied in such zones, to be applied nationwide.
Providing more open and interactive services

In implementing infrastructure development, it is important to win the understanding and support of local communities. To that end, MLIT has formulated the “guidelines on public involvement procedures in the planning phase of public works projects under MLIT jurisdiction.” These procedures were implemented in a total of 56 projects by the end of December 2004.

In July 2004, the ministry opened the MLIT Hotline Station, a single point of contact for requests, comments and inquiries from all walks of life. The idea was to ensure that the ministry respond to such input and reflect it in its service delivery.

[Developing MLIT policies based on the concept of universal design]

Given the rapidly aging society with a declining birthrate in addition to globalization, the concept of universal design—flexible and ease-to-use design for anyone, anywhere—is important more than ever. MLIT considers it necessary to build on its traditional barrier-free policies and put the concept into practice in city planning and transport design. In fact, the ministry is already undertaking a wide-ranging review of all aspects of MLIT administration with a view to developing an integrated policy based on this concept.

MLIT is also working on the “independent mobility assistance project.” The purpose of this pilot project is to demonstrate a system that allows “anyone, anytime, anywhere” to gain access to such information as travel routes, means of transportation, and destinations. The system is designed to provide the mobility impaired and others with better access to opportunities for social participation and employment.

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<Independent mobility assistance project>

A special portable terminal reads location information from IC tags embedded in pavements and signposts and then provides the user with such information as travel routes, means of transportation, and destinations in the form best suits his or her needs.

- An IC tag embedded under a tactile edge
- The user learns the accurate location of the destination by way of voice guidance or vibration.

- An IC tag affixed to a pictogram, etc.
- Micro IC chip (0.4 millimeters)
- Photo by courtesy of Toppan Printing Co., Ltd.

- All kinds of information is accessible from a single portable terminal.
- Means of transportation, locations and other information are available in several languages.
Chapter 2: Making Japan a Tourism-based Country; A beautiful country

[Significance of and developments in Japan Tourism initiative]

Tourism provides a breath of life and comfort, adding color to people’s lives. And it has many other important roles: stimulating the national economy, promoting exchanges among people, revitalizing regions and communities by promoting local industries and creating jobs, promoting international friendship, and contributing to world peace.

In his general policy speech on the 156th session of the Diet, Prime Minister Junichiro Koizumi announced the government target of doubling the annual number of visitors to Japan from other countries up to 10 million by 2010. In April 2003, the Japan Tourism Advisory Council released a report that calls for “nation-building that provides a good living habitat and a good place to visit.” This led to the formulation of the Japan Tourism Action Plan in July and the creation of the post of cabinet minister in charge of tourism promotion in September. In May 2004, the Japan Tourism promotion strategy council held the first meeting. This expert council released a report in November.

The year 2004 saw a record number of oversea visitors to Japan, estimated some 6.14 million, or an increase of 17.9% from the previous year. This indicates that the Visit Japan Campaign began to pay off.

Notes:
1. The number of overseas visitors to Japan represents the number of foreign nationals who entered Japan in the Ministry of Justice’s statistics minus that of those residing in Japan plus that of foreign nationals who landed on Japan temporarily.
2. Both “No. of Japanese travelers overseas” and “No. of overseas visitors to Japan” for 2004 are estimates.

Source: Compiled from data from the Ministry of Justice and others.
[Aiming to double the number of overseas visitors]

Promoting the Visit Japan Campaign, etc.

Japan continued to mount the Visit Japan Campaign, a joint strategic drive among the central and local governments and the private sector to lure tourists from abroad. A number of measures were taken during 2004, with priority given to Rep. Korea, Taiwan, Hong Kong, the U.S., the U.K., Germany and France. Among such measures were: promotion by the prime minister himself; public relations through foreign media; the appointment of “tourism promotion ambassadors”; and the launch of an intensive promotion campaign at home and abroad ("YOKOSO JAPAN WEEKS" [February 5-20, 2005]).

To further promote tourism exchanges with other countries, Japan holds bilateral consultations with countries that have close relationships with Japan in the tourism sector.

Improving the domestic environment for overseas visitors to Japan

A number of arrangements were made to welcome tourists from abroad. Among them are: developing “International Tourism Theme Areas”; numbering train stations and taking other steps to improve access to train and bus services; promoting oceangoing cruise; improving interpreter-guide services that communicate the charms of Japan more accurately and appropriately; providing tourist information in several languages with the help of IT; developing guidelines on how to and what to post information on signposts, including the use of foreign languages. In addition, efforts have been made to reduce costs of traveling Japan.

Improving the tourism environment for the people

MLIT implements measures to ensure safe and comfortable traveling. Such measures include encouraging the public to take more holidays, especially in off-seasons, to promote extended-stay tours.

Developing attractive tourism and exchange zones

MLIT is pushing ahead with the model project for the formation of Tourism Exchange Areas. This project is designed to provide integrated support to selected local initiatives aimed at promoting tourism that builds on local characteristics. Such support addresses both physical and non-physical aspects. For FY2004, MLIT selected 16 regions and communities. In addition, the ministry drafted a bill designed to promote the development of internationally competitive tourist resorts. The bill was submitted to the Diet.

MLIT also opened “tourism charisma school” to develop human resources that can play a pivotal role in revitalizing resort areas.

* <Map of designated regions of the model project for the formation of Tourism Exchange Areas for FY 2003 and 2004>*

Designated regions for FY2003: 8 regions
Designated regions for FY2004: 16 regions
MLIT is taking the initiative to promote: cycle tourism that makes it possible to enjoy the local charms while cycling at a comfortable pace; the development of value-added walking trails; the utilization of waterfront resources; and river tourism.

Canoe touring along Teshio River in Hokkaido

A beautiful country

Framework for developing good landscapes

In December 2004, the "Three Laws on Landscape and Greenery"—a set of three laws related to landscape conservation and urban planting—were partly put in force. These three laws are designed to support the development of good landscapes nationwide in an integrated and systematic manner. Of the three, the Landscape Law is the nation’s first comprehensive law on landscapes.

To promote infrastructure development that pays adequate attention to landscapes, MLIT is piloting a landscape assessment system for some of the projects under the ministry’s direct jurisdiction or management.

Development of the "Three Laws on Landscape and Greenery" designed to realize beautiful landscapes and abundant greenery

Developing basic legislation regarding landscape
- Establishing a basic philosophy on landscape development and conservation
- Clarifying the responsibility of the public, corporations and governments
- Developing a basic plan on landscapes
- Creating a regulating mechanism for landscape development

Achieving synergy effects

Thorough review of legislation on landscape conservation and urban planting
- Integrated approach to urban park development, urban green zone conservation, and urban planning
- Creating a system to establish three-dimensional park zones
- Improving the system to conserve forests near cities
- Introducing the standard for the percentage of green area in relation to large-structures

Improving systems to regulate outdoor advertisement
- Greater roles for municipalities
- Improving the fast-track removal system
- Ensuring appropriate activities of the outdoor advertising industry

Adequate budget allocations and tax incentives

Promoting the development of beautiful landscapes and abundant greenery

Building a leading tourist nation in the world
- Rejuvenating regional cities with beautiful landscapes
- Reducing heat-island effects and pursuing symbiosis with nature
Development of attractive landscapes the public can be proud of

As a matter of principle, MLIT ensures that projects under its jurisdiction contribute to landscape development. During 2004, the ministry formulated and announced landscape development guidelines for projects for construction of government buildings and those for navigation aids.

