

# OSAKA

**AND ITS TECHNOLOGY** OSAKA MUNICIPAL GOVERNMENT

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# OSAKA AND ITS TECHNOLOGY NO. 33

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# Background and Current Status of the Olympic Bidding Campaign in Osaka City

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Office of the Mayor

## 1. Introduction

Osaka City's Olympic bidding campaign did not begin out of the blue. Already 20 years ago, when the City's first land reclamation project (Sakishima, where the World Trade Center, the Asia and Pacific Trade Center and Nanko Port Town are situated) was completed and the plan of developing Maishima as a sports island was proposed, the idea of hosting the Olympic Games there on Maishima was voiced for the first time. In those days, however, it was judged too early for Osaka, and the idea did not develop further.

Later, as Osaka City continued its steady progress, two major events took place. One was the construction or renovation of several sporting facilities for the 52nd National Sports Festival held in October 1997, including the Municipal Central Gymnasium, Osaka Pool, Nagai Stadium, Utsubo Tennis Center and Osaka Dome. All of these facilities are of such quality and scale that sophisticated international events and high-level sports competitions can be held there.

The other event is the opening of Kansai International Airport, making it possible for athletes, officials and spectators to fly directly to Osaka. Moreover, as second phase construction is expected to finish in 2007, the Airport will have greatly expanded take-off and landing capacity.

With these developments in the background, momentum has gathered in Osaka City for hosting the Olympic Games at the outset of the 21st century, to mark a milestone in the City's history, making known the international city Osaka to the rest of the world and contributing to world peace.

## 2. Progress of the Olympic Bidding Campaign

### (1) Actions by Osaka City

At a City Council meeting in 1992, a question was raised about hosting the Olympic Games. In response, the Osaka City Olympic Study Group was formed of members from seven related municipal bureaus to discuss the prospects of holding the Olympic Games in Osaka.

For the next year and a half, the Group examined both tangible and intangible aspects of hosting the Olympics, concluding that it would be possible by the year 2008, in

consideration of the City's facility and transportation development plans.

Meanwhile, the City Council set up the Osaka City Council Temporary Committee for the Olympic Games. In March 1994, the City Council unanimously adopted the Resolution for Inviting and Hosting the Olympic Games.

In the autumn of 1994, a general opinion survey was conducted on hosting the Olympics in Osaka City.

In March 1995, following these moves, the City Council chose the year 2008 as the target year and unanimously adopted the "Osaka Proclamation: Inviting the 29th Olympic Games to Osaka."

In April 1995, the Olympic Bid Promotion Division was set up within the Office of the Mayor to exclusively deal with related matters, while Olympic Bid Promotion Headquarters was also established as an interdepartmental organization to carry out the campaign. Hence, Osaka City's Olympic bidding campaign commenced on a full scale.

### (2) Actions by Osaka Olympic Bid Promotion Conference

In October 1995, the Osaka Olympic Bid Promotion Conference was established by representatives of civic, business, sports, labor and other organizations. Since then, together with the Municipal Government, the Conference has been organizing meetings and events to promote enthusiasm among local people for the Olympic Games and carrying out PR and community-based activities.

① Conference members include the following (as of January 10, 1998):

- i. President: Masafumi Onishi, Chairman of Osaka Chamber of Commerce and Industry, serving concurrently as President of Osaka City Amateur Sports Association.
- ii. Five special advisors: Mayor of Osaka City, President of Osaka City Council, Governor of Osaka Prefecture, President of Osaka Prefectural Assembly and Chairman of Osaka Municipal Association, which is in charge of community movement promotion, etc.
- iii. Members: 531 representatives of civic, business, sports, labor and other organizations; the business organizations include all five major business groups that lead Kansai and Osaka economic circles, namely

the Kansai Economic Federation, the Osaka Chamber of Commerce and Industry, the Kansai Committee for Economic Development, the Kansai Employers' Association and the Osaka Industrial Association.

iv. Other advisors include members of the Diet representing Osaka Prefecture, members of the Osaka City Council, members of the Osaka Prefectural Assembly and representatives of Osaka branches of national organizations (e.g. Kinki Finance Bureau, Ministry of Finance) and press organizations.

② Main activities by the Conference include the following:

- i. Preparation and distribution of posters and leaflets to advertise the bidding campaign
- ii. Production of PR goods
- iii. Organization of promotional activities at various event venues
- iv. Organization of promotional events, such as civic meetings, boating trips featuring scheduled Olympic sites, Osaka Olympic film festivals and sporting events

③ At present, three Osaka City employees and four dispatched from private companies work in the Conference.

The office of the Conference is located within Osaka Dome, which serves as Osaka City's Olympic-related information center together with the adjacent Olympic Gallery.

### 3. Osaka Olympic Games Planning

#### (1) Basic Principle

In November 1995, the Osaka Olympic Games Basic Principle Committee, comprised of scholars and experts, representatives of sports associations and civic organizations and so forth, submitted to the Mayor of Osaka City a proposal of the basic principle of Osaka Olympic Games.

The proposal consists of the "Global Citizens Olympics" as the basic principle and Osaka City's three "creation initiatives" to realize it, "Creation of a Sports Paradise," "Creation of a New Urban Environment" and "Creation of a City that Progresses Hand in Hand with the World."

In September 1996, the basic principle of Osaka Olympic Games, based on this proposal, was officially adopted by Osaka City.

#### (2) Five Characteristics of Osaka Olympic Games

##### ① The Olympic Games in rich culture

- Osaka and its surrounding area has a long history and a rich cultural tradition.
- The Olympic Games is a sports festival, as well as an occasion for cultural exchange; Kansai is a traditional and culturally rich area (housing about 60% of National Treasures, 50% of Important Cultural Assets and 30%

of government-designated historic and scenic sights in Japan).

##### ② Access

- Osaka has excellent transportation access from other parts of the country and the world; the opening in September 1994 of Kansai International Airport, operating 24 hours a day, has greatly added to Osaka's international accessibility.

- The second phase construction of Kansai International Airport is under way, to accommodate future aviation demand growth; a new runway is expected to be completed by 2007, a year before the scheduled Olympic Games, fully meeting the expected air transportation requirements of the Olympic Games.

##### ③ Osaka's experience in hosting international sports competitions

- Osaka City, aiming at realizing in itself a "Sports Paradise" where people fully and freely enjoy sports, has hosted all kinds of international sports competitions, including the Osaka International Ladies' Marathon, which began in 1982.

- Osaka City continues to invite and host a variety of international sports events and competitions, including the East Asian Games and the World Table Tennis Championships, both already officially scheduled for 2001.

##### ④ Comfortable and safe environment for sports

- Maishima and Yumeshima, environment-friendly artificial islands rich in greenery, offer a comfortable and safe environment for both sports participants and spectators.

- These islands were built by filling a sea area with sand and earth dredged from ports and rivers, earth left from construction works and incinerated waste. Osaka City's excellent landfill and flood control technologies, nurtured over many years, were fully applied in the creation of these water-friendly islands.

##### ⑤ Bidding campaign with full involvement by Osaka City and Osaka Prefecture

- Hosting the Olympic Games in Osaka is the wish of all citizens in Osaka City and Osaka Prefecture. In March 1995, the Osaka City Council unanimously adopted the "Osaka Proclamation: Inviting the 29th Olympic Games to Osaka," and in May 1996, the Osaka Prefectural Assembly also unanimously adopted a resolution for inviting the 29th Olympic Games to Osaka.

- The results of opinion surveys about the Olympic Games reveal that 80% of Osaka citizens and 90% of companies are in favor of inviting and hosting the Olympic Games, many citizens and companies expressing the wish to participate in volunteer activities during the Osaka Games, if realized. (Reported in February 1995)

### (3) Olympic Games Hosting Project

Osaka's Olympic Games Hosting Project is as follows:

<<Basic Concept>>

① Top priority to athletes

Top priority should be given to athletes in terms of facility arrangement, Olympic Village and transportation.

② Olympic Games harmonize with nature.

The Olympic Games should harmonize with nature in terms of facility arrangement and administration (including competition facilities and Olympic Village), in the planning, preparation and execution stages.

③ The cultural program is founded on the history and culture of Osaka in the Kansai area, the starting point of Japanese culture.

The cultural program should be organized to look back on Osaka's history of cultural exchange, deepen international mutual understanding and friendship through interaction with peoples from around the world, create a new culture for the citizens of the world and contribute to humanity's future.

Maishima Sports Island



<<Project Outline>>

① Period

July 25 - August 10

The Olympic Games is the world's foremost sporting event, held every four years, gathering together the world's top-ranking athletes. The summer has been chosen to allow the world's best athletes to participate in the Olympics in the best condition, in consideration of other international competitions and the professional sports calendar. The summer is also considered appropriate to encourage volunteer and spectator participation.

② Competition and training venues

Competition and training venues can be reached in 30 to 40 minutes from Olympic Village, to enable athletes to participate in competitions in the best condition throughout the Games period.

- i. As many existing facilities as possible will be used.
- ii. Most scheduled competition venues are located within a 20-km radius of Olympic Village, accessible within 30 minutes.
- iii. An Olympic stadium with a seating capacity of about 100,000 spectators will be constructed; the Olympic pool will be of about the same scale as those of the Sydney and Atlanta Olympic Games, with seating to accommodate about 15,000 spectators.

Opening Ceremony (an artist's rendition)



### ③ Olympic Village

Safe and comfortable Olympic Village will be established in a waterfront, greenery-rich pleasant environment on Yumeshima to ensure that athletes will be able to participate in competitions in the best condition.

- i. Olympic Village, with accommodation for 15,000 persons, will be constructed on the western coastal area of Yumeshima.
- ii. From Olympic Village, most competition venues will be reached within 30 minutes.
- iii. Urban infrastructure and housing units will be constructed in sufficient consideration of environmental preservation.

### ④ Ceremonies and cultural program

- i. The Opening and Closing Ceremonies will be held in Osaka Olympic Stadium.

Ceremonies will be staged with Osaka and Kansai flavors, in a warm ambiance emphasizing international friendship, mutual understanding and hospitality.

- ii. The cultural program should be organized to look back on Osaka's history of cultural exchange, deepen international mutual understanding and friendship through interaction with peoples from around the world, create a new culture for the citizens of the world and contribute to humanity's future.

### ⑤ Transportation

Osaka is directly linked with the rest of the world via Kansai International Airport, and offers excellent access to other parts of Japan. Osaka's central area has a well-developed network of public transportation systems.

As well, Maishima and Yumeshima, the scheduled main Olympic venue and the site of Olympic Village, respectively, will be linked with the city center by a railway system and roads.

- i. Athletes, officials, IOC members, officials of international sports associations and NOCs will travel, in principle, in automobiles reserved for their exclusive use.
- ii. Athletes and officials will be taken from Kansai International Airport to Olympic Village on Yumeshima by exclusive bus in about 45 minutes.

iii. Maishima will be linked with the western part of Osaka City by Konohana Bridge and Tsuneyoshi Bridge, and with Yumeshima by Maishima-Yumeshima Access Bridge.

Yumeshima and Sakishima will be linked via a submerged tunnel; Maishima and Yumeshima will be linked with the center of Osaka City by rail.

- iv. Osaka City has a well-developed network of JR (railway) and subway systems that will carry Olympic Games spectators to competition venues. In principle,

Olympic Village (an artist's rendition)



spectators will be expected to reach competition venues by public transport.

- v. Marine transportation will also be exploited, to take advantage of the offshore location of the Osaka Olympic Games.
- vi. Low-pollution load transportation systems will be introduced.

#### ⑥ Volunteerism

People in both Osaka City and Osaka Prefecture support the Olympic bidding campaign. Osaka is the home of Japan's oldest volunteer organization as well as many other volunteerism promotional groups. For these reasons, the Osaka Olympic Games are expected to draw large numbers of volunteers.

- i. Volunteer participation will be promoted along with the Olympic Movement, starting from the bidding stage.
- ii. The target number of 50,000 volunteers will be attracted and trained according to schedule.

#### ⑦ Accommodations

- i. Accommodation needs will include 1,200 rooms for IOC-related personnel, 600 rooms for international sports associations, 1,600 rooms for judges, 4,000 to 5,000 rooms for other members of the IOC Family and 15,000 rooms for press representatives.
- ii. At present, there are 28,367 hotel rooms containing 41,005 beds. Future hotel construction projects are expected to add 1,394 rooms containing about 2,000 beds. There are additional 80,479 rooms containing 147,477 beds within a one-hour travel radius.
- iii. A home-stay program and use of passenger boats will be included.

#### ⑧ Environmental preservation

To realize environment-friendly Olympic Games in connection with the preparation and administration of facilities, including competition facilities and Olympic Village, an environment committee will be set up with citizens, experts and scholars and administrators, to formulate Environmental Guidelines for the Olympic Games. Existing competition facilities will be used as much as possible, and new competition facility construction plans will be drawn up to conserve energy and resources, and give sufficient consideration to the surrounding environment. The concept of environment-friendly housing will be incorporated into Olympic Village.

To secure a safe and less polluting transportation environment, electric vehicles and natural gas-fueled cars will be introduced.

#### ⑨ Budget planning

The total budget of the Osaka Olympic Games is estimated at a relatively conservative 169.5 billion yen, to be realized through efficient and waste-free management. The scale of the Organizing Committee will be kept to a

minimum, and civic support through volunteerism and so forth will be secured. To ensure conservative and stringent estimation of foreign currency-quoted revenues, the exchange rate of 1 US dollar = 100 yen is adopted for calculation.

## 4. Future Developments

On September 5, 1996, Osaka City submitted its candidacy for hosting the Olympic Games to the Japan Olympic Committee (JOC). On April 30, 1997, Osaka City submitted the Olympic Games Hosting Project to the JOC. Later, following field surveys and public hearings by the JOC, field surveys by sports associations and the selection meeting of the JOC on August 13, 1997, Osaka City was chosen as Japan's candidate city for the 29th Olympic Games.