MLIT is also implementing the plan to dispense with power poles for 2004-2008, which was drawn up in April 2004.

<table>
<thead>
<tr>
<th>Percentage of underground power cables in major cities—international comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>London, Paris and Bonn</td>
</tr>
<tr>
<td>Berlin</td>
</tr>
<tr>
<td>New York</td>
</tr>
<tr>
<td>Tokyo’s 23 wards</td>
</tr>
<tr>
<td>Osaka city</td>
</tr>
<tr>
<td>National average (urban areas, etc.)</td>
</tr>
</tbody>
</table>

Notes:
1. The percentages for the cities in other countries are as of 1977 (on a cable length basis; data from the Federation of Electric Power Companies)
2. The percentages for Japan are as of March 2004 (on a road length basis; data from MLIT)

Source: MLIT
Chapter 3: Promoting Regional Revitalization and Urban Renaissance

[Initiatives toward regional revitalization and urban renaissance]

It is important that the central government provide full support to the revitalization initiatives of motivated local governments that take advantage of local creativity and ingenuity, while respecting their autonomy as much as possible. Such initiatives are expected to stimulate the local economy and create local employment. Laying the groundwork for mobilizing integrated measures and creating an environment where the private sector can exercise its expertise to the full hold a key to enhancing the charms and international competitiveness of cities.

In this context, MLIT is working to reform the subsidy system so that subsidies will be more accessible to local governments, in close coordination with the Headquarters for the Regional Revitalization and Urban Renaissance Headquarters in the Cabinet Office. The ministry is also working to increase support for the related initiatives of motivated local government. In addition, MLIT is supporting urban renaissance projects by the private sector in key areas for urban renaissance (‘the Prompt Development Area for Urban Renaissance’) and other related projects.

[Promoting policies that support regional revitalization and urban renaissance]

MLIT has already taken a number of steps to enhance the autonomy of local governments. For example, the ministry has created “Community Renovation Grants,” which are quite different from the existing subsidies in that they allow for more autonomy of local governments and cover a wide range of projects. It has also made operational improvements to the special subsidy for local road development. In addition, MLIT has created a framework for supporting municipalities in developing integrated public facilities. Moreover, the ministry has the Regional Revitalization Team.

MLIT encourages local governments to take advantage of the expertise and funds of the private sector. The ministry also supports local initiatives to exploit local resources.

Other physical and non-physical infrastructure development implemented or supported by MLIT includes: rejuvenating built-up areas within cities; developing traffic nodes; eliminating highway-railroad grade crossings; revitalizing public transport that supports local life; promoting cadastral development; and promoting interaction between urban and rural areas.

<"Railroad crossings that rarely open" concentrated in metropolitan areas>

JR Chuo Line continuous grade separation

- Project impact
  - Before: Many crossings along the JR Chuo Line cause traffic jams, traffic accidents, and community partitions directly or indirectly.
  - Most of crossings are “bottleneck” crossings where traffic is blocked for 40 minutes or more per hour at peak hour, or 50,000 vehicle hours or more per day.
  - After: 18 crossings of which all but one are “bottleneck” crossings will disappear.
  - Benefits: In the case of the Koganei-kaido crossing
    - The total time period during which the crossings bars are down at peak hours will be reduced from 55 minutes per hour to none.
    - The maximum congestion length will be shortened from 530 meters to none.
    - The community will be “united” through free traffic flows.

- Project profile
  - Section: Between Mitaka and Tachikawa on the JR Chuo Line
  - Section length: 13.1 kilometers
  - Total cost: about 179 billion yen
  - Completion by: FY2006 for the Mitaka-Kokubunji section
  - FY2008 for Nishi-Kokubunji-Tachikawa section

<"A conceptual image of continuous grade separation>
[Promoting urban renaissance projects]

Achieving various forms of vigorous exchanges and economic activities

MLIT is working to reinforce the capacity for international exchange and physical distribution and develop ring road networks.

<Major airport project in metropolitan areas>

- Chubu Centrair International Airport
  - Runway (3,500 m)
  - Opened in February 2005

- Kansai International Airport (2nd phase construction)
  - Parallel runway (4,000 m) service commencement in 2007
  - Facilities to be brought into service are limited to absolutely essential facilities
  - About 90% of reclamation work to be completed by the end of FY2004

- Haneda Airport (further expansion)
  - New runway (2,500 m)
  - Annual capacity (no. of takeoffs and landings)
    - About 285,000 → 407,000
    - (Now) → (After)

- Narita Airport
  - Parallel runway (2,500 m), etc.
  - Note: The interim parallel runway (2,180 m) started operation in April 2002.
  - Annual capacity (no. of takeoffs and landings)
    - About 135,000 → 200,000
    - (Before) → (Now)*

*In accordance with the recommendation of the Roundtable Conference, the airport is limited to 200,000 flights per year after the completion of the parallel runway. Further capacity expansion will require consultation with the local communities.

<Enhanced capacity of an international port>

- Improved access from the arterial road network
- Open 24 hours a day, including public services
- One-stop service
- Advanced container terminal
- Port logistics information system platform
- Enhancement of port security measures
- Improved operating rate
- Non-stop navigation

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Making cities more resistant to disasters for safer life

MLIT aims to further develop key broad-based disaster prevention bases that serve as the center for disaster prevention activities covering many local governments. The ministry also focuses on densely-inhabited areas to improve their disaster-preparedness and their living environment.

Distribution of densely populated urban areas that need corrective measure because great fires may occur there in the wake of an earthquake (in Tokyo and Osaka prefectures)

Tokyo: 2,339 hectares in total
Osaka: 2,295 hectares in total
Building a favorable urban environment

MLIT pursues zero emissions of waste in metropolitan areas. To this end, the ministry strives to reduce, reuse and recycle waste to “close the loop” of resource circulation.

To revitalize urban environment infrastructure, MLIT implements a number of measures including: (i) conserving, regenerating or creating precious natural environments in metropolitan areas, (ii) creating green zones in waterfront areas and expanding green zones in urban areas, (iii) reviving rivers and seas.

Furthermore, MLIT supports efforts to restore Lake Biwa and the Yodo River.

Promoting urban development initiatives by the private sector

A total of 63 areas (as of the end of December 2004) have been designated as “the Prompt Development Area for Urban Renaissance” under the Special Measures Act for Urban Renaissance. In these areas, various projects are well under way. For example, business and commercial buildings opened one after another in the area surrounding Tokyo and Yurakucho stations. A basic plan has been developed to build a hub for international business and cultural exchange in the area around Osaka Station, the Nakanoshima area and the area in and around Midosuji. A redevelopment project has been completed in the area centering on Takamatsu Station and the Marugame-town area.

Local governments make “city planning decisions” for the Special District for Urban Renaissance, which establish new flexible city plans free from regulations applied to existing land use zones. MLIT approves private urban renaissance projects, to which financial support and preferential tax treatment are available.

Flexible budget allocations to promote urban renaissance

Flexible budget allocations, including the "urban renaissance project promotion budget” are available in the middle of the fiscal year. This measure is designed to facilitate effective project implementation by various government offices.
Chapter 4: Setting the Stage for an Independent and Vibrant Life

[Coping with a falling birth rate and a graying population]

Steady progress has been made toward barrier-free buildings, public facilities and public transport. MLIT has taken a step further to embrace the concept of universal design. Based on the concept, the ministry is now exploring future directions for its barrier-free policy in all aspects, including facilities and human assistance.

The ministry is also pursuing a living environment where parents can raise their children and the elderly can live their golden age free from care. MLIT is also promoting transport services that accommodate a graying population.

<table>
<thead>
<tr>
<th>Percentage of barrier-free facilities in public transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>As of March 31, 2004</td>
</tr>
<tr>
<td>Passengers facilities (with daily average total of users being 5,000 or more)</td>
</tr>
<tr>
<td>No. of facilities in total</td>
</tr>
<tr>
<td>Railway/tramway stations</td>
</tr>
<tr>
<td>Bus terminals</td>
</tr>
<tr>
<td>Passenger ship terminals</td>
</tr>
<tr>
<td>Airport terminals</td>
</tr>
</tbody>
</table>

Notes: 1. Transport accessibility improvement standard are defined in the Transport accessibility improvement Law article 4 (in relation to the width of passageways, slopes, escalators, elevators, etc.)
2. By the end of March 2001, all the airport terminals have installed elevators, escalators and slopes accessible to the disabled.

<table>
<thead>
<tr>
<th>Vehicles, etc.</th>
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<tbody>
<tr>
<td>No. of vehicles, etc.</td>
</tr>
<tr>
<td>Railway/tramway cars</td>
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<tr>
<td>Buses</td>
</tr>
<tr>
<td>Low-deck buses</td>
</tr>
<tr>
<td>Non-step buses</td>
</tr>
<tr>
<td>Passenger ships</td>
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<tr>
<td>Airplanes</td>
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Number of accreditations under the Accessible and Usable Building Law

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<tbody>
<tr>
<td>Annual total</td>
<td>11</td>
<td>120</td>
<td>229</td>
<td>320</td>
<td>382</td>
<td>366</td>
<td>332</td>
<td>232</td>
<td>280</td>
<td>367</td>
</tr>
<tr>
<td>Cumulative total</td>
<td>11</td>
<td>131</td>
<td>360</td>
<td>680</td>
<td>1,062</td>
<td>1,428</td>
<td>1,760</td>
<td>1,992</td>
<td>2,272</td>
<td>2,639</td>
</tr>
</tbody>
</table>

Source: MLIT

[Providing quality housing]

Developing and utilizing quality housing stock

MLIT is taking a number of steps to make better use of the existing housing stock. Among them are: creating environments conducive to the markets for existing homes and housing improvement; encouraging appropriate management of condominiums and facilitating their rebuilding; and promoting the conversion of office buildings to housing. The ministry is also providing tax and financial incentives for people to own quality houses. In addition, MLIT is working to maintain the quality of housing.
Improving the framework for administrative guidance and oversight of construction activities

MLIT is committed to improving and strengthening the framework for administrative guidance and oversight of construction activities with respect to maintaining the quality of housing and other buildings. The ministry works to secure the safety of buildings, with special emphasis on disaster preparedness of built-up areas. MLIT has taken appropriate measures to prevent accidents involving buildings and building components, especially revolving doors.

Promoting the supply of quality land for housing

MLIT is promoting the planned supply of land for housing and the use of the fixed-term leasehold.

Promoting residence in built-up areas

MLIT recognizes the need to transform existing urban areas into attractive areas with a highly integrated complex of various urban functions. It also recognizes the need of people in regional cities to live in built-up areas so that they can do without cars. Based on such recognition, MLIT is committed to providing quality urban housing and developing urban residential zones so that people are able to live and work in close proximity.

[Toward a comfortable life]

Sewerage development

There are significant gaps in sewerage coverage among regions. MLIT is working to close these gaps by encouraging sewerage development by municipalities, while ensuring overall efficiency of their efforts thorough such means as stepping up coordination among individual projects to develop waste water treatment facilities. The ministry is also addressing new challenges. For example, MLIT is taking steps to promote advanced wastewater treatment in closed water areas, prevent floods in urban areas, and improve combined sewer systems.
Urban park development

Urban parks constitute a basis for meeting diverse needs of the people, including an affluent living environment and fulfilling recreation activities. MLIT promotes urban park development so that such parks will also serve as a catalyst for many objectives, including: the community development that accommodates a falling birthrate and graying populations; the conservation or even creation of favorable natural environments; and tourism development and exchange and partnership among municipalities and other local entities that build on their own characters.

Stable supply of water resources

Climate and geographical conditions of Japan are rather unfavorable for stable use of water resources. In response, MLIT is redoubling its efforts to ensure stable use of water from both the supply and demand side. Efforts at the supply side include the construction of water resources development facilities and those at the demand side include the promotion of recycling and reuse of water.

Long-term changes in annual precipitation in Japan (1900-2003)

Notes:
1. The value represents the arithmetic mean of values observed at 51 points across the country.
2. Trend is based on the regression line.
3. Observation points for each year may be less than 51 due to missing observation.

Source: Data presented by Japan Meteorological Agency
○ Promoting road development that puts pedestrians and cyclists first

MLIT puts pedestrians and cyclists before drivers, particularly in community roads, so that such roads serve as a safe and quality living space.

[Improving convenience in daily life]

Along with promoting Traffic Demand Management (TDM), MLIT addresses public transport improvement by formulating Public Transport Stimulation Total Program. It also reviews smoother public transport as a part of national transport development measures based on the concept of universal design. Furthermore, MLIT aims at achieving more comfortable and safety public transport through developing urban railway networks, urban monorails/automated guideway transits, and light rail transit (LRT) systems as well as improving bus availability.

[Promoting IT revolution]

○ Taking advantage of IT in public transport

With the goal of better service for public transport users, MLIT is moving forward with the "e-Airport" initiative and offering public transport information using digital TV.

<Promoting the e-Airport Initiative>

### e-Check-in

- A quick identification process with the use of biometric technology allows for swift and safe procedures for traveling overseas.

### e-Tag

- Coordination between the next-generation baggage system by use of e-Tag and the passenger procedure system, under the cooperation among the institutions concerned, allows for safe and advanced baggage management according to a phase of the passenger procedures.