As a subsequent step, Osaka City's candidacy must be officially recognized by the Cabinet. Following this, an official, nationwide bidding campaign can start, with the establishment of a bidding committee as a nationwide organization. At present, the JOC, the Ministry of Education and a preparatory committee are deliberating on a bidding committee.

The Olympic host city is selected in voting by 111 International Olympic Committee (IOC) members at the IOC general meeting.

For the 29th Olympic Games, the IOC is expected to send out information on the submission of host city candidacy in 1999, officially accept candidacy in 2000 and select the host city at the IOC general meeting to be held in 2001. So now, less than four years remains before selection of the host city for the 2008 Olympic Games.

On September 5, 1997, the IOC general meeting held in Lausanne, Switzerland determined the host city for the Olympic Games in 2004. The IOC had examined plans submitted by 11 candidate cities, conducted field surveys and narrowed the list to five cities: Athens (Greece), Rome (Italy), Stockholm (Sweden), Buenos Aires (Argentina) and Cape Town (South Africa). After four rounds of voting at the general meeting, Athens won the right to host the Olympic Games in 2004, beating out Rome by a vote of 66-to-41.

The fact that a city in Europe has been chosen for the 2004 Games provides Asian cities a better chance for the year 2008.

It is hoped that Osaka, as the candidate representing Japan, will have total, nationwide support, as well as warm backup and cooperation from people all over Japan, to win the honor and pleasure of hosting the Olympic Games in the year 2008.

# Minatomachi Project — Development of Osaka’s New Gateway to the World

## —Completion of OCAT Building as the First Step in the Project—

### 1. Introduction

With the 21st century close at hand, remarkable progress in transportation and information communication has led to increasingly active international exchanges in various aspects of social life. Life in Osaka has also changed greatly as a result of the opening of Kansai International Airport, development of the Osaka Bay area, and redevelopment of key areas in the City.

Under these circumstances, the Osaka Municipal Government is constructing various tourist facilities, based on Osaka’s cultural and historical heritages, and is promoting other projects to enhance Osaka’s attraction, and develop the City through exchanges among people from Japan and abroad.

The Minatomachi Project, a leading project in Osaka, is aimed at developing the Minatomachi District as a gateway of Osaka to the world, by linking the District to Kansai International Airport. In the course of the Project, the District will be provided with various urban facilities for industry, residence and recreation.

This paper outlines the Minatomachi Project, and presents the Osaka City Air Terminal Building (OCAT), a facility highly important in furthering the aim of the entire Project.

### 2. Background of the Project

Table 1 shows the progress of the Minatomachi Project.

During the postwar period, roads, parks and other public facilities were constructed in the Minatomachi and surrounding districts, in the course of the War Rehabilitation Land Readjustment Project (for the Minatomachi Work District). In March 1985, an approximately 5.3 ha cargo handling yard in the Minatomachi District, constructed by the former Japan National Railway, fell into disuse. In December 1985, the Outline of the Construction of Facilities Related to Kansai International Airport was issued as basic policy for constructing facilities complementing the functions of Kansai International Airport. Envisaged in the Outline were the land readjustment project for the Minatomachi District; reconstruction of part of the Kansai Main Line as a two-level structure; and construction of the Minatomachi ramp on the Hanshin Expressway and the CAT and other urban facilities related

Table 1 History of the Minatomachi Project

|                |  |
|----------------|--|
| 1889           | Osaka Railway (present JR Kansai Main Line) Minatomachi Station inaugurated  |
| September 1946 | Urban development plan for the Minatomachi Work District determined in the framework of the War Rehabilitation Land Readjustment Project   |
| December 1948  | District temporarily replotted   |
| March 1985     | Cargo handling discontinued in an approximately 5.3 ha area near Minatomachi Station   |
| December 1985  | Outline of the Construction of Facilities Related to Kansai International Airport issued; envisaged in the Outline were the land readjustment project for the Minatomachi Work District; reconstruction of part of the Kansai main Line as a two-level structure; and construction of the Minatomachi ramp on the Hanshin Expressway, and the CAT and other urban facilities related to the airport. |
| February 1989  | General Plan for Developing New Urban Centers approved by the Minister of Construction   |
| March 1989     | Minatomachi Development Center Co., Ltd. established; the plan for reconstructing part of the JR Kansai Main Line into a two-level structure determined  |
| September 1990 | Above reconstruction commenced   |
| December 1990  | Plan for constructing the Hanshin Expressway Minatomachi Ramp and the East-West Line (an underground pedestrian walk) near Minatomachi Station determined  |
| March 1991     | Minatomachi Work District replotted in the framework of a land readjustment project  |
| January 1992   | Minatomachi Redevelopment District Plan determined   |
| March 1992     | Minatomachi Bus Terminal Plan determined   |
| April 1992     | Minatomachi District Development Council established   |
| June 1994      | Osaka City Minatomachi Land Readjustment Project (to be implemented by an association) approved; the association established   |
| September 1994 | Kansai International Airport opened; Minatomachi Station renamed JR Namba Station  |
| October 1994   | Temporary replotting plan determined in the framework of the Osaka City Minatomachi Land Readjustment Project  |
| December 1994  | Minatomachi Redevelopment District Plan changed; OCAT designated the key facility in the Special Osaka Bay Development Law   |
| March 1996     | OCAT, a multi-purpose open space, and the Traffic Plaza inaugurated; part of the East-West Line (OCAT Walk) near Minatomachi Station inaugurated; JR Kansai Main Line Namba Station reconstructed as an underground station  |
| August 1996    | The contract on the development of the eastern section of the land owned by JNR Settlement Corporation awarded to Mycal Sogo Kaihatsu, and the contract on the development of its western section awarded to Kintetsu Real Estate, both via the building proposal method<br>The Minatomachi East-West Line opened  |
| October 1996   | The plan for land replotting in Minatomachi changed  |
| March 1997     | The contract on the development of the southern section of the land owned by JNR Settlement Corporation awarded to Hanshin Juken, via the building proposal method   |
| Fiscal 1997    | Purchasers of three land sections owned by JNR Settlement Corporation determined   |
| April 1997     | City Planning Road Tateba-Motomachi Line opened  |

to the airport. As a result, the Minatomachi Project began to be implemented on a full scale.

In February 1989, the General Plan for Developing New Urban Centers was approved by the Minister of Construction; this plan represents the master plan of the Minatomachi Project. In March 1989, the Minatomachi Development Center Co., Ltd. was established as the company responsible for coordinating the Project, and for constructing a complex transportation center incorporating the CAT. This was the first step toward realizing the Project.

Subsequently, plans for various basic public facilities, necessary for the promotion of the Project, were determined and put into practice. In the first phase of the Project, OCAT Building was completed; designed as a complex transportation center, it is highly important in furthering the aim of the entire Project. OCAT, as well as other facilities completed in related projects, was inaugurated in March 1996.

### 3. Characteristics of the Minatomachi District

#### (1) Outline of the Minatomachi District (Photo 1)

In downtown Osaka, the main business district is located between two major terminal districts, called “Kita” and “Minami.” The Kita District has been developed primarily as a business center, the Minami District as a center for commerce and amusement. Shinsaibashi Street, one of Osaka’s largest shopping malls, represents the core of the Minami District. Among other attractions of the District, an original and dynamic urban area, are the waterfront of the Dotombori River, and shopping areas called America and Europe Villages.

The Minatomachi District is a large (about 17.5 ha) redevelopment area in the southern Minami District, centering around a disused cargo handling yard of the former Japan National Railway. In the Minatomachi District, OCAT has been inaugurated as a key facility integrated with JR Namba Station.



Photo 1 Minatomachi District (as of March 1997)

## (2) Transportation Facilities (Fig. 1)

### ① Railways

Located in the Minatomachi District are the terminals of the JR Kansai Main Line; Subway Midosuji, Yotsubashi and Sennichimae Lines (operated by the Osaka Municipal Transportation Bureau); and the Kintetsu Nara and Osaka Lines, and Nankai Main and Koya Lines (operated by private railway companies). In future, the District will be crossed by the Naniwasuji Line, linking Shin-Osaka (the bullet train terminal district located on the National Land Main Axis); and the Hanshin Nishi-Osaka Line connecting the District with Kobe. These Lines will link the District with other project sites in Osaka, as well as with Kansai Science City (one of the major projects under way in the Kansai area). As a result, the District will grow in importance as a key terminal district in a wide-area railway network.

### ② Roads

The highway passing the circumference of the Minatomachi District provides convenient access to other main highways. Located in the District is the Minatomachi On/Off Ramp, connected to the Osaka Sakai and Ikeda Lines of the Hanshin Expressway. By means of an expressway network, the District can be reached easily from other districts of Osaka, as well as

from Kansai International Airport, and from major cities in the Kansai area including Kobe, Kyoto and Nara.

## 4. Outline of the Minatomachi Project

### (1) Basic Policies for Redeveloping the Minatomachi District

#### ① Redevelopment as an International Terminal District Open to the World, and as the Hub of an International Information Network

The Minatomachi District, located in downtown Osaka, represents the entrance to Osaka for users of Kansai International Airport. As well, the District lies on the Naniwasuji Line, the new urban axis of Osaka. Accordingly, the District is regarded as an important future terminal at the center of Osaka. It will also be redeveloped as an international terminal district, provided with CAT linkage to round-the-clock Kansai International Airport; and as the hub of an international information network, equipped with advanced information communication facilities designed to meet the need of the new age.

#### ② Redevelopment as an Urban Center with Various Functions, Designed for Future Urban Life

The Minatomachi District, centering around a disused cargo handling yard of the former Japan National

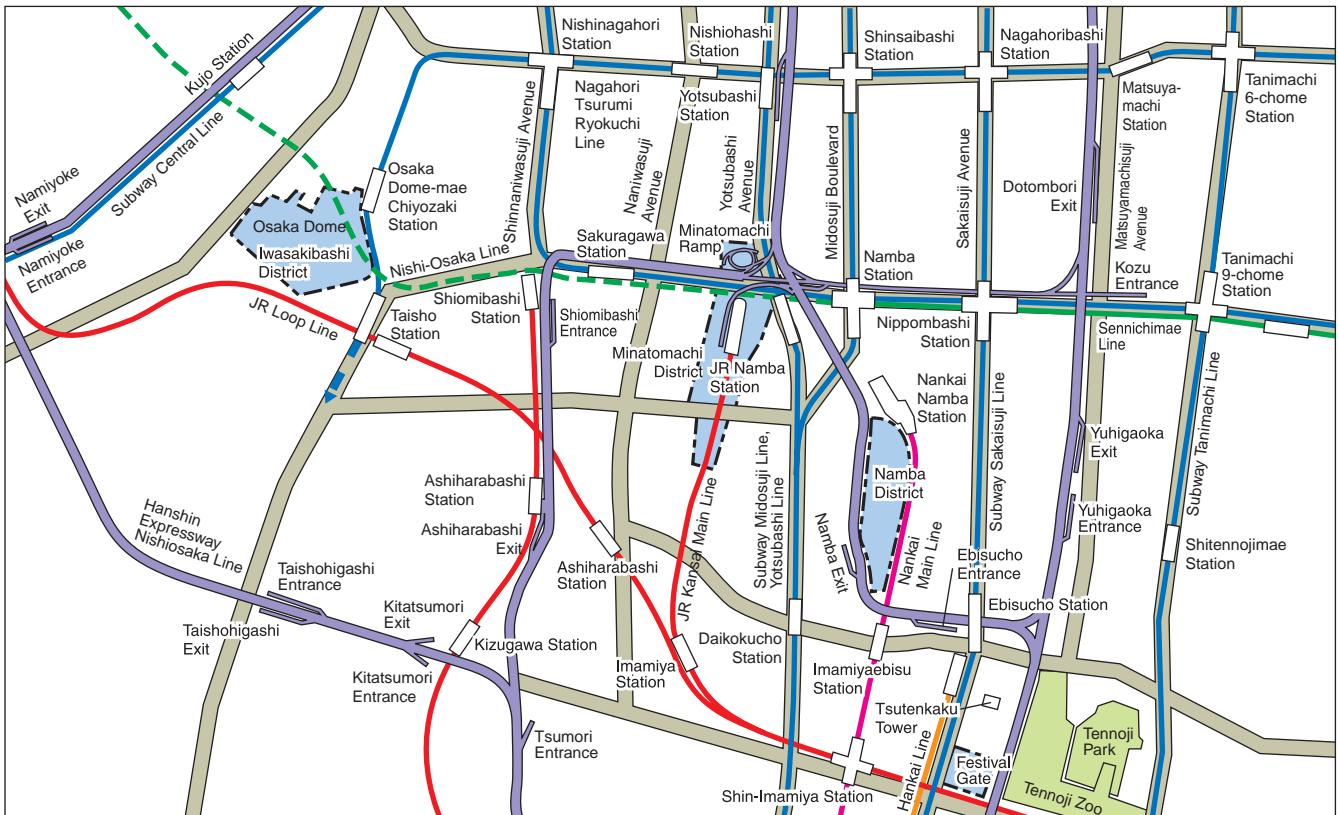


Fig. 1 Transportation Facilities in the Minatomachi District

Railway, is among the precious few large-scale redevelopment sites in downtown Osaka. Accordingly, various facilities can be constructed in the District. In redeveloping the District, facilities with various functions will be introduced to enable new urban activities and enhance the attraction of urban life, while appropriately coordinating redevelopment with similar projects in surrounding areas.

③ Provision of Rich Amenities

In Minatomachi District redevelopment, the waterfront of the Dotombori River, flowing in the northern part of the District, will be put to full use. As well, sufficient open spaces will be secured in the District, to enhance urban amenities.

In redevelopment, the Super-block Method will be used for a uniform urban design and a symbolic landscape design. Spaces for pedestrian and automobile traffic will be separated, and arranged three-dimensionally, to network public spaces in the District and link with surrounding districts. As well, the vitality of the private sector will be tapped via the Third Sector Method and various other methods, for well-coordinated city planning through collaboration of the public and private sectors.

(2) Concept of Redevelopment (Zoning for Land Use)

For redevelopment of the Minatomachi District, the District is divided into four Zones, according to characteristics. (Fig. 2)

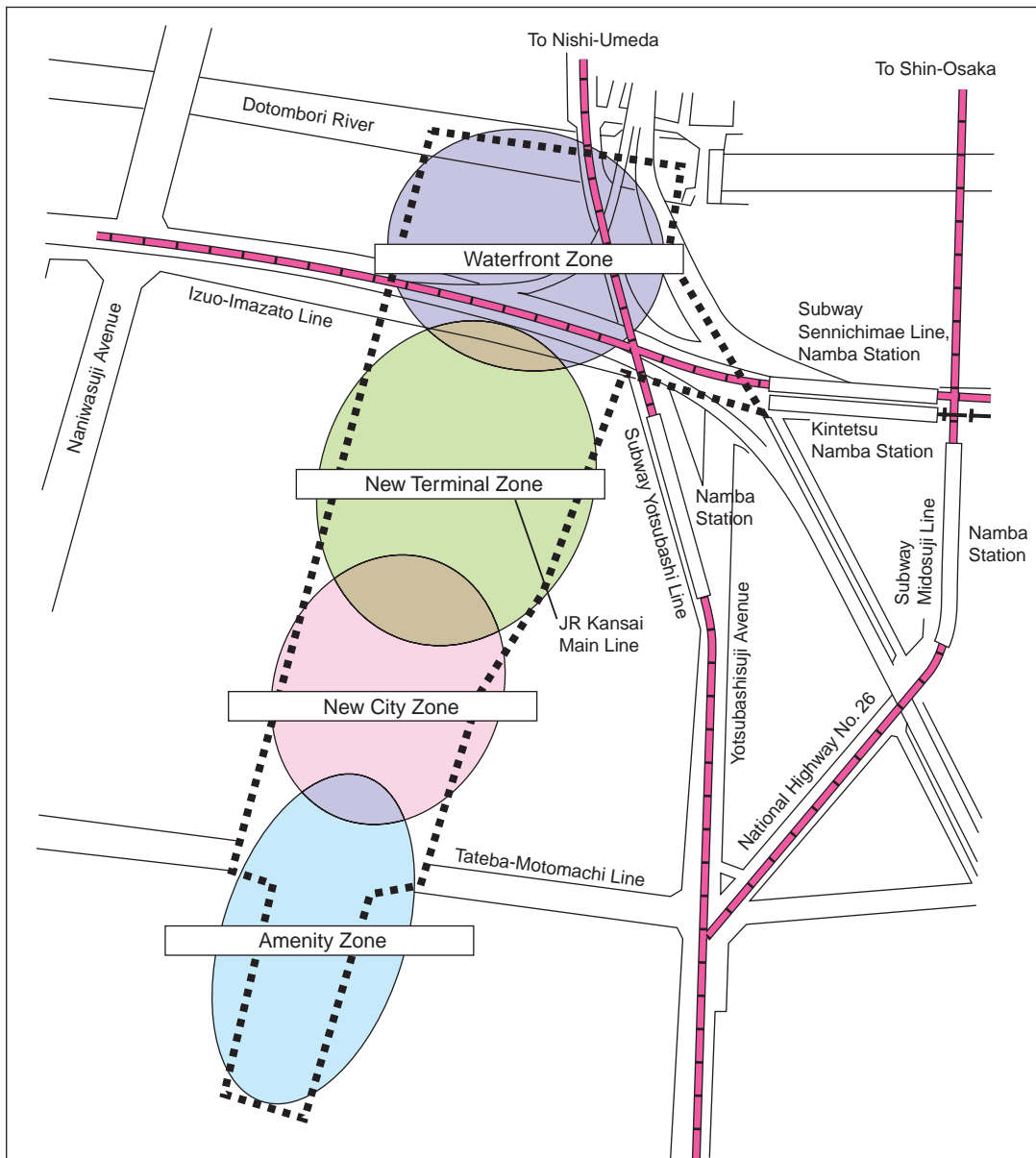


Fig. 2 Minatomachi District Redevelopment Plan (Zoning)

① Waterfront Zone

In older times, this Zone prospered as a port for exchange activities. During the course of the Minatomachi Project, the waterfront of the Dotombori River will be redeveloped as an area for recreation. The Zone will also feature the Sunken Garden, serving as entrance to the Zone for visitors from the America or Europe Village; and cultural facilities and an open space of three-dimensional design, surrounded by water and greenery. The Zone will thus be redeveloped as an urban area integrated with the ramp of the Hanshin Expressway.

② New Terminal Zone

This Zone is centered around OCAT, linked with Kansai International Airport. The Zone, the core of the Project site, will serve in the exchange of people, goods and information, and will be equipped with various advanced facilities befitting an international terminal district.

③ New City Zone

This Zone, for business, residence and recreation, will be designed for new urban lifestyle. As an area active round-the-clock, the Zone will be used for business, cultural and artistic activities, and to this end, will be provided with facilities for cultural activities, residence, everyday life, and recreation.

④ Amenity Zone

This Zone will be redeveloped as a pleasant, recreational area with abundant greenery, linking surrounding areas.

(3) Outline of the Urban Infrastructure Development Project (Fig. 3)

An Advanced Urban Infrastructure Development Project and an Urban Infrastructure Development Project are being promoted in the Minatomachi District. These Projects are defined in the General Plan for new Urban Base Development.

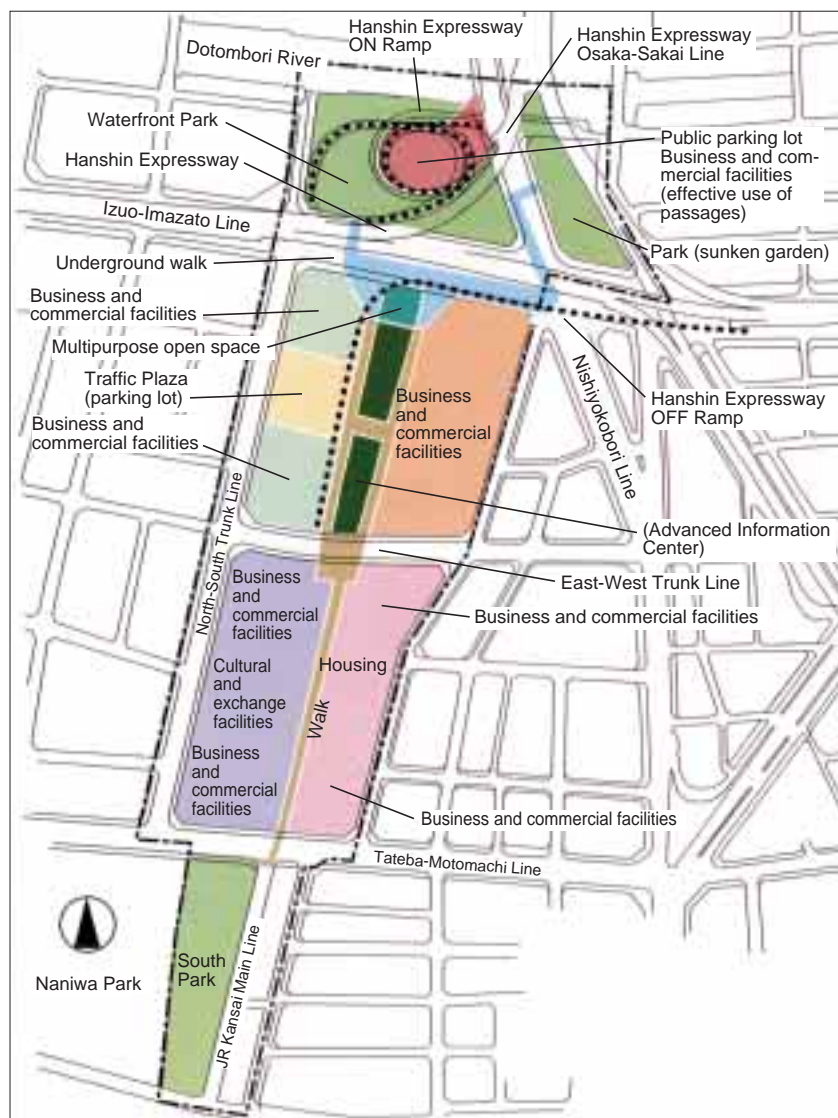


Fig. 3 General Project for Developing a New Urban Base in Osaka

## ① Advanced Urban Infrastructure Development Project

### (i) General City Planning Support Project

The General City Planning Support Project is a support project supervised by the Ministry of Construction. (It was formerly called the New Urban Base Development Project.) This Project comprises basic urban development plans, district plans and other plans, designed for the realization of a beautiful cityscape based on the harmonization of public facilities and other buildings. Another objective of the Project is to promote ingenious and original urban development by the local community, with the goal of developing an advanced infrastructure that can meet the needs of the new age.

In the case of the Minatomachi Project, construction of the OCAT Building as a complex transportation center and an advanced information center, a multi-purpose open space for various urban activities; and Traffic Plaza is categorized as a General City Planning Support Project. These facilities have already been completed.

### ② Urban Infrastructure Development Project

#### (i) Land Readjustment Project

The Minatomachi District is a relatively large redevelopment site in downtown Osaka. However, land ownership in the District is complex. The site cannot be put to full use if the original pattern of land ownership remains unchanged. Accordingly, the pattern will be adjusted to enhance the latitude for redevelopment, and enable optimum use of the site. As well, an association-implemented land readjustment project is being carried out on sites in the New Terminal and new City Zones, with a total area of about 11 ha. Temporary replotting was finished in October 1994; the project will be completed in fiscal 1999. Block adjustment in areas surrounding the Minatomachi District has already been completed, mainly in the course of the War Rehabilitation Land Readjustment Project (completed in fiscal 1991).

#### (ii) Reconstruction of Part of the JR Kansai Main Line as a Two-level Structure

In this project, the section between JR Namba Station and Imamiya Station, currently a one-level structure, will be reconstructed into a two-level structure. Specifically, the section will be divided into two subsections, with the Ashihara-ko Line (a City Planning Road) as border. The subsection on the Namba Station side will be reconstructed into an underground structure, that on the Imamiya Station side into an elevated structure. The objective of the project is to remedy traffic and communication problems arising from the present design of the railway as level structure. JR Namba Station will also be reconstructed into an underground station, to enable profitable use of the ground above the station. As well, the station will link the Minatomachi District with the new Naniwasuji Line. Because of these features, the railway reconstruction plan is regarded as

the core of the Minatomachi Project.

In fiscal 1988, the reconstruction plan was designated a Support Project by the national government. The railway section on the object site was completed concurrently with the opening of OCAT. Roads crossing the railway section will be completed by the end of 1999, marking completion of the entire reconstruction.

#### (iii) Hanshin Expressway Minatomachi Ramp

In areas surrounding the Minatomachi District, the existing Off Ramp will be reconstructed at a different location, and two Off Ramps will be newly constructed. An Off Ramp will be linked to the bus terminal on the second story of OCAT, to provide easy access to the District from other cities or Kansai International Airport. This ramp construction plan is the first public construction plan in Japan to which the Flyover Road System is applied. The construction of buildings in the space above or below a roadway is prohibited, to ensure appropriate road management and realize a satisfactory urban environment. Application of the System has permitted the coordinated design of the Off Ramp and OCAT Building, and has resulted in such benefits as linkage of the ramp to the bus terminal, great reduction in cost of land to be purchased, and securing a continuous flow of traffic in the east-west direction.

#### (iv) Underground Walk (East-West Line in Front of Minatomachi Station, or OCAT Walk)

In the Minatomachi District, Namba Walk, one of the largest underground shopping centers in western Japan, is located in the vicinity of Subway Namba or Kintetsu Namba Station. As a Street Project, an underground walk is being constructed to link Namba Walk with the District. This walk is provided with a Travolator and an escalator, to facilitate the movement of handicapped pedestrians, as well as of travelers using OCAT and carrying heavy luggage. The walls of the walk are covered entirely with glass blocks, on which wave-like patterns are seen in different light colors. As well, small artistic objects are placed in a section of the walk. With these features, the walk represents a new model of underground space for pedestrians. (Photo 2)

#### (v) Others

The Redevelopment District Planning System, for promoting well-designed city planning, is based on the intention of developers. The System is intended for large urban development projects involving changes in land use. It is applied, to full extent, in the Minatomachi Project, a large-scale redevelopment project whose main site is a disused railway cargo handling yard.

The System has been used to determine targets for redevelopment of the District, basic policies for land use, the arrangement and size of roads, parks and other facilities for urban development, and to promote deregulation e.g. regarding floor space ratio.

## 5. Outline of the Osaka City Air Terminal (OCAT) (Photo 3)

### (1) Facility Design Concept

As mentioned earlier, the Osaka City Air Terminal (OCAT), located in the New Terminal Zone, is a key facility in the Minatomachi Project, and highly important in furthering the aim of the Project. OCAT functions not only as an attractive airport support facility, indispensable to an international terminal district; but also as a general travel information center, providing people in Japan and

abroad with a wide range of tourism-related information, thereby enhancing the attraction of Osaka as an international city.

### (2) Outline of OCAT

- ① Site area: 16,200 m<sup>2</sup>
- ② Building area: 11,200 m<sup>2</sup>
- ③ Total floor area: 79,100 m<sup>2</sup>
- ④ Number of floors: 6 floors, 2 basements
- ⑤ Underground parking lot: 4-tier structure accommodating 300 automobiles



Photo 2 OCAT Walk



Photo 3 OCAT and Minatomachi OFF Ramp

(3) Facility Functions (Table 2)

OCAT has been developed as a facility with the functions shown below.

① CAT Function (Photo 4)

OCAT incorporates a CAT, where travelers can go through most of the formalities for boarding an airplane (check-in, checking and X-ray inspection of baggage). Using the CAT, travelers can move to the airport without bringing their baggage. The CAT enhances the convenience of travelers in other ways as well, helping resolve the congestion problem at Kansai International Airport.