### e-Navi

- Accurate tourist information available when needed
- Higher satisfaction ratings by overseas visitors to Japan
- Exploiting and stimulating domestic tourism resources

○ Promoting ITS

Intelligent Transportation Systems (ITS) are designed to link humans, roads and vehicles using the state-of-the-art information and communication technology. Among such systems MLIT is promoting the Electronic Toll Collection System (ETC), the Vehicle Information and Communication System (VICS), and ITS in road transport. The ministry is also promoting the further development of ITS service, including the driving support system, Advanced Safety Vehicles (ASV) and electronic license plates called "smart plates".
Realization of "Digital Japan"
MILT is actively promoting the digitization and provision of geographic information as well as promoting GIS itself and high quality services utilizing GIS.

Realization of Electronic Government
MILT is promoting on-line administrative procedures and electronic bidding and contract procedures.

Optical fiber networks
As well as developing networks of multipurpose ducts for optical fibers for public facility management and leasing vacant spaces in the ducts to the private sector, MLIT also allows the sector to have access to the optical fibers, which will not be used for a while, for supervising rivers and roads.

Promoting recreation activities
To promote recreation activities, MLIT is promoting, among others, the development of state-managed parks that meet the needs that a single local government cannot satisfy. Other measures the ministry is taking in this field include: promoting the use of and optimizing pleasure boats in an integrated way; supporting the development of marinas; promoting marine recreation by coping with growing numbers of boats moored without permission or those sunk and disused; and promoting sky leisure.
Chapter 5: Toward More Competitive Economy and Society

Developing wide-based transport networks

Developing highways

Japan is lagging behind the U.S. and European countries in terms of highway development. The country needs to develop, among others, high-standard highways as part of ongoing efforts for efficient and effective national land.

\[\text{Total length of expressways as of 1983} \]

<table>
<thead>
<tr>
<th>Country</th>
<th>Total length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>80,530</td>
</tr>
<tr>
<td>France</td>
<td>5,845</td>
</tr>
<tr>
<td>Germany</td>
<td>8,068</td>
</tr>
<tr>
<td>China</td>
<td>3,435</td>
</tr>
<tr>
<td>Japan</td>
<td>(+3,908)</td>
</tr>
</tbody>
</table>

\[\text{Recent total length of the existing expressways} \]

<table>
<thead>
<tr>
<th>Country</th>
<th>Total length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>89,859</td>
</tr>
<tr>
<td>France</td>
<td>12,000</td>
</tr>
<tr>
<td>Germany</td>
<td>11,515</td>
</tr>
<tr>
<td>China</td>
<td>34,200</td>
</tr>
<tr>
<td>Japan</td>
<td>7,343</td>
</tr>
</tbody>
</table>

Notes:
1. Japan: Data are at the end of the fiscal year.
2. In Japan, total length of expressways signifies that of national expressways.

Source:
- France, United States and Germany: IRF
- China: Website of Ministry of Communications of the People’s Republic of China, China communications yearbook and data presented by Ministry of Land, Infrastructure and Transport.
- Japan: Ministry of Land, Infrastructure and Transport.

Improving the trunk railway network

The development of the trunk railway network in Japan is almost completed as a network. Yet there is room for further development in service quality, including operating speed and convenience, and railway facilities.

\[\text{New Shinkansen lines in the works} \]

<table>
<thead>
<tr>
<th>Line</th>
<th>Completion date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sapporo</td>
<td>End of FY2015</td>
</tr>
<tr>
<td>Hakodate</td>
<td>End of FY2015</td>
</tr>
<tr>
<td>Aomori</td>
<td>End of FY2010</td>
</tr>
<tr>
<td>Shin-Aomori</td>
<td>Start operation on 12/1/2002</td>
</tr>
<tr>
<td>Hachinohe</td>
<td>Start operation on 10/1/1997</td>
</tr>
<tr>
<td>Morioka</td>
<td>Start operation on 10/1/1997</td>
</tr>
<tr>
<td>Shin-Hakodate</td>
<td>Start operation on 12/1/2002</td>
</tr>
<tr>
<td>Shin-Yatsushiro</td>
<td>Start operation on 3/13/2004</td>
</tr>
<tr>
<td>Kagoshima-Chuo</td>
<td>Start operation on 3/13/2004</td>
</tr>
</tbody>
</table>

Note: The completion schedule is based on an agreement between the government and the ruling parties in December 2004.
As part of its efforts to make such improvement, MLIT has been committed to the construction of new Shinkansen lines based on the agreement within the government and ruling parties. Moreover, MLIT promotes speedups of conventional trunk railways and the technological development of a superconducting magnetically levitated train and Gauge Changing Train.

Improving the domestic airline network

Haneda Airport is now operated to full capacity, and expanding its capacity is an urgent issue. MLIT promotes the project to expand the airport. Also, MLIT is working to enhance civil aviation services by utilizing existing airport infrastructure effectively and to maintain and expand the regional airline network.

<Number of domestic airline passengers at Haneda Airport and forecasts>

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual numbers</th>
<th>Forecasts (for reference)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>2,200</td>
<td>6,070</td>
</tr>
<tr>
<td>1985</td>
<td>2,427</td>
<td>7,320</td>
</tr>
<tr>
<td>1990</td>
<td>3,809</td>
<td>8,030</td>
</tr>
<tr>
<td>1995</td>
<td>4,301</td>
<td>8,550</td>
</tr>
<tr>
<td>2000</td>
<td>5,477</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>5,941</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The forecasts are based on the assumption that the expansion project is completed by 2009.*

Source: MLIT

Improving the domestic maritime transport network

MLIT is working to improve the domestic maritime transport network for better efficiency and put Techno Super Liners into service.

Developing the international transport network

The level of development of major metropolitan international airports in Japan has not been sufficient enough to accommodate the requests from the airlines to increase the number of flights or to start new flights. This may deteriorate the international competitiveness of the airports.

MLIT has been taking a number of measures to remedy this situation, including: developing Narita Airport: internationalizing Haneda Airport: the promotion of the second phase construction at Kansai International Airport: and the construction of Chubu Centrair International Airport. In addition, the ministry has been vigorously holding consultations to conclude inter alia new air service agreements. All these efforts are part of the ministry’s initiative to develop the international air transport network. MLIT is also working to improve international sea transport.
The capacity-the number of takeoffs/landings-was increased by 50 percent from 135,000 to 200,000 per year after the interim parallel runway opened in 2002.

It is forecast that the annual total of takeoffs/landings will reach 200,000 by 2008 and the capacity limit of 220,000 by 2010.

Any capacity expansion will require consultation with local community.

No. of airline passengers

Takeoffs and landings

Sept. 11

War in Iraq, SARS

○ The capacity-the number of takeoffs/landings-was increased by 50 percent from 135,000 to 200,000 per year after the interim parallel runway opened in 2002.
○ It is forecast that the annual total of takeoffs/landings will reach 200,000 by 2008 and the capacity limit of 220,000 by 2010.

Any capacity expansion will require consultation with local community.

[Improving coordination among transport modes]

○ Developing multi-modal transport systems

To boost the international competitiveness of Japanese industry, MLIT is working to improve coordination among airports, ports, train stations, etc. on one hand and high-standard highways, roads that connect them, and access railways on the other, as well as enhancing the function of these facilities. The ministry is aiming to ensure that door-to-door service, which is in growing demand, will be delivered at reasonable costs and in an environment-friendly means. MLIT is also developing the National Integrated Transport Analysis System (NITAS) designed to analyze and assess the impact of transport system development quantitatively.