The check-in lobby on the first floor of OCAT has 30 counters, where 13 airlines (accounting for more than 70% of flights to or from Kansai International Airport)

conduct check-in for international travel. The check-in lobby, for both individuals and groups, is one of the largest of its kind in Japan.

A reliable limousine bus service links the bus terminal on the second floor of OCAT with the international departure lobby on the fourth floor of the Kansai International Airport Building.

Moreover, a subway will link OCAT with the airport, after two-year testing.

Other CAT-related facilities include OCAT Hall and a meeting room, which can be used for explanation meetings for group tourists and various other meetings.

The CAT also features automated check-in counters for domestic travelers from Kansai International Airport or Osaka International Airport.

Table 2 Outline of OCAT Facilities

| Floor     | Facility  | Outline   |
|-----------|---|---|
| Penthouse | Tower   |   |
| 7         | Machine room etc  |   |
| 6         | Offices   | Airline offices   |
| 5         | Offices<br>OCAT Mall  | Gallery, shop, 15 restaurants   |
| 4         | Offices<br>Information center<br>OCAT Mall  | Offices of national tourism bureaus, travel agencies, Travel Information Station, 10 shops            |
| 3         | CAT-related rooms<br>OCAT Mall  | OCAT Hall, VIP room, 28 shops, restaurant   |
| 2         | Bus terminal<br>OCAT Mall   | Terminal for airport limousines, middle-distance and sightseeing buses; 3 shops                       |
| 1         | CAT-related rooms<br>OCAT Mall  | Check-in lobby, information bureau, waiting room for group tourists, cloakroom, post office, 12 shops |
|           | Traffic Plaza   |   |
| B1        | JR Namba Station<br>CAT-related rooms<br>Offices<br>OCAT Mall<br>Underground parking lot<br>Ponte Plaza | Concourse, Welcome Lobby, CAT waiting room, bank, 4 shops, restaurant                                 |
|           |   |   |
| B2        | JR Namba Station<br>CAT-related rooms<br>Underground parking lot  | Platform, area for baggage sorting  |
| B3        | Underground parking lot   |   |
| B4        | Underground parking lot   |   |

② Bus Terminal Function (Photo 5)

Located on the second floor of OCAT is a public bus terminal with 10 berths—the first of its kind in the Kansai area to be approved by the national government. The terminal is linked with an Off Ramp of Hanshin Expressway. To enhance the comfort of travelers, the terminal's waiting room is separated from bus lanes by a glass screen.

The terminal is used for the limousine bus service linking the CAT with the airport (92 shuttle services to or from Kansai International Airport, 53 to or from Osaka International Airport), inter-city high-speed bus

services linking OCAT with 28 major cities in Japan (22 lines), and sightseeing bus services mainly for tours of Osaka City (two courses). In future, the bus terminal will be developed into a hub terminal networking bus terminals in Osaka.

③ Travel-related Information

OCAT, mainly through establishments on its fourth floor, provides travelers, or people who plan to travel, with a wide range of necessary information. Such establishments include the World Travel Information Station, where information on foreign countries, and advice on overseas tours are provided by national tourism bureaus,



Photo 4 CAT Check-in Counter (OCAT 1F)



Photo 5 Bus Terminal (OCAT 2F)

airlines and travel agencies in various countries. The Station uses the Internet and other multimedia for these services.

OCAT manages the World Travel Information Station in close cooperation with the tourism bureaus, airlines and travel agencies. Using an information network covering 120 countries, the Station provides tourism-related information, valuable in ensuring the comfort and safety of travelers. The Station therefore plays a key role in maintaining OCAT's function as a general travel information center. The Station features the Video Library Corner, where the latest videofilms on tourism are

shown; the Library Corner, where guidebooks, maps and other books related to tourism are available; the Virtual Experience Corner, where visitors can experience a virtual overseas tour; and the Consulting Corner, offering information necessary for overseas tours or business or study in foreign countries. (Photo 6)

Also located in OCAT are the Visitors Information Center Namba and the Tourist Lobby, where tourism-related information is provided to visitors from Japan and abroad. These facilities help enhance the attraction of Osaka for foreign tourists. (Photo 7)



Photo 6 World Travel Information Station (OCAT 4F)



Photo 7 Visitors Information Center Namba (OCAT B1)

④ OCAT Mall

OCAT Mall is a shopping center combined with travel information bureaus and a full-scale CAT. The Mall, the first of its kind in Japan, is designed to attract many visitors to OCAT, as well as to Minatomachi as a major shopping area in the Minami District. Designed with the motto “Meet the Finest of the World,” the Mall features shops offering novel or exotic goods. Visitors can enjoy shopping at the Mall, or dining in the international, lively atmosphere created by CAT facilities and national tourism bureau offices.

⑤ Open Spaces and Traffic Junctions

(i) Traffic Plaza (Photo 8) and Underground Parking Lot

A large porch with eaves, named Traffic Plaza, is provided on the west side of OCAT. Taxis, private cars and middle-sized buses can smoothly enter and depart the

Plaza. Accordingly, OCAT can be used conveniently by travelers with heavy baggage. A four-tier underground parking lot, accommodating 300 cars under the Plaza, is designed to accommodate the cars of visitors to OCAT and surrounding areas. In future, underground passages will be constructed to link the parking lot with other underground parking lots.

(ii) Multi-purpose Open Space (Ponte Plaza [“ponte” means “bridge” in Italian])

Located near the entrance on the north side of OCAT is a multi-purpose open space featuring a sunken garden, linked with OCAT Walk. The space, used for various events, is visited by many people. Installed in the space is a large monument, designed after an aerial chart. The monument serves as a landmark meeting place. (Photo 9)



Photo 8 Traffic Plaza



Photo 9 Ponte Plaza (multi-purpose open space)

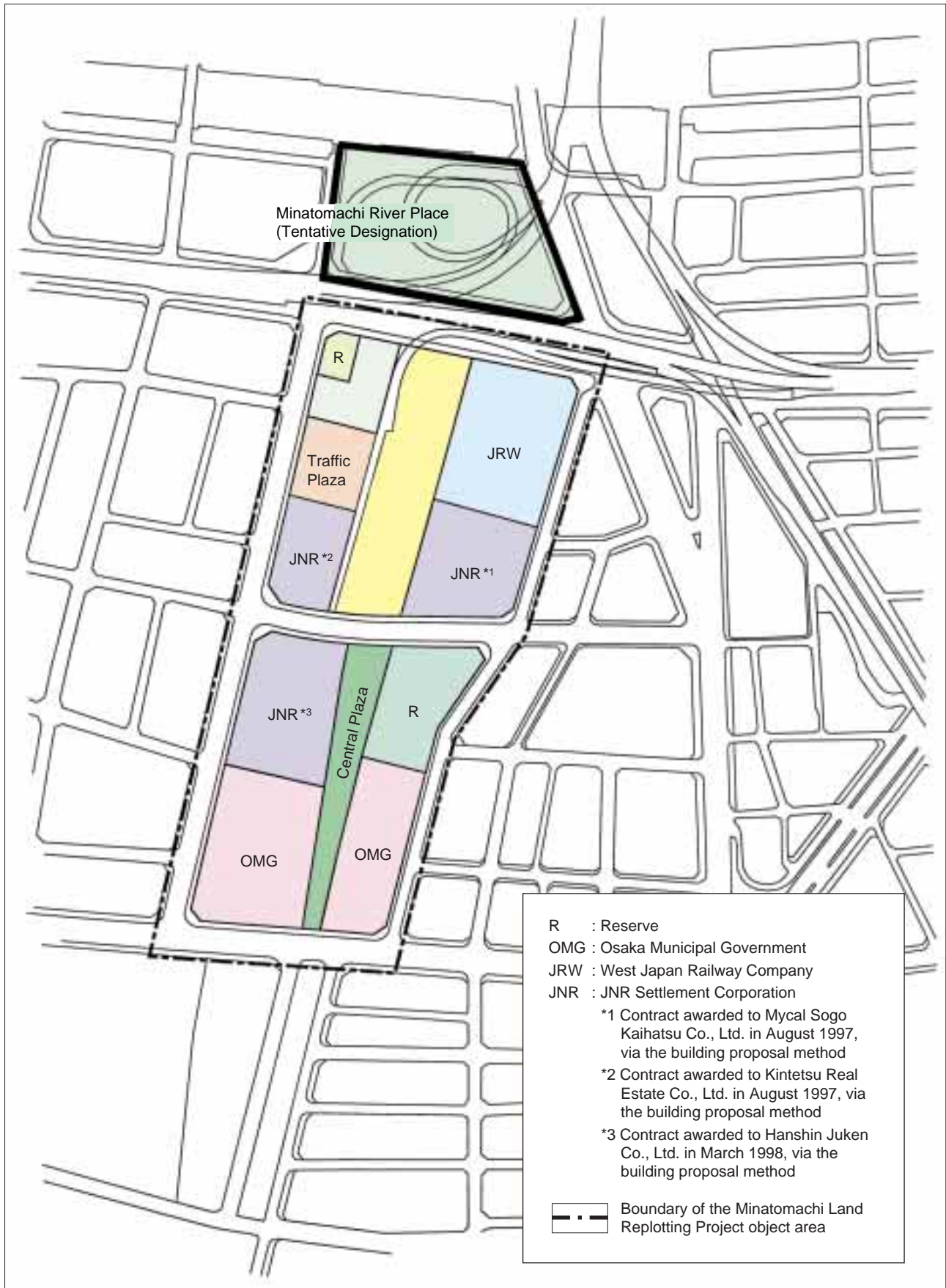


Fig. 4 Redevelopment of the Minatomachi District

## 6. Conclusion

The Minatomachi District, formerly a railway cargo terminal district, is being redeveloped into a new urban area with various functions designed to meet needs of the 21st century. In the first phase of the redevelopment project, OCAT was inaugurated to further the main aim of the Minatomachi Project—namely, to develop the District into an international terminal district. The District's potential still remains largely untapped, however, because no facilities other than OCAT have been completed thus far in the course of the Project. Accordingly, it is hoped that new redevelopment plans will soon be carried out.

The purchasers of three land sections in the District, owned by JNR Settlement Corporation, were determined in fiscal 1997. Business plans related to these sections were recently announced. (Fig. 4)

Two of the sections are located in the New Terminal Zone. The section on the east side of OCAT will be redeveloped mainly by Mycal Sogo Kaihatsu Co., Ltd. as a commercial area. A large commercial building complex, incorporating a movie theater, will be constructed in the area. The section on the west side of OCAT will be redeveloped by Kintetsu Real Estate Co., Ltd. Office buildings and housing will be constructed in the area. The section in the New City Zone, to the south of the other sections, will be redeveloped by Hanshin Juken Co., Ltd., mainly as a residential area.

In the Waterfront Zone, the Minatomachi River Place Plan (tentative designation) will be started in April 1998, with the Osaka Municipal Government as the main organization responsible for the Plan. These redevelopment plans will be realized by 2002 or 2003. By that time, a wide range of urban facilities will have been completed in the Minatomachi District. OCAT will work synergistically with these facilities, greatly enhancing the redevelopment potential of Minatomachi.

Among the large-scale projects that will be carried out in Osaka are the Kansai International Airport Project, aimed at developing the airport into a round-the-clock international hub airport; and the hosting of the 2008 Summer Olympics. In the course of these projects, international exchange will be promoted in various ways in the City, enhancing the role of the Minatomachi District as the gateway of Osaka to the world.

The Osaka Municipal Government aims at realizing the entire Minatomachi Project as soon as possible, through discussion with landowners.

# Osaka City's Large-scale Residential Development in Its Waterfront Areas

Urban Redevelopment and Housing Bureau

## 1. Introduction

The City of Osaka covers some 220 square kilometers in area, which is relatively small in size. As the heart of a large metropolitan area, Osaka has suffered the problem of population decline as suburbanization took its toll. The population of Osaka peaked in 1965 at 3.16 million, and has been steadily decreasing, until in 1995 it totaled only 2.6 million. The decline in population is most marked in the city center areas; notably, the 25 to 40 age bracket, the young to middle-age especially family households with children, is heading out of the city, creating an imbalance in population structure and compounding the rapid trend toward the aging of the population.

In October 1990, the City of Osaka adopted the Osaka City Comprehensive Plan for the 21st Century as the basic guideline for creating a new city of Osaka that is fully geared to meet the challenges of the 21st century. Aiming to create a 2.8 million-strong city harmoniously balanced in aspects of "home, work, and recreation," the city government is engaged in various policies and programs. In March 1996, it adopted the Interim Program of the Osaka City Comprehensive Plan, which listed the major city planning and development policies to be conducted in the five years remaining before the arrival of the 21st century; duly, action is being taken to implement these policies. In September 1997, the Housing Policy Committee of Osaka City published its recommendations, "Direction of Future Housing Policies" with the basic aim of "creating an attractive metropolitan lifestyle."

In accordance with these city planning and development policies, the City of Osaka will actively pursue its wide-ranging housing programs. This paper outlines the future direction of Osaka's housing policies and large-scale residential development projects, which are regarded as one of the key measures in attracting people to come to live in Osaka and to encourage them to remain.

## 2. Future Direction of Osaka City's Housing Policies

First, we will outline the future direction of housing policies as indicated by the Recommendations put forward by the Housing Policy Committee of Osaka City.

### (1) Basic Targets of Housing Policies

Osaka is promoting a wide variety of projects, the foremost example being the Olympic Games, in order to attract visitors to the City as a place where many people gather and enjoy themselves. Osaka aims to be an international city full of creativity and vitality. The Recommendations point out that in terms of housing and living environment also, we need to focus on creating an international city with suitable housing and related facilities where citizens can enjoy a comfortable and enriched lifestyle, a city where everyone wants to come and live.