○ Improving transport access to airports

MLIT aims to shorten the time required to go from central Tokyo to Narita Airport by train to less than 40 minutes by supporting the initiative of Narita Rapid Rail Access. The ministry is also working to improve road access to the airport.

In addition, MLIT is working to further access to Haneda Airport and ensure easy access to Chubu Centrair International Airport using railways, roads and maritime transportation.
Central Japan International Airport Access Road and Trans-Chita Highway were developed in time for the opening of the Chubu Centrair International Airport (Centrair) in February 2005.

Air traffic demand at Centrair is expected to rise sharply. For example, it is projected that the volume of international freight to be handled at Centrair in FY 2012 will be 2.8 times as much as that handled at Nagoya airport in FY 2000. The international traffic functions of Nagoya airport were relocated to Centrair when it opened. An increase in air traffic demand will result in greater traffic demand on roads around Centrair. Therefore, the development of access roads will be a great benefit for the international competitiveness of Centrair.

Central Japan International Airport Access Road
Trans-Chita Highway

Source: Aichi Ken Doro Kosha [Aichi prefectural highway corporation]

[Developing a globally competitive physical distribution market]

MLIT aims to develop a “marine highway network”, which is designed to meet the seemingly contradictory objectives—safety and efficiency of ship navigation. To this end, the ministry is taking a number of steps, including:

- developing international key shipping courses;
- achieving “nonstop” inside the bay;
- developing gateway ports and subsidiary gateway ports;
- and promoting the 24-hour operation of ports.

The ministry is also forging ahead with the “super-hub port” project in Keihin port, Ise Bay and Hanshin port. This project aims to surpass other major ports in Asia in terms of cost and service.

Super-hub port project

Overall goal: to surpass other major ports in Asia in terms of cost and service

- Lowering port cost by more than 30% for comparing to the ports of Pusan and Gaoxiong
- Shortening cargo discharge time from 3~4 days to less than one day

(Measures to be taken at a super hub port under broad-based port partnership)

Promoting the integration process of logistic industries
Establishing terminal operators

Promoting the super hub port project

Super hub port screening committee
Establishing designation criteria
Screening candidate ports

FY2004
- Designating super hub ports (July 23)
  (Keihin port, Ise port (Nagoya port and Yokkaichi port) and Hanshin port)
- Implementing pilot programs on the development large-scale, integrated terminal systems and taking advantage of IT.

Mega container terminal

Cutting costs with a large-scale terminal and the “public-built and private-operated” formula

1. Integration of the terminal operating system using IT and other means
2. Coping with large container ships
Measures to develop a highly-advanced physical distribution system that ensures overall efficiency

MLIT has been promoting wider use of IT in the physical distribution sector. Specifically, the ministry is considering the XMLized EDI (Electronic Data Interchange) in the physical sector to the national standard and supporting the application of ITS or GIS to physical distribution.

In interregional distribution, MLIT pursues more efficient physical distribution using intermodal transportation and other means. To this end, the ministry is providing support in developing ports, train stations, and other distribution hubs, in boosting the efficiency of cargo transport on key routs, and in developing access roads which connect distribution hubs to expressways. In addition to providing such support, MLIT is taking numerous measures for urban physical distribution. Among them are: the elimination of highway-railroad grade crossings by building overpasses or underpasses to ease congestion; facilitation of consolidated distribution.

Furthermore, MLIT is promoting the development of a next-generation maritime transport system that takes advantage of IT and the advancement of medium and small sized distribution companies into new types of distribution as 3PL (3rd Party Logistics).

[Revitalizing industry]

Measures to revitalize the transport industry

Amid the deregulation process in the transport industry, railway operators are taking steps to improve their service, including the introduction of IC card tickets. Efforts are also being made toward the complete privatization of JR companies.

MLIT now requires driving staff at substitute driver service providers to carry type II driver’s license as part of its efforts to optimize the industry. This requirement is provided for in the revised Road Traffic Law.

To vitalize the domestic shipping industry, MLIT promotes competition in the industry under the recently-amended Coastal Shipping Business Law.

MLIT also encourages competition in the airline industry as well. To provide a level playing field, the ministry implements preferential allocation of takeoff and landing slots for new entrants in the industry.

Stimulating the real estate market

MLIT’s measures to stimulate the real estate market include: improving conditions for the land market, providing adequate real estate information, promoting the securitization of real estate further, and exploiting the land and housing taxation framework.

Rejuvenating the construction industry

The ministry’s efforts to rejuvenate the construction industry include: promoting the management innovations of medium and small sized construction industry; promoting the establishment of social safety nets; regulating company evaluation in public works projects; expelling bad or disqualified contractors from the market; implementation measures against dumping order intake; improving labor standards in the industry; solidifying management base for subcontractor and construction-related industries; and raising the levels of construction skills.

| Trend in construction investment (nominal term) and the number of licensed contractors and workers |

| (Trillion yen) | Private investment peak at 84 trillion yen in FY1992 |
| (Units: 1,000 for contractors, 10,000 for workers) |
| Workers peak at 6.85 million (average in 1997) |
| Workers at 20.4 trillion yen |
| Workers at 5.84 million workers (average in 2004) |
| Private investment 31.5 trillion yen |
| Private investment 59.0 million contractors |
| Government investment 20.4 trillion yen |
| Government investment 1.9 trillion yen |
| Government investment 59.0 million contractors |
| Government investment 20.4 trillion yen |

Notes: 1. The figures for construction investment are estimates for FY2002 and FY2003 and a forecast for FY2004.
2. The number of licensed contractors represents the figure at the end of each fiscal year (the end of March of the following year).
3. The number of workers represents the annual average.

Sources: MLIT, Estimate of Construction Investment and Licensed Contractor Survey; MPHPT, Labour Force Survey
Shipbuilding and ship machinery industries
MLIT is taking measures to improve the international competitiveness of both the shipbuilding and ship machinery industries and reorganize the industrial base of the latter. Furthermore, MLIT is supporting small- and medium-sized shipbuilders and ship machinery manufacturers in solidifying their management bases. The ministry is also promoting the development and practical application of maritime industrial technologies highlighted by Non-Ballast Water Ship and Mega-Floats.

Trend in shipbuilding tonnage in the world

Notes: 1. Completion basis. Only vessels of a gross tonnage of 100 or more are covered.
2. The figures in each bar represent the share.
Source: Compiled from data from Lloyd’s

Measures for seafarers
MLIT works to secure and train excellent seafarers, promote employment and improve the working environment in the industry.
Chapter 6: Public Safety Management

[Disaster prevention]

Building a more disaster resistant nation

Protecting the lives and property of the people from natural disaster is of utmost importance. On the other hand, the concentration of the population and assets on the cities may increase the potential risk of disaster. With this in mind, MLIT is committed to disaster prevention in all of its forms. Among the ministry’s efforts in this regard are: the widening of river channels; development of levees and floodways; comprehensive flood control measures for urban floods; measures against urban overflow by developing sewerage; measures against sediment-related disasters; measures against earthquakes by such means as improving the earthquake-resistance and overall safety of homes and buildings and securing open spaces in urban areas; volcanic sabo works; snow damage control; measures against high tides, tsunami and coastal erosion; and road disaster prevention.