For this purpose, the city government needs to promote the provision of housing suited to the diverse urban residential needs of our citizens. It must provide good residential environments, improve residential amenities, and improve services such as social welfare, business, and culture that support urban life. It is exceedingly important to improve Osaka's overall appeal as a residential city. In this respect, the basic aim of future housing policies has been expressed as "to create an attractive metropolitan lifestyle" and the Recommendations point to the need to strongly and comprehensively pursue wide-ranging policies.

Furthermore, the Recommendations list the following five basic perspectives as necessary for promoting future housing policies: ① shift from housing policies to residential policies; ② improvement and strengthening of policies from the standpoint of residents; ③ creation of a city that is safe and secure; ④ deployment of policies that put greater focus on regional distinctiveness; ⑤ stronger drive at pursuing policies that improve the living environment.

### (2) Projects Requiring Future Focus

The Recommendations list five areas that merit strong focus as future projects: ① implementation of residential policies that meet the residential needs of a metropolis; ② creation of residential appeal that reflects regional character; ③ creation of secure houses that are disaster resistant; ④ provision of high quality housing and creation of good housing stock; ⑤ creation of a comprehensive housing information system.

Of these five, with respect to the creation of residential appeal that reflects regional character, the Recommendations point to the need for creating new living environments while revitalizing the residential appeal of existing

residential areas, and proposes the promotion of amenity-rich housing development in waterfront areas.

This requires the development of a new large-scale residential area. In its implementation, water and greenery must be incorporated into the residential development plan and there must be houses and housing land that contribute to the regeneration and creation of the ecosystem, such as environmentally friendly model housing. We must create a high quality housing estate that is full of character and appeal, where people of diverse backgrounds and talents can live together. Such “new” considerations are essential in creating this optimal living environment. In conjunction with the creation of parks, it is also necessary to provide emergency refuge. Public development bodies such as the Municipal Housing Corporation and the Housing and Urban Development Corporation must play a leading role in providing a new type of urban collective housing. Also, the use of a competition format will necessarily involve private-sector contractors in the enterprise.

### 3. Promotion of Residential Development in Waterfront Areas

#### (1) Waterfront-type Large-scale Residential Development Aimed at Population Recovery

Osaka is a “city of water”—since ancient times, the City has struggled with water, used it, and lived alongside it.

Today, when high amenity value is sought from cities, there is no better way to realize such value than to actively use waterfront areas rich in natural blessings, in forming quality residential areas. Osaka aims to create a new “city of water” where citizens can enjoy their association with water.

To this end, various projects are being undertaken to create leisure and vista space for citizens in the waterfront areas, which comprise about 10% of the city area and some 400 km of shoreline, making use of the river banks of large and small rivers, including the Yodogawa and Okawa, and the port area where there are beautiful sunset views.

In particular, large-scale waterfront residential development has been an important pillar of the housing policy to reattract residents to the City.

In the second half of the 60s, Osaka decided on the basic direction of redeveloping large disused factory sites along its rivers into good quality housing land. Work began in the 1970s to use these factory sites for public housing; a comprehensive residential development project was begun, of redeveloping surrounding aging housing areas and constructing associated public amenities.

Next follows an outline of the large-scale waterfront residential development projects that are already underway. (Fig. 1)



Fig. 1 Large-scale Residential Development Projects Location Map

## (2) Outline of Residential Development Projects Already Undertaken

### ① Yodogawa Riverside District Project

Osaka's first fully fledged large-scale residential development, as a redevelopment project using disused factory sites, was the Yodogawa Riverside District, which commenced in 1979 along an area of the Okawa (formerly Yodogawa) River. This project aimed to create on large disused factory sites housing integrated with public facilities, such as roads and parks. By conducting the Blighted Residential Area Renewal Project at the same time, an integrated redevelopment is being undertaken in a 36 ha area, which includes densely packed decrepit housing areas.

This district saw the first application in Japan of a new central government device, the Comprehensive Improvement Promotion Project for Specific Urban Housing Districts. This was the start of a new project format, using a National Treasury subsidy to compensate for factory relocation and the cost of constructing communal facilities.

The major public facilities under this project have now almost all been completed. The main terminus of Osaka, JR Osaka Station is only 2 km from completed 3,400 high-quality housing stock that offers good commuting access to residents. (Photo 1)

### ② Takami District Project

Under the above mentioned Comprehensive Improvement Promotion Project for Specific Urban Housing Districts, large-scale residential development work was begun in 1984 on some 52 ha of land in Takami District.

The Takami District (Takami Floral Town), located about 3.5 km west of JR Osaka Station, comprised a long-established industrial area along Yodogawa River and a mixed area of wooden housing and small factories. In tandem with residential development of the large former factory sites, a Blighted Residential Area Improvement Project is being undertaken on some 4 ha of land. To date, about 70% of planned housing or 2,830 high-quality houses have been completed. Moreover, emergency refuge sites are being provided in parks and in open space among houses. (Photo 2)

### ③ Sakuranomiya-nakano District Project

In 1985, work started on the Sakuranomiya-nakano District Project (Sakuranomiya River City), using some 4.6 ha of land once occupied by the former Japanese National Railway Yodogawa Freight Station and the Municipal Tram Depot. About 3 km east of JR Osaka Station, the site is very conveniently located, only 10 minutes by train from JR Osaka Station. It also offers some of Osaka's best scenery, with views of the Okawa River and Kema-Sakuranomiya Park. There are good residential support facilities in the area, such as a primary school and a hospital.

The special feature of this project was that an Urban Collective Housing Design and Development Competition was held. In accord with the winning plan, about 30% of the site was made into a private-sector housing zone, where private contractors and public-sector bodies formed a joint venture. The result was an attractive urban landscape created by a 41-story skyscraper apartment block

Photo 1 Work Progress in Yodogawa Riverside District



and housing blocks of various other heights. In addition, commercial facilities and sports facilities, as well as a concert hall, were constructed. Parking space was provided underground, which made it possible to have 70% of the

site area as green open space. Here we have an appealing residential environment, a model of urban living. As of present, the project is almost complete, with 1,113 high-quality housing units. (Photo 3)

Photo 2 Work Progress in Takami District



Photo 3 Work Progress in Sakuranomiya-nakano District



## 4. Torishima District Project

In one of Osaka City's more recent large-scale residential development projects, work has begun on the Torishima District Project (Torishima Riverside Hill) in Konohana Ward. This project includes the building of a "super-embankment," and housing construction in coordination with the Osaka Municipal Transportation Bureau's facility development plans. Project know-how gathered from experience is being put to maximum effect. Because the project serves as a prototype for future housing development in waterfront areas, we will go into greater detail about it.

### (1) Project Outline

#### ① Torishima District before Development

The Torishima District is located about 5.5 km west of JR Osaka Station. To the north lies the Shin-yodogawa River; to the south lies Urban Planning Road Shorenji River North Bank Route. The site consisted mainly of 5.4 ha of disused factory land. The entire area under redevelopment covers 12.56 ha. (Fig. 1)

The District is in the land reclamation area created during the Edo Period to make way for more agricultural land.

It is said that the name Torishima ("fowl island") takes its name from the year 1669, when the reclamation started; according to the Chinese calendar, the year is associated with fowl. During the Meiji Era, there was major flooding, which prompted improvement works on the Shin-yodogawa River. The District then developed as a coastal industrial zone, mainly of heavy industries. More recently, many medium to high-rise public apartment blocks were built, making the area a mixture of housing and supply and processing facilities.

#### ② Project framework

Part of the former industrial site of 5.4 ha, the core of the development project, was earmarked as the relocation site of the Osaka Municipal Transportation Bureau. The remaining land was acquired by the City of Osaka and the Housing and Urban Development Corporation for housing construction. Using the upper level of the Transportation Bureau site, an artificial foundation was created (first floor = bus depot), enabling Osaka Municipal Housing Corporation to build housing and thereby generate a total of some 1,100 new housing units for the District as a whole. (Fig. 2)

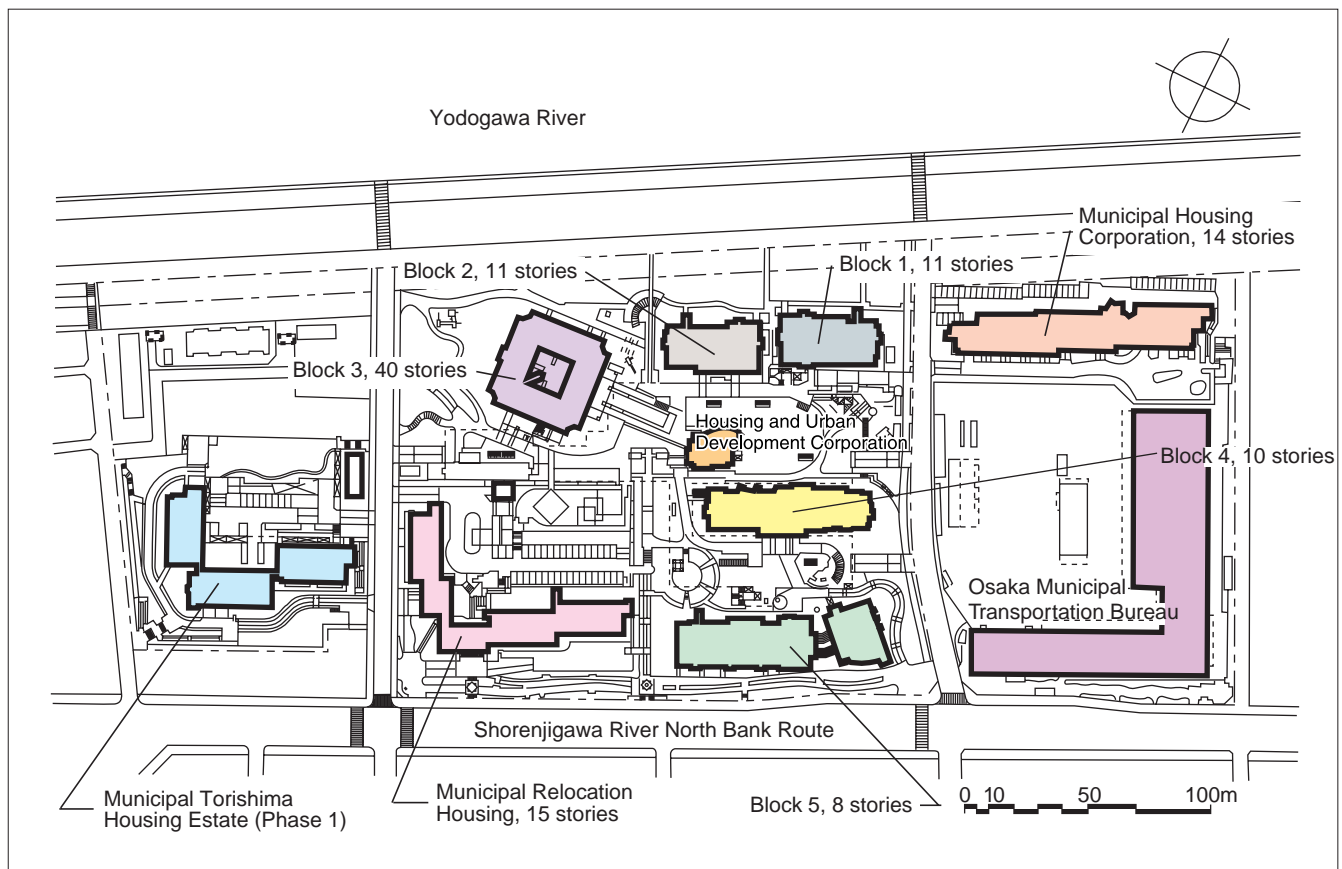


Fig. 2 Torishima District Project Plan

In December 1993, a basic agreement for embarking on the project was concluded among the main project participants, who drew up the Torishima District Project Basic Concept, in line with which each project body is proceeding.

Within the District are Relocation Housing (housing for temporary removal, 216 units) to be provided by the City of Osaka. On the western edge of the District is the Municipal Torishima Housing Estate, whose rebuilding is planned, along with three other public housing estates in the surrounding area (total 700 units).

## (2) District Redevelopment

### ① Redevelopment aims

Making use of adjacency to the Yodogawa River waterfront, the project aims to create “a town of scenery” and “urban waterfront housing.” Not only is the project the creation of a pleasant and fulfilling living environment, it is also the torch bearer for new town creation for its neighboring areas. As well, parallel construction of the “super-embankment” project and Yodogawa River Park promises a vast new landscape for Osaka.

### ② Development plan concept

#### a) Active use of super-embankment

The Super-embankment Project (high specification embankment project) is a national project devised to protect large cities from flood damage. In particular, it is aimed at large rivers in and around Tokyo and Osaka.

Ground improvement is being conducted as necessary, large-walled embankments of low gradient (about 1/29) being constructed for greater disaster prevention effect. Furthermore, waterfront views will be exploited in greenery generation, producing a pleasant waterside environment where housing and rivers come together. (Fig. 3)

The Project will make use of the difference in ground levels created by the building of the super-embankment to build an underground car park, freeing aboveground space for wide parkland and greenery. Pedestrians and autos will be separated. The area will be a safe and people-friendly living environment adjacent to the waterfront.

#### b) Project integration with waterfront park

Yodogawa River Park is planned for along the Yodogawa River to the north. There will be continuity between the park and the proposed housing, creating a water-friendly space along the waterfront that is unified and spacious. Along the embankment, greenery will be provided to integrate with the River Park.

#### c) Urban landscaping

A tree-lined boulevard will be laid out along arterial roads, providing greenery and a buffer zone, and creating an attractive landscape for the community.

#### d) Outdoor space

Maximizing the advantages of a joint development project, a diverse and rich outdoor environment will be created.

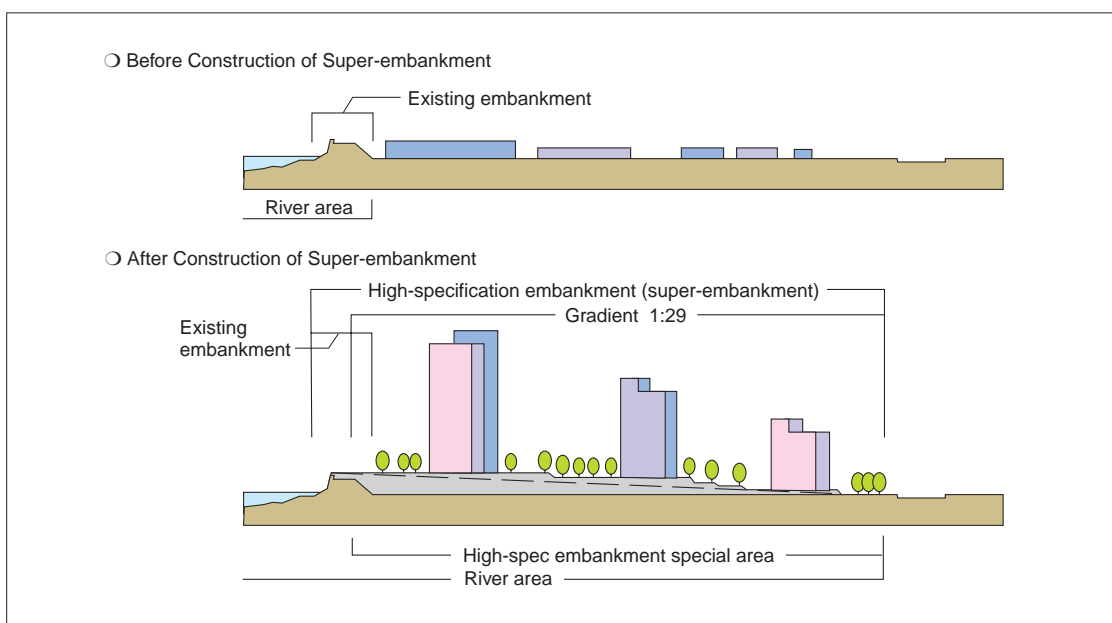


Fig. 3 Super-embankment Completed Image

e) Building siting to create varied landscape

By usefully deploying housing blocks of diverse height (medium and high rise, skyscraper) and shape (cuboid, tower, wing formation), etc, an architectural design master plan rich in continuity and variety will be unfolded, forming a skyline resembling a “wave,” which is the theme of this District. The entire District is designed to form a new landmark in the landscape.

③ Facilities

From March 1994, the Kinki Construction Bureau, Ministry of Construction has been building the super-embankment. Together with the reconstruction work carried out on the Yodogawa left bank dike, which was damaged by the Great Hanshin-Awaji Earthquake of January 1995 (completed March 1996), a highly disaster-resistant embankment is now under construction.

To be located in the project area are 7 new housing blocks totaling 1,123 units, 1 rebuilt block of 200 units, and the Transportation Bureau buildings. Each of these is detailed in (Table 1).

So far, the Osaka Municipal Transportation Bureau’s bus office and vehicle plant, and Osaka City Regional Relocation Housing (216 units) are already complete. Rented housing being built by the Housing and Urban Development Corporation (Phase 1, 133 units) is due for completion in March 1998; housing by Osaka Municipal Housing Corporation and the Housing and Urban Development Corporation (Phase 2) is under construction. Rebuilding work on the Municipal Torishima Housing Estate on the western edge of the district (Phase 1, 200 units) is also underway. (Fig. 4)

Table 1 Facilities Data

| Project Body           | Osaka Municipal Transportation Bureau | Osaka Municipal Housing Corporation | Housing and Urban Development Corporation |                       |                        | City of Osaka         |                             |
|------------------------|---------------------------------------|-------------------------------------|---|-----------------------|------------------------|-----------------------|-----------------------------|
|                        |                                       |                                     | Phase 1 (blocks 1 & 2)                    | Phase 2 (block 3)     | Phase 3 (blocks 4 & 5) |                       |                             |
| Site area              | 21,000 m <sup>2</sup>                 |                                     | 25,978 m <sup>2</sup>                     |                       |                        | 8,802 m <sup>2</sup>  | 7,917 m <sup>2</sup>        |
| Use                    | Bus office, Vehicle plant             | Rented housing                      | Rented housing                            |                       |                        | Relocation housing    | Municipal housing (Phase 1) |
| Number of units        | —                                     | 150                                 | 133                                       | 462                   | 162                    | 216                   | 200                         |
| Number of stories      | 3F                                    | 14F                                 | 11F                                       | 40F                   | 8F, 10F                | 15F                   | 15F                         |
| Total floor area       | 8,985 m <sup>2</sup>                  | 16,466 m <sup>2</sup>               | 11,039 m <sup>2</sup>                     | 44,046 m <sup>2</sup> | 15,300 m <sup>2</sup>  | 17,137 m <sup>2</sup> | 13,340 m <sup>2</sup>       |
| Number of parking lots | 135                                   | 105                                 | 455                                       |                       |                        | 130                   | 100                         |
| Construction period    | 93.7 – 95.3                           | 96.2 – 98.9                         | 96.3 – 98.3                               | 96.9 – 99.7           | Under study            | 94.3 – 96.8           | 97.3 – 99.3                 |



Fig. 4 Torishima District Completed Image Perspective

#### ④ Redevelopment method

In undertaking the redevelopment, the project was given national government subsidy as the Comprehensive Improvement Project for Urban Housing Districts (Consolidated Development-type Urban Housing Provision Project), a Regional Relocation Housing Provision Project, and a Specific-quality Rental Housing Provision Promotion Project.

Moreover, in order to achieve effective site use and integrated development of the district as a whole, the Comprehensive Design System (special rules regarding ratio of total floor area to site area, etc. of buildings with ample open space on their sites) and Treatment of buildings on one estate by integral designing are used; these are special systems based on the Building Standards Law.

## 5. Future Programs

Together with the mass provision of high-quality housing, public facilities such as roads and parks must be improved in an integrated manner. Large-scale residential development that sets out to create a quality housing area

is an effective means of promoting population influx and settlement within the city. Such projects will therefore continue to be promoted. However, in Osaka, which is almost all entirely urbanized, it is important to obtain land for such new projects.

Focus of future large-scale residential development projects should therefore be housing development through the switching of land use in low-use or unused sites, where large factories and warehouses exist in coastal zones, and in newly reclaimed land created by filling in the sea.

### (1) Large-scale Residential Development in Coastal Areas: Chikko District

There are numerous large factories and warehouses in the coastal areas, and Yodogawa and other riverside areas of the City. The use of low-use or unused land in these areas will be encouraged; in undertaking the switch, we must develop pleasant residential areas by making use of the waterfront.

One example of this is the Chikko District, located in the coastal area. In recent years, its port facilities have become antiquated or diminished in functionality, necessitating reorganization of amenities and change of land use.



Fig. 5 Olympic Village Completed Image Perspective

In light of this reality, the Port Plan for the Port of Osaka was revised accordingly. In accordance with the revised plan, the Chikko District is subject to renewal of port amenities, as well as a new large-scale residential development plan, which aims to make this project a leading model for future waterfront residential development. Deliberation is ongoing regarding this amenity-rich living environment plan, making maximum use of waterfront space and providing urban housing that meets the diverse urban residential needs of the 21st century, along with a wider perspective residential plan in conjunction with the artists village concept planned for an adjacent district.

## (2) Large-scale Residential Development on Newly Reclaimed Land: Yumeshima District

Yumeshima, a new 390 ha artificial island being created using reclaimed land in Osaka Bay, is the largest project site remaining within the city limits. Under Osaka City Comprehensive Plan for the 21st Century, Yumeshima is designated the area for promoting high-quality large-scale residential development on the waterfront. In addition to its high concentration of business and commercial facilities, a planned population of 60,000 will live here.

The City of Osaka has announced its candidacy as host city for the 2008 Olympic Games. Part of the housing to be built on Yumeshima will become Olympic Village and Media Village when the Games are held. (Fig. 5) Keeping the Olympic Games in mind, the method and policy of developing the residential area of the entire Yumeshima District will be thoroughly considered.

In undertaking all these projects, given the rising interest in environmental issues and the trend toward greater emphasis on natural environments in cities, it is essential to create an attractive city that emphasizes harmony with nature, in terms of energy conservation, resources conservation, and protection of the ecosystem.

Our aim will remain high, toward creating a city of Osaka “where everybody wants to come and live,” and we will devise many methods to achieve our goals, making a strong drive toward developing residential areas that are full of appeal and amenity.

# Nagahori Street Redevelopment Plan —Construction of Spacious Underground Complex (Underground Shopping Mall, Parking Lots, and Subway Facilities)—

Public Works Bureau  
Osaka Nagahori Development Incorporated

## 1. Introduction

This paper explains the Nagahori District Underground Traffic Network Construction Project. Concurrently with the extension of Subway #7 (Tsurumi Ryokuchi Line), originally constructed as access to the International Garden and Greenery Exposition '90, Osaka City constructed Japan's largest underground facility directly below Nagahori Street (approximately 860 m between Yotsubashi and Sakaisuji Avenues). The aim of the project was to revitalize Nagahori District through the effective use of subterranean space. Construction began in October 1992. In December 1996, the extension (Nagahori Tsurumi Ryokuchi Line) opened between Kyobashi and Shinsaibashi; May 1997 saw the opening of an underground shopping mall named "Crysta Nagahori" and Nagahori Parking Lots.

## 2. Background of the Project

Modern Osaka City developed with two major downtown centers: Kita (north) and Minami (south). Accordingly, Osaka's major traffic networks (such as Midotsuji Boulevard) also developed along a north-south axis, connecting the two downtown centers. In recent years, however, regional redevelopment became particularly vigorous in the eastern and western districts. The western district underwent several regional redevelopment programs, including the Technoport Osaka Program, other waterfront redevelopment programs, and the construction of Osaka Dome. The eastern district had such programs as the redevelopment of Tsurumi Ryokuchi Park, the venue of the International Garden and Greenery Exposition '90, and the construction of Osaka Business Park (OBP). In response to the recent redevelopment of the eastern and western districts, Osaka City planned a redevelopment project for Nagahori District, the crossing point of the north-south and east-west traffic axes. This project included construction of an underground complex comprising a subway line and stations, underground parking lots, and an underground shopping mall, together with improvement of Nagahori Street into another symbolic road of Osaka, along with Midotsuji Boulevard (Figure 1).

Nagahori Street, extending from east to west along the former Nagahori Canal (constructed in 1622), was broad-

ened in 1960 by reclaiming the canal. At that time, Osaka's first underground parking facility with two basement floors (total capacity: 838 vehicles, including those at ground level) was constructed under the road by Japan Highway Public Corporation. Since then, the facility has played an indispensable role as a rare parking space in central Osaka. As Osaka's major trunk road, Nagahori Street has supported Osaka's economic activities, as well as residents' daily lives.

Because of the recent increase in number of vehicles, however, various problems have arisen. For one thing, lines of vehicles waiting to enter the parking facility occasionally caused traffic jams. As well, citizens began to complain that the parking space on the separator marred the cityscape. To address these problems, Osaka City discussed various improvement measures for implementation concurrently with the planned subway extension. As a result, it was concluded that the parking lots on the west side of Sakaisuji Avenue (lots for 523 vehicles) should be removed, and that a new underground parking facility (capacity: 1,030 vehicles) should be constructed there.

This change necessitated the broadening of sidewalks on Nagahori Street, since new underground parking lots, as well as subway stations, would require entrances/exits at ground level, as well as space for installing ventilation ducts. Moreover, the number of pedestrians was expected to increase, since the new facilities were likely to revitalize the neighborhood. Despite this need, however, it was impossible to broaden the sidewalks, since the roadway width cannot be reduced, nor can the separator, where entries to the underground parking lots would be installed. Accordingly, the City decided to construct an underground passage for pedestrians. At a later date, it was decided that, rather than a mere underground passage, an underground shopping mall would be constructed, since the latter would ensure greater amenity and security for pedestrians.