<table>
<thead>
<tr>
<th>Year</th>
<th>Slope failures</th>
<th>Landslides</th>
<th>Debris flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>881</td>
<td>337</td>
<td>403</td>
</tr>
<tr>
<td>1996</td>
<td>237</td>
<td>228</td>
<td>224</td>
</tr>
<tr>
<td>1997</td>
<td>839</td>
<td>676</td>
<td>319</td>
</tr>
<tr>
<td>1998</td>
<td>1,135</td>
<td>817</td>
<td>488</td>
</tr>
<tr>
<td>1999</td>
<td>1,360</td>
<td>1,160</td>
<td>608</td>
</tr>
<tr>
<td>2000</td>
<td>1,501</td>
<td>1,501</td>
<td>712</td>
</tr>
<tr>
<td>2001</td>
<td>2,537</td>
<td>2,537</td>
<td>601</td>
</tr>
<tr>
<td>2002</td>
<td>539</td>
<td>539</td>
<td>409</td>
</tr>
<tr>
<td>2003</td>
<td>897</td>
<td>897</td>
<td>409</td>
</tr>
<tr>
<td>2004</td>
<td>1,135</td>
<td>1,135</td>
<td>460</td>
</tr>
</tbody>
</table>

Average for the past 10 years (1995-2004)

Source: MLIT

Disaster prevention arrangements

MLIT is taking a number of steps to minimize the loss of lives and other kinds of damage associated with natural disasters. Among them are: integrated information service; measures to care for the elderly and others with special needs during emergencies; and arrangements to boost emergency responsiveness through consolidated management of disaster information. In addition, the ministry is working to improve the framework of monitoring earthquakes and volcanic activities and upgrade the management of the existing disaster prevention resources and other infrastructure using IT.
ISCDP provides one-stop information services for the public in an easy-to-understand manner.

Website of ISCDP, MLIT (operated by the Japan Meteorological Agency (JMA))
Launched in June 2003
- One-stop, real-time information
- Disaster prevention-related information and disaster information from each bureau

Stocked data information
Integrated by GIS
(provided since June 2004)

Users (Officials in charge of disaster prevention, citizens, etc.)
I want weather and disaster information for this region.

Stocked data
(River Bureau, Geographical Survey Institute, JMA)
Providing data on weather, river, coast and tectonics

Various information overlaid on the map by GIS for selected area, data and period

Marks or characters displayed in a selected way
Past data displayed in graph or table

Ensuring that the transport systems are resistant to disasters
MLIT is committed to ensuring that ports and airports are constructed in such a way to boost their resistance to disasters. The ministry is also trying to secure multiple transport systems and routes by land, by sea and by air, so that alternative systems or routes can be used in the case of disaster. In addition, MLIT encourages public transport operators to boost their disaster preparedness.

Strengthening traffic safety measures
Road traffic
MLIT is taking measures to reduce traffic accidents at black spots, including improving intersections, intensively developing sidewalks, with special emphasis on highways and residential areas. The ministry’s comprehensive automobile safety initiative involves: counter measures to prevent the recurrence of dishonest behavior for automobile recall system such as enhancement and strengthening of audit; safety measures for commercial vehicles; vehicle safety measures; and Japanese New Car Assessment Program (JNCAP).
Railway/track traffic
MLIT conducts safety audit for railway/track operators in relation to the maintenance of facilities and rolling stock, as well as driving and other operations. The ministry also provides support in improving facilities and takes steps to improve facilities against fires in subways and prevent accidents at grade crossings.

Maritime transport
During 2004, MLIT supported the government in revising domestic laws associated with the revision of the International Convention on Load Lines. MLIT is committed to improving the safety of vessels themselves and navigation safety. To this end, the ministry is taking a number of steps, including: strict implementation of Port State Control (PSC); development of the next-generation navigation support system that take advantage of the Automatic Identification System (AIS); and installing and improving Aids to Navigation. In addition, MLIT strives to improve rescue preparedness with the deployment of mobile rescue technicians. Furthermore, the ministry is committed to studying the causes of maritime distress cases that have occurred to prevent recurrence.

Air traffic
MLIT has been working on the development of an efficient next-generation aviation system that accommodates the practices of Japan’s air traffic. This system takes advantage of satellites and new technologies such as data link to increase the capacity of airspaces and airways. The ministry is also committed to introducing and utilizing new navigation technologies.

**Next-generation aeronautical safety system**

MTSAT (Multi-functional Transport Satellite)*

*(Functions)*
- Control communication and the locating of aircraft from the ground with the help of satellites
- Reinforcement of GPS

*(Benefits)*
- Significantly reduces separation in oceanic airspaces
- Allows for flexible flight routes
- Improves aeronautical safety services at low altitudes and in mountainous areas

*MTSAT: a single satellite that has both the functions of the traditional meteorological satellite “Himawari” and aeronautical safety functions.*
[Crisis management and security]

Promoting measures against crime and terrorism

MLIT is working with its counterparts in other countries in the field of crisis management and security, as highlighted by its commitment to the Secure and Facilitated International Travel Initiative (SAFTI), anti-piracy efforts in sea areas in and around Southeast Asia, and the Proliferation Security Initiative (PSI). The ministry is also strengthening measures to avoid entry into Japan of terrorists and beefed up risk management arrangements at international airports and ports.

Japan Coast Guard (JCG) has taken a number of steps in this field, including: strengthening patrolling arrangements with patrol vessels and aircraft to deter terrorism at sea; making them bullet-proof to better cope with suspicious ships and spy ships; introducing high-speed large patrol vessels; tightening surveillance arrangements to cope with international organized crimes, as well as crimes at sea, including malicious poaching and environmental crimes with potential hazards to the sea.

Other activities MLIT is implementing include: ensuring maritime security with the enforcement of the Law for the Security of Ships and of Port Facilities; promoting aviation security measures with tighter restrictions on the baggage to be carried on board and the use of marshals (police officers on board); and anti-terrorism measures for means of land and maritime transportation and key installations; studying measures to achieve safe and efficient international physical distribution.

Creating an social environment where crimes are discouraged

MLIT is promoting the development and management of roads, parks, parking lots, etc. that are designed to deter crimes. The ministry is also promoting security homes by, for example, publishing a list of building components that proved effective in preventing crime. MLIT is also taking steps to prevent car-related crimes such as the theft and unlawful use of number plates.