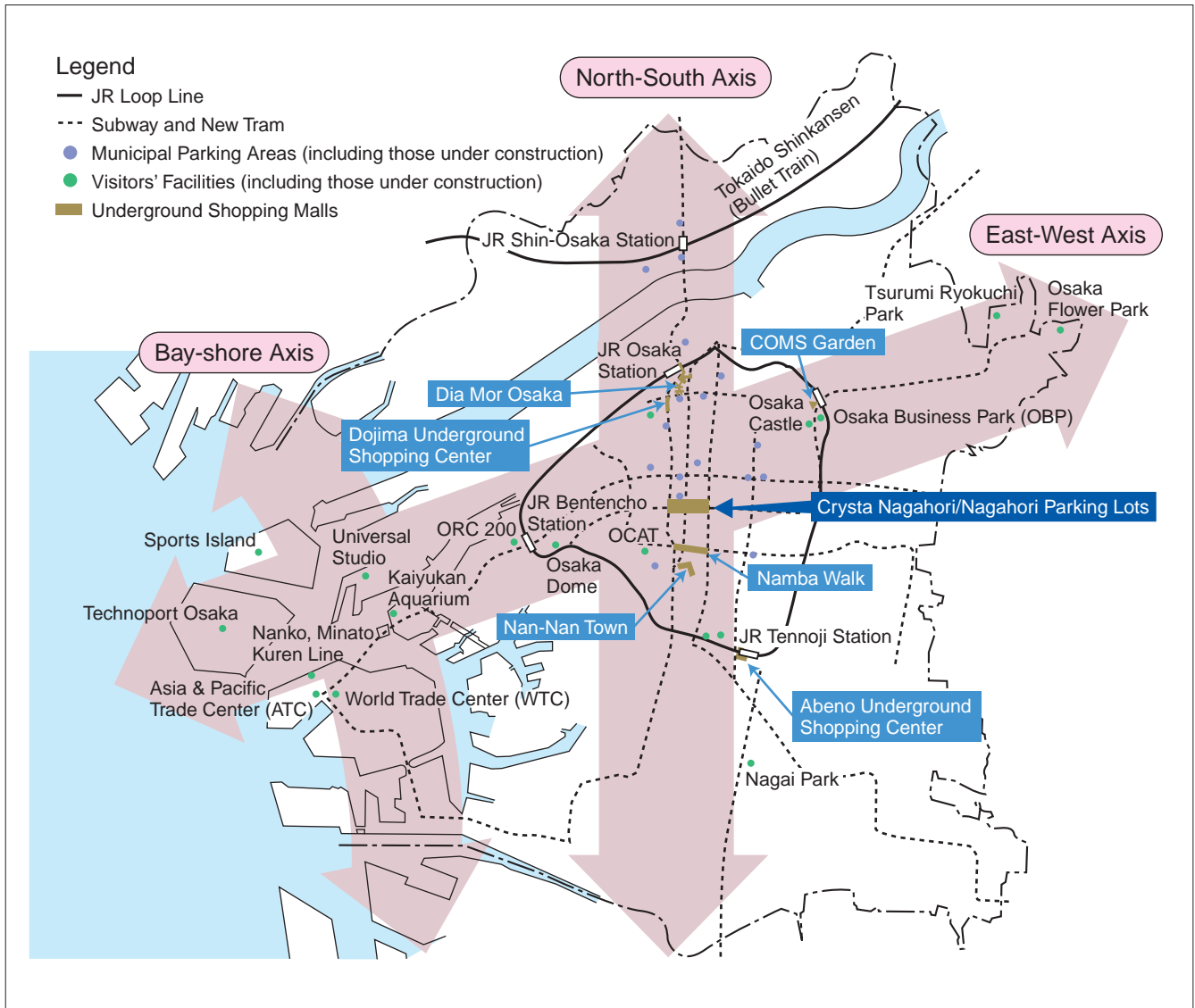


Fig. 1 Location of Crysta Nagahori/Nagahori Parking Lots

### 3. Project Outline

- ① Subway #7 shall be extended from Kyobashi to Shinsaibashi, a portion of the line running directly under Nagahori Street.
- ② An underground passage for pedestrians shall be constructed, linking Yotsubashi, Shinsaibashi, and Nagahoribashi Subway Stations. This passage shall also link sidewalks at ground level. To improve the security of and amenity for pedestrians, the passage shall be constructed as part of a shopping mall complex.
- ③ To provide greater parking space in central Osaka, Nagahori Parking Lots shall be expanded.
- ④ The landscape of Nagahori Street shall be improved and “softened.” The street shall be developed into Osaka’s other symbolic road, along with Midosuji Boulevard.

Following the thorough studies and discussions of the project in terms of facility structure, land-use efficiency,

the project’s potential impact on regional redevelopment, construction costs and period etc., Osaka City finalized a plan that integrates shopping mall, parking lots, and subway facilities. As regards the existing ground-level parking lots, the City decided to remove them, excepting those on the east side of Sakaisuji Avenue. Figure 2 shows the basic structure of the underground facility.

The major facilities are outlined in Table 1. This underground facility is Japan’s largest, in terms of total floor area. On the first basement floor is a shopping mall, with a passage 730 m long and 11 m wide (two parallel 6 m-wide-passages in one portion). The shops and restaurants total 100 (9,500 m<sup>2</sup>). On the second, third, and fourth basement floors are parking lots, with a total capacity of 1,030 vehicles. In addition, on the fourth basement floor runs the Nagahori Tsurumi Ryokuchi Subway Line. The underground shopping mall links five subway stations, including Shinsaibashi and Nagahoribashi Stations of the Nagahori Tsurumi Ryokuchi Line. The project also includes

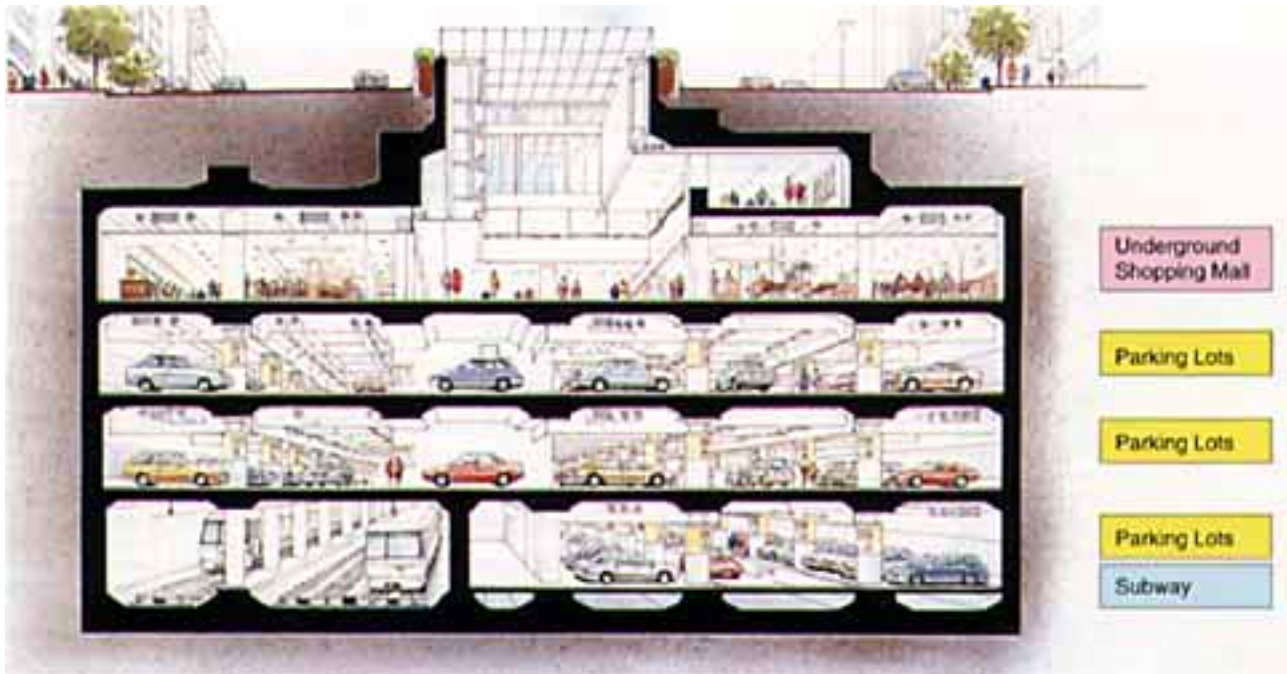


Fig. 2 Cross Section of Nagahori Street Underground Facilities

Table 1 Facilities in Nagahori Underground Shopping Mall and Parking Space

Facility Scale

| Facility   | Number (Area)         | Details  |
|--|-----------------------|--|
| Nagahori Street                                    | 860 m                 | Between Yotsubashisuji and Sakaisuji Avenues (Width: 49 m; breakdown: sidewalk: 6.5 to 7.5 m; roadway: 12 m; separator: 11 m)  |
| Underground facility                               | 81,800 m <sup>2</sup> | 4 basement floors (2 basement floors on west side of Midosuji Boulevard) 37.2 m X 750 m  |
| Underground passage                                | 730 m                 | Width: 11m (6 m in 2 portions); access road to Yotsubashi Station: 100 m (width: 5.6 m)  |
| Underground plaza                                  | 8                     | Area: 330 to 839 m <sup>2</sup> ; total area: 4,100 m <sup>2</sup>   |
| Multivision (large screen)                         | 3                     | Water-clock Plaza; Beckoning Cat Plaza; Satesta Plaza  |
| Elevator   | 9                     | 7 on east side of Midosuji Boulevard; 2 on west side of Midosuji Boulevard; 3 for business use   |
| Escalator  | 6                     | 4 on east side of Midosuji Boulevard; 2 on west side of Midosuji Boulevard   |
| Staircase  | 36                    | 13 on northern walk; 19 on southern walk (including 2 for parking spaces); 4 separators  |
| Access road to subway station                      | 2                     | One for Yotsubashi Station; the other for Nagahori-bashi Station   |
| Moving walk  | 2                     | One on the access road to Yotsubashi Station; the other directly below Midosuji Boulevard  |
| Top-light ceilings                                 | 260 m                 | Installed along Midosuji Boulevard, and around Shinsaibashi and Nagahoribashi (total length: 1/3 of the total length of the underground walk)  |
| Parking space                                      | 1,030 lots            | Osaka City (Osaka City Road Corporation) Parking Lots: 500 lots; Osaka Nagahori Development Incorporated: 530 lots (Higashi Nagahori Parking Lots: 300 lots; an independent facility located east of Sakaisuji Avenue) |
| Entrance/exit of parking lots                      | 2 for each            | A separate entrance and exit on the separator for both eastward and westward bound traffic   |
| Ticket issuing machine                             | 4                     | 2 at each entrance (2 X 2)   |
| Parking fee payment machine                        | 4                     | 2 at each exit (2 X 2)   |
| Prior payment machine                              | 18                    | At a total of 18 elevator halls on 2nd, 3rd, and 4th basement floors   |
| Road traffic information screens                   | 20                    | 20 monitoring TVs, each installed in a total of 18 elevator halls on 2nd, 3rd, and 4th basement floors, lobby, and administration office   |
| "Cooling tower"                                    | 1                     | West tip of underground shopping mall (45 m high above ground)   |
| Underground shopping mall office                   | 1                     |  |
| Cargo-handling facility                            | 3                     |  |
| Administration center (Disaster-prevention center) | 1                     |  |
| Central control room                               | 1                     |  |
| Parking lot administration office                  | 1                     |  |
| Parking lot control room                           | 1                     |  |
| <b>Total Project Cost</b>                          | 82.7 billion yen      |  |

Area of Each Facility

| Public Passage and Plazas | Parking Lots          | Shops                | Machine Room and Other Facilities | Total                 |
|---------------------------|-----------------------|----------------------|-----------------------------------|-----------------------|
| 15,700 m <sup>2</sup>     | 45,400 m <sup>2</sup> | 9,500 m <sup>2</sup> | 11,200 m <sup>2</sup>             | 81,800 m <sup>2</sup> |

| Area of Each Block of Shopping Mall |                      |                      |                      |                      |
|-------------------------------------|----------------------|----------------------|----------------------|----------------------|
| "Casual Town"                       | "Fashion Town"       | "Varie Town"         | "Gourmet Town"       | Total                |
| 2,600 m <sup>2</sup>                | 2,700 m <sup>2</sup> | 2,400 m <sup>2</sup> | 1,800 m <sup>2</sup> | 9,500 m <sup>2</sup> |
| 22 shops                            | 25 shops             | 34 shops             | 19 shops             | 100 shops            |

Table 2 List of Project Organizations and Founding Systems

| Item  | Project Organization       | Project Name                                  | Explanation  |   |
|---|----------------------------|---|--|---|
| Ground-level Improvement                          | Osaka City                 | Street Improvement Project                    | Subsidies  |   |
| Underground shopping mall                         | Public underground passage | Osaka City                                    | Street Improvement Project                                     | Subsidies   |
|   |                            | Third sector                                  | NTT-A Type Project Loan  | No-interest loan of 20-year redemption, including 5-year period of deferment      |
|   | Shops, restaurants etc.    | Third sector                                  | Loan from Japan Development Bank                               |   |
|   |                            |   | Guarantee money from tenants                                   |   |
|   |                            |   | Capital, bank loans etc.                                       |   |
| Disaster prevention and cargo handling facilities | Third sector               | Traffic Improvement Project in Central Cities | 1/3 of expenses covered by subsidies                           |   |
| Parking lots                                      | 500 vehicles               | Osaka City                                    | Toll Road Project Loan   | 40%: no-interest loan; 60%: bond  |
|   | 530 vehicles               | Third sector                                  | Subsidies for Joint Development of Private Parking Lots        | 1/3 of expenses covered by national subsidies; another 1/3 by municipal subsidies |
|   |                            |   | NTT-C Type Project Loan  | No-interest loan of 15-year redemption, including 3-year period of deferment      |
|   |                            |   | Fund Loan for Urban Improvement to Specific Private Developers | Interest loan of 20-year redemption, including 5-year period of deferment         |
|   |                            |   | Fund Loan for Road Improvement                                 | Interest loan of 20-year redemption, including 5-year period of deferment         |
|   |                            |   | Capital, bank loans etc.                                       |   |
| Slope to Parking Lot                              | Osaka City                 | Street Improvement Project                    | Subsidies  |   |

Third sector = Osaka Nagahori Development Incorporated

Nagahori Street landscape improvement plan, whose aim is to develop the street into Osaka’s other symbolic road.

Since the Nagahori District Underground Traffic Network Construction Project was extremely complicated, it involved various funding bodies and systems. Table 2 shows project organizers, funding systems, and financial resources. As is shown in the table, the project was carried out as part of the Traffic Improvement Project in the Central Cities and the Street Improvement Project. In addition, Osaka Nagahori Development Incorporated received a loan from Japan Development Bank, which had never before financed such a project. For construction of the underground shopping mall, the Corporation also received national subsidies, including an NTT-A type non-interest loan, whose principal is to be paid back from shop income. The parking lots were constructed by both Osaka City and Osaka Nagahori Development Incorporated. Whereas the former constructed a public parking space for 500 vehicles as part of the City’s Toll Road Project and the Street Improvement Project, the latter constructed parking lots for 530 vehicles. For this construction, the Corporation received various subsidies and loans, including an NTT-C type Project Loan, a Fund Loan for Road Improvement, and a Fund Loan for Urban Improvement to Specific Private Developers. The parking lots jointly constructed in 1991 by Osaka Nagahori Development Incorporated and other private enterprises also received subsidy from the Ministry of Construction. This was the

first time that the Ministry subsidized the so-called “third sector.” (Osaka Nagahori Development Incorporated, financed by both Osaka City and private enterprises, belongs to the third sector.)

## 4. Underground Shopping Malls

### 4.1 History of Underground Shopping Malls in Osaka City

Japan’s first underground shopping mall was constructed as early as in 1932 in Kanda Suda-cho, Tokyo. In Osaka, in 1947, two years after the end of World War II, a type of “underground shopping mall” appeared in front of Osaka Station. This “shopping mall” comprised shops that illegally occupied the underground passage in the post-war confusion.

During the first half of the 1950’s, large-scale underground shopping malls were constructed nationwide. In Osaka City, Namba Underground Shopping Center (now Nan-Nan Town) opened in 1957. This Shopping Center, 4,875 m<sup>2</sup> in area, had 52 shops on the first basement floor. Following the successful development of this shopping center, many more underground shopping center opened, including Umeda Underground Shopping Center (now Whity Umeda, with an area of 31,333 m<sup>2</sup>); Nakanoshima Underground Shopping Center (3,513 m<sup>2</sup>); Dojima Underground Shopping Center (7,964 m<sup>2</sup>); Abenobashi

Underground Shopping Center (9,141 m<sup>2</sup>); and Nijnomachi (now Namba Walk, 37,772 m<sup>2</sup>). Like Namba Underground Shopping Center, all these centers, located adjacent to major terminal stations, serve to facilitate ground-level traffic and revitalize the regional economy.

The underground shopping center boom, however, was suppressed as a result of the gas explosion in 1970 at a subway construction site in Tenroku, Osaka, and the great fire of 1972 that destroyed Sennichimae Department Store in Osaka. Following these two calamities, notification on underground development was jointly issued by the following four governmental agencies: the Ministries of Construction and Transport, the Fire Defense Agency, and the Metropolitan Police Department. This notification sets forth specific criteria for underground development, strictly restricting the construction/expansion of underground shopping malls. For instance, it stipulates that such facilities can be developed only in districts where ground-level traffic is extremely heavy, and where the construction/expansion of underground passage or parking lots is urgently demanded as a means of facilitating the traffic and ensuring pedestrian safety. The notification also stipulates that the construction of underground shopping malls must be discussed in advance with the governmental agencies concerned. In 1974, to facilitate liaison and communication between the City and national agencies concerned, the City established the Osaka City Underground Shopping Mall Liaison Committee. In 1980, following a gas explosion in the underground shopping mall in front of Shizuoka Station (Golden Shopping Mall, Shizuoka City, Shizuoka Prefecture), disaster-prevention regulations were reinforced, imposing still greater restrictions on the construction of underground shopping malls.

#### 4.2 Vital Importance of the Construction of an Underground Shopping Mall in Nagahori District

In Nagahori District, the number of pedestrians was expected to increase greatly, as a result of the opening of the Nagahori Tsurumi Ryokuchi Subway Line, the expansion of the underground parking lots, and the redevelopment of neighborhood areas. To facilitate vehicular and pedestrian traffic, it was necessary to separate their traffic lines, vertically if possible. In addition, surveys of pedestrian traffic lines showed that a high percentage of pedestrians circulated in this district, rather than just crossing the district from north to south, or east to west. Accordingly, it was determined that instead of mere pedestrian crossings, or underground crossings, high-quality pedestrian passage networks should be established. In addition, the construction of an underground shopping mall, rather than a mere underground passage, was decided as a way of meeting the following needs:

- ① Need to reinforce functions of the district as a transportation hub of Central Osaka

Nagahori District is a strategic transportation hub that

must be developed further along with the development of Osaka's east-west axis. The underground shopping mall would be effective in attracting more commercial, service, and cultural facilities to this node of extensive traffic networks.

- ② Need to revitalize Nagahori District

Although Nagahori District had lively commercial activities, the land-use efficiency in the surrounding areas was relatively low as compared with other downtown areas. Development of the underground shopping mall would promote highly efficient land use in the surrounding areas.

- ③ Need to ensure the security and amenity of the underground passage

A closed underground space is extremely vulnerable to crime and disaster. Turning a dangerous space into a shopping mall is effective in improving crime prevention. At the same time, it facilitates the maintenance of various systems, including lighting and ventilation, and ensures improved hygiene. Moreover, a shopping mall can amuse pedestrians' eyes with high-quality shop windows and other decorations, securing pedestrian amenity, as well as safety.

- ④ Need to reduce costs and ensure proper maintenance

The construction of public underground passages and parking lots involves tremendous costs. Integration of a shopping mall with such facilities can reduce the construction and maintenance costs of each facility, and streamline their maintenance.

#### 4.3 Construction Plans

In constructing underground facilities, the first requisite is to ensure pedestrian security and amenity. In addition, the objectives of the shopping mall "Crysta Nagahori" construction project included the requisites of constructing a "facility friendly to all visitors," and a "facility that promotes Nagahori District." To achieve these objectives, various means and devices were adopted, as explained below.

##### 4.3.1 Means of ensuring pedestrian security and amenity

The construction plan of Crysta Nagahori underground passage was determined in February 1992. In accordance with the "basic policies on the construction of underground shopping malls," passage width must be determined by the following formula:

$$W = P/1600 + F$$

W: width of underground public passage

P : estimated number of pedestrians per hour, 20 years from now

F : 2 m additional width

Twenty years from now, the number of pedestrians per hour in and around Shinsaibashi is expected to reach 11,500: ① pedestrians from east to west, or vice versa: 3,900; ② circulating pedestrians: 2,200; ③ subway passen-

gers: 1,100; ④ parking lot users: 500; ⑤ shoppers at the underground shopping mall: 3,800. In accordance with the expression above, passage width must be at least 9.2 m.

To this value, additional width was added in consideration of the following factors: pedestrian amenity; increased number of pedestrians on special occasions; and future increase in pedestrian number in the long-term view. As a result, the width of the underground passage in Crysta Nagahori was finally set at 11 m. A section around Sankyubashisuji has two parallel passages 6 m wide, running along the slope for vehicles going in and out of the parking lots on 2nd, 3rd, and 4th basement floors.

According to the “basic policies on the construction of underground shopping malls,” for the sake of disaster prevention, an underground passage must have underground plazas located within 50 m from any point along the passage. Based on this provision, the Nagahori underground passage, 730 m in length, was equipped with eight plazas, each between 330 m<sup>2</sup> and 830 m<sup>2</sup> in area, their total area amounting to 4,100 m<sup>2</sup>.

To make the shopping mall lively and attractive, it is indispensable to locate large shops of diverse merchandise lines (such as CD shops, bookstores, and sports equipment stores) that attract many shoppers and have high sales. On the other hand, however, due to the fire-prevention regulations, it is extremely difficult to locate such tenants in underground shopping malls. In November 1994, Crysta Nagahori furnished a written request for locating a spa-

cious bookstore (730 m<sup>2</sup>). In March 1997, exceptional permission was given to combine two shop spaces (400 m<sup>2</sup> and 330 m<sup>2</sup>) into one. Other means and devices to ensure security and amenity include the following:

- Staircases located within 30 m from any point of the public passage (35 staircases)
- Emergency guidance systems using sound and lights
- Ventilation outlets installed on the side of top light ceilings
- Design to permit entry of fire engines and rescue vehicles in case of fire
- Reinforced anti-seismic structure (steel pipe shoring)
- ITV cameras installed in strategic locations, including blind spots
- Round-the-clock monitoring systems installed at the disaster prevention center

#### 4.3.2 Means and devices to realize a “facility friendly to all visitors”

Under the slogan a “facility friendly to all visitors,” Crysta Nagahori installed nine elevators, seven escalators, and two moving walks, all for wheel-chair users, as well as for the general public. In addition, the shopping mall is equipped with the following devices:

- Speech location guidance systems, and information bulletins with speech guidance systems and Braille
- Guide lines for the blind comprising anti-slipping brass dots installed all over passage floors
- Information bulletin boards in four languages (Japanese,



Photo 1 Cascade Plaza in Crysta Nagahori

Korean, Chinese, and English)

- All toilets equipped with a booth for the disabled (two admit caretakers, regardless of their sex.)
- Four men's rooms, and six ladies' rooms with makeup corners and seats for babies

#### 4.3.3 Means and devices to realize a “facility that promotes Nagahori District”

To introduce as much sunlight as possible into the public passage and plazas, Crysta Nagahori uses top-light glass ceilings, approximately 260 m in total length (over 1/3 of the total length of the underground passage). In plazas, many decorations and artistic objects illustrate the past history and future outlook of the Nagahori District. For

instance, Water-clock Plaza has 100 ceramic paintings, replicas of *nishikie* (woodblock prints made at the end of the Edo Period) depicting landscapes of the district in the Edo Period. Fortune-telling Plaza has an oil painting titled “Tenjin Festival in the Edo Period,” which depicts a flotilla of elaborately decorated boats going up the Yodo River at the climax of the Tenjin Festival, the most popular festival in Osaka, the capital of waters. Satesta Plaza has a huge wall painting titled “Crystal River” by David Salle, the standard-bearer of the new painting movement, which commenced in New York during the 1980's. (Photos 1, 2, 3, 4)



Photo 2 Fortune-telling Plaza



Photo 3 Ceramic paintings of 100 Landscapes in Naniwa (Osaka)



Photo 4 Satesta Plaza “Crystal River”

## 5. Parking Space

### 5.1 Basic Plan for Osaka City's Parking Lot Construction

In Japan, rapid motorization began during the 1960's, creating great demand for parking space. In response to the constant deficiency of parking facilities, in April 1991 Osaka City decided the Osaka City Basic Parking Policies, comprising the following four major policies.

#### (1) Minimizing demand

Use of private cars shall be restricted so as to minimize the demand for parking space. To this end, the City encourages citizens, especially commuters, to use mass transportation systems, and strictly regulates on-street parking. At the same time, the City intends to improve mass transportation systems in terms of capacity, passenger convenience, and comfort.

#### (2) Increasing parking lots and promoting their effective use

The City promotes the effective use of existing parking lots. In districts with few parking facilities, the City promotes construction of new parking lots.

#### (3) Intensifying on-street parking regulation

To change the current community atmosphere, which permits on-street parking, the City requests the police and other parties concerned to intensify the regulation of illegal on-street parking, thereby forcing drivers either to use parking facilities or to refrain from using private cars.

#### (4) Improving drivers' manners

The City instructs citizens neither to commit nor permit illegal on-street parking.

To meet the demand for short-time parking for business or other purposes, the City encourages the use of by-hour parking spaces. To address the shortage of such parking spaces (spaces for approximately 7,000 vehicles are needed, even after promoting effective use of existing facilities.), the City decided to construct 3,500 public parking spaces by 2005. As of March 1997, the City had already begun constructing approximately 2,800 spaces, including 500 spaces in Nagahori Parking Lots. The remaining 700 spaces shall be constructed in accordance with a survey of the development of private parking spaces.

### 5.2 Required Capacity of the Parking Lots

From February to April 1989, the City studied parking demand in Nagahori district (a 68-ha area within the boundary 300-m north and south of Nagahori Street). This study included a survey of existing parking facilities, their use, on-street parking, and demand forecast for 2005. Based on this study, it was concluded that the parking shortage approximated 280 spaces, but would increase to approximately 550 spaces in 2005. To satisfy this future demand, the City decided to remove a portion of the exist-

ing parking lot of the former Japan Highway Public Corporation (523 out of 838 spaces), and to construct Nagahori Parking Lots with a total capacity of 1,030 vehicles.

### 5.3 Construction Plan

Nagahori Parking Lots, comprising three layers on the 2nd, 3rd, and 4th basement floors, have a capacity of 1,030 vehicles, and is operated round-the-clock to satisfy parking demand in central Osaka. The facility is linked via elevators to Nagahori Street and Crysta Nagahori. Since the lines of vehicles waiting to enter the parking lots often cause traffic jams, special consideration has been given to facilitating access to and from the parking lots. Such devices and means include the following (Photos 5, 6, 7):

#### (1) Parking lot information

Since Nagahori Parking Lots extend approximately 500 m east to west, the facility has several means of helping drivers either identify empty spaces or locate their vehicles. For instance, each basement floor has been separated into three blocks painted in different colors, with logos. To help drivers confirm an empty space from a distance, each block has a "full/empty" indicator. As well, easy-to-read signs have been installed to guide vehicles to the exit.

#### (2) Automatic number plate readers

The parking lots have introduced a new system that automatically reads number plates at the entrance gates. As well, prior payment machines are installed at 18 elevator halls. Since drivers can pay parking fees before getting in their vehicles, they can go out of the exit gate without stopping for payment.

#### (3) Traffic information service

At elevator halls and the lobby adjacent to the administration office, monitor screens are installed that offer information on the road traffic on Nagahori Street and in all of Osaka City.

To promote the use of the parking lots, as well as to improve driver convenience, a common prepaid card has been introduced, which can be used at any public parking lot constructed in accordance with the Basic Plan for Osaka City's Parking Lot Construction. However, the City failed to introduce a common prepaid card for all parking lots within the City, including those of the municipal science and art museums. The City will continue to work to unify the card standards. At the same time, it is also important to consider the unification of card machines on the national level.



Photo 5 Parking Lot (2nd basement floor)



Photo 6 A Prior Payment Machine and Traffic Information Monitor Screen



Photo 7 Automatic Number Plate Reader

## 6. Outline of the Ground-level Improvement Plan

Following the completion of Crysta Nagahori and Nagahori Parking Lots, Osaka City is currently engaged in the Nagahori Street improvement project, to develop the street into Osaka's symbolic road. In this on-going project, the City intends to improve urban amenity by creating landmarks and a pleasant road that will be loved by citizens.

### 6.1 Basic Concepts

#### (1) Reevaluation of Osaka's history

From the time of its construction in 1622, the former Nagahori Canal played an indispensable role in Osaka's transportation, connecting the Kizu River, a gateway to Osaka from the sea, with the Yokohori River. However, due to the rapid motorization that began in the 1960's, the Nagahori Canal was no longer required as a traffic artery, and was subject to reclamation, like many other rivers and canals in Osaka. In recent years, however, a movement

arose to reevaluate Osaka's history and past glory. As part of the City's redevelopment program under the slogan "Revival of Osaka as a Capital of Water," the City decided upon a project to improve Nagahori Street, developing it into Osaka's symbolic road, with water and a restored bridge.

### (2) Development of east-west axis

Blocks along Nagahori Street