Establishing responsiveness to incidents

MLIT is committed to ensuring that prompt and appropriate action will be taken in response to traffic incidents, so as to minimize damage, stabilize the situation, and recover the traffic service as soon as possible. MLIT’s efforts to better cope with the problem of derelict stranded foreign vessels have resulted in the revision of the Oil Pollution Compensation Law. Under the revised law, vessels must be insured.
Protecting Japan’s interests in the ocean

Maintaining the order in the ocean is vital for the protection of Japan’s interests in the ocean. With this in mind, Japan is strengthening the patrol technique and information gathering system around the Senkaku Islands (Japanese waters). The country is also working to deploy new aircraft to cope with foreign ocean research vessels that are doing research in its exclusive economic zone without consent from Japan, a condition provided for in the United Nations Convention on the Law of the Sea.

MLIT is working with government ministries concerned to conduct Continental Shelf Survey that is necessary to establish the outer limit of the continental shelf. With regard to the Okinotorishima Island, the central government, as the coast authority, implements appropriate maintenance operations entirely at national expense.
Chapter 7: Creating and Conserving a Beautiful and Favorable Environment

[Combating global warming]

To achieve its pledge in the Kyoto Protocol, Japan is working to curb greenhouse gas emissions from the transport sector as well as from the minsei sector (i.e., emissions from homes, offices, etc.). By the end of FY2004, the government plans to conduct assess and review in relation to the Outline for Promotion of Efforts to Prevent Global Warning. The government is now assessing the impact of the current policies and measures concerned. As the Kyoto Protocol has come into force, it is also exploring the possibility of strengthening these policies and measures and exploring new ones.

<MLIT's measures to combat global warming>

○ Measures in the transport sector

MLIT is promoting a range of measures designed to reduce CO\textsubscript{2} emissions from the transport sector. Such measures involve: the creation of a mechanism that gives incentive for more low-emission and fuel-efficient vehicles; the Automobile Green Taxation; the development and promotion of Environmentally Friendly Vehicles with emphasis on and fuel cell vehicles; traffic flow management; environmental management in the physical distribution, including the promotion of a modal shift; and measures to cut greenhouse gas emissions from vessels.
The increase rate of emissions from the transport sector has been showing signs of decreasing since 1998.

Impact of "greening" automobile taxes
- The total of registered low-emission vehicles topped about 7.11 million (estimated at the end of March 2004)
- Traffic volume by domestic marine transport rose 3.8% from FY1998 to FY2002 on a ton-kilometer basis.
- The share of commercial trucks to all trucks in terms of traffic volume increased from 79.4% in FY1998 to 84.1% in FY2002
- The number of passenger cars surged 50.3% from the FY1990 levels.

Factors for an increase in emissions from passenger cars
- Increased traffic volume
- Increased distance traveled

Factors for an increase in emissions from freight vehicles
- Increased cargo load
- Increased distance traveled

The following are urgently needed:
- Modal shift
- More efficient physical distribution
- Promotion of the wider use of public transport

Note: Public transport includes buses, taxis, railways, passenger ships, domestic marine transport, and domestic airlines.

○ Measures concerning homes, buildings, sewerage, and urban planning
  MLIT is promoting energy saving for homes and buildings by conducting dwelling performance labeling system. Other measures to reduce CO₂ emissions include the development of environment-friendly government buildings (green government buildings), eco-friendly operation of sewerage, conservation of nature and urban planting.

[Promoting a recycling-oriented society]

○ Construction materials recycling
  MLIT is committed to promoting recycling construction waste, which account for about 20 percent of waste discharged from all industries. To that end, the ministry is taking measures to ensure the performance of the Construction Materials Recycling Law and developing a joint mobile collection system for small-lot construction byproducts. It is also making efforts to reduce and recycle sewage sludge and promoting solid waste management in the housing and construction fields.

<Recycling rates of construction waste by item>

<table>
<thead>
<tr>
<th></th>
<th>FY2002</th>
<th>Goal for FY2005</th>
<th>Goal for FY2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling (R) and volume reduction (VR) rate</td>
<td>92%</td>
<td>Achieved</td>
<td>88% Achieved</td>
</tr>
<tr>
<td>(R) rate for asphalt concrete blocks</td>
<td>99%</td>
<td>Achieved</td>
<td>98% and more</td>
</tr>
<tr>
<td>(R) rate for concrete blocks</td>
<td>98%</td>
<td>Achieved</td>
<td>96% and more</td>
</tr>
<tr>
<td>(R) &amp; (VR) rate for construction sludge</td>
<td>69%</td>
<td>Achieved</td>
<td>60% Not achieved</td>
</tr>
<tr>
<td>(R) &amp; (VR) rate for construction-derived wood chips</td>
<td>89%</td>
<td>Not achieved</td>
<td>90% Not achieved</td>
</tr>
<tr>
<td>(R) rate for construction-derived wood chips</td>
<td>61%</td>
<td>Achieved</td>
<td>60% Not achieved</td>
</tr>
<tr>
<td>Reduction in mixed construction waste emissions from FY2000 (%)</td>
<td>30% reduction</td>
<td>Achieved</td>
<td>25% reduction</td>
</tr>
</tbody>
</table>

Note: The targets are according to Construction Recycling Promotion Plan 2002.
Source: MLIT, 2002 survey on the state of construction byproducts.

○ Developing recyclable resources logistics systems
  MLIT is committed to developing an efficient venous logistics networks. To this end, the ministry has recently designated integrated recyclable resources logistics hub ports (Recycle Ports).
Recycling of vehicles and FRP boats

MLIT is working to promote appropriate treatment of end-of-life vehicles and thus prevent illegal dumping with the implementation of the vehicle recycling system and the enforcement of the Road Transport Vehicle Law. The ministry is also working for the development of a recycling system for FRP (Fiberglass Reinforced Plastics) pleasure boats.

Promoting procurement of eco-friendly goods

MLIT is promoting procurement of eco-friendly goods and services and wider use of wood in public works projects.

Conserving and regenerating an affluent and beautiful natural environment

MLIT is promoting "renaturalization of rivers" and working to conserve, regenerate and even create waterfront environments in cooperation with local communities and NPOs. The ministry is also developing roads with full of shade.
Project to regenerate a natural environment in an urban coastal area

Regenerating and creating a natural environment that adds color to the city

Creating a tideland that serve a habits for various living creatures

Regenerated tideland where many people are enjoying nature

Participation of a wide range of stakeholders, including NPOs and local communities

Aiming to ensure that a wide range of stakeholders participate in each of all the processes, from planning to maintenance.

Regenerating a natural environment that adds color to the city

Development of a large-scale green space in the coastal area

Using or adding value to underused or unused land in the coastal area

Regenerating an urban sand beach where people enjoy the waterfront environment.

Stimulating the economy through urban renaissance

Percentage of tidelands and swamps to be regenerated

Some 30% (by FY2007)

Percentage of green areas in ports and their vicinities

About 7% (in FY2002)

About 8% (by FY2007)

A port that cohabitates with nature

Promoting Sound Hydrological Cycles

MLIT is working on Promoting Sound Hydrological Cycles in association with other ministries and agencies concerned. The ministry is also implementing the phase II emergency action plan for improvement of water environment called "Clear Water Renaissance II". Other efforts by MLIT include improving the water environment in closed sea areas and developing sewerages designed to improve the water environment.

Management of the marine environment

MLIT’s efforts in this field include: averting large-scale oil pollution by eliminating substandard ships that fail to meet requirements prescribed in laws concerning maritime safety and marine environment conservation; regulation of emissions from vessels; and control of harmful aquatic organisms in ballast water.
Improving the living environment through measures against air and noise pollution

With regard to vehicles themselves, MLIT is promoting strict auto emission standards and other environmental-related measures. The ministry is also focusing on: traffic flow management through TDM; road use that is less harmful to the environment with the introduction of various and flexible toll-charge policies; and the improvement of the roadside environment by modifying the road structure.

Airports and its vicinity
MLIT is proactively promoting the development of "eco airports", designed to conserve and even improve the local environment.

Addressing heat-island effects
Addressing this issue, MLIT is focusing on specific countermeasures identified in the Outline of the Policy Framework to Reduce Urban Heat Island Effects. This policy statement was formulated in March 2004 by the Inter-Ministry Coordination Committee to Mitigate Urban Heat Island.

[Observation and monitoring of the global environment]
MLIT’s efforts in this field include: (i) the promotion of the ARGO project (which aims to develop a broad-scale global array of temperature and salinity profiling floats in the oceans); (ii) monitoring of the sea level rise caused by global warming; and (iii) the development of global maps and the global geodetic observation network.
Chapter 8: Promoting Local Diversity

[Directions in regional and national development]
MLIT is not only implementing the national land plan at both the national and regional levels, but also conducting comprehensive review of national land and working to reform the national land planning system. The ministry is also promoting the regional hub development, as well as supporting regional and community development.

[Regional and community development that builds on local characteristics]
MLIT is supporting a wide range of local initiatives, including: developing networks that facilitate exchange and cooperation among municipalities and other local entities; developing regional communication nodes and town-making that make good use of local characteristics. In extending such support, the ministry fully respects local initiative and encourages the active involvement of local residents in these development processes as well as supporting affiliation of cities, towns, and villages.

[River improvement project in hometown
Nakagawa river (Fukuoka prefecture)]

[Providing local public transport service and promoting regions that need special attention]
MLIT is committed to ensuring that local residents have access to public transport for their daily activities. To this end, the ministry offers support in such fields as the development of local railway facilities, the continued operation of bus service in rural areas, and the continued operation and revitalization of air and shipping line to and from remote islands.
Furthermore, MLIT is proactively promoting the development of heavy snow belts, remote islands — including the Amami Islands and the Ogasawara Islands — and peninsulas that need special attention.

[Promoting comprehensive development of Hokkaido]
The initiative to develop Hokkaido is addressing a number of issues. Among them are: strengthening the function as a food production base; tourism exchange promotion; and infrastructure development that respects the autonomy of local governments under the "Hokkaido broader-based cooperation and coordination model project.” The ministry is working on comprehensive promotion of the Ainu culture, as well as the stabilization and promotion of the areas adjacent to the Northern Territories.
Chapter 9: International Partnership and Contribution for the Nation’s Sustainable Development

[Developing international partnership and coordination mechanism under the initiative of Japan]
MLIT is working to bolster partnership in ASEAN and East Asia as a whole in such sectors as transport, construction, and marine environment management. The ministry is developing a policy network involving transport ministers in world major countries and a network of ministers in charge of infrastructure development in the Asia-Pacific region.

Moreover, MLIT is taking steps to ensure that overseas construction markets are free and fair and find solutions to the water problems in the world.

[Efforts concerning international standards]
MLIT is addressing a number of issues concerning international standards. Among them are: harmonization of vehicle regulations and mutual recognition of certification; international standardization of railway specifications; promoting of formulation of international standardization concerning vessels and seafarers; international harmonization of civil engineering and construction standards and certification system; international standardization of ITS and geographical information; and mutual recognition of qualifications for engineers among nations. In addition, the ministry is doing all it can to address the issue over the internationally recognized name of the Sea of Japan.

[International cooperation that takes advantage of Japan’s experience, technology and expertise]
MLIT is pursuing strategic international cooperation in transport and infrastructure development. The ministry is focusing such sectors as the development of broad-based socioeconomic infrastructure, disaster preparedness, the environment and security. Specifically, JCG is supporting Southeast Asian countries in establishing maritime law enforcement agencies.

[Multilateral and bilateral talks]
MLIT has been participating in multilateral talks and forums, including the World Trade Organization (WTO), the Asia-Pacific Economic Cooperation (APEC), and the Organization for Economic Co-operation and Development (OECD). The ministry is also involved in multilateral talks in such sectors as roads, ports, and maritime affairs and in bilateral negotiations regarding Economic Partnership Agreements (EPAs) and Free Trade Agreements (FTAs).
Chapter 10: Technical R&D Supporting Japan in the 21st Century

[Promoting technical R&D]
Based on its basic plan on technical R&D, MLIT is promoting cross-sectoral and integrated R&D of technologies at all levels of the ministry, including bureaus at the headquarters, affiliated research institutions, regional development bureaus, and the Hokkaido Regional Development Bureau, while improving the framework for the partnership among industry, government and academia. Technologies thus developed are reflected in construction and transport industries, as well as in related public works projects.

### Gist of the MLIT technology basic plan

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<tr>
<th>Five goals concerning our daily activities</th>
<th>Ten priority projects designed to meet the five goals</th>
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<tr>
<td>Goal 1: <strong>Safety</strong> To achieve a safe living environment</td>
<td>1. Reinforcement of earthquake disaster countermeasures focusing on the Tokai, Tonankai, and Nankai regions</td>
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<tr>
<td>Goal 2: <strong>The environment</strong> To restore a favorable environment and build a beautiful and sustainable country</td>
<td>2. Developing integrated technologies to reduce and prevent accidents on land, at sea and in air</td>
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<td>Goal 3: <strong>Cost</strong> To achieve a comfortable and inexpensive life</td>
<td>3. Developing eco-friendly, low-emission transport facilities</td>
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<td>Goal 4: <strong>International competitiveness</strong> To achieve a vibrant society with international competitiveness</td>
<td>4. Developing technologies to achieve infrastructure development that can cohabit with nature</td>
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<td>Goal 5: <strong>Participation</strong> To achieve a society where anyone can feel a sense of membership in it</td>
<td>5. Developing technologies to create a recycle-oriented society</td>
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<td>6. Creation of a global-scale reproduction database on environmental change and elucidation of the mechanism of global warming</td>
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<td>7. Developing technologies that allow for deep underground utilization that is safe and inexpensive</td>
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<td>8. Developing automation technologies, including construction robots</td>
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<td>9. Developing technologies to assess the robustness of infrastructure with the nondestructive inspection approach</td>
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<td>10. Opening up a new frontier in space and ocean</td>
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[Improving construction management technique]
MLIT is making efforts to improve its cost estimation technique in public works projects, including an attempt to make a shift from the "Capital Cost Estimate method" to the "unit price-type estimation method." The ministry is promoting the application of ISO management systems to public works projects. For more effective and efficient construction projects, MLIT is also working to develop and upgrade construction machinery and enhance safety management in construction works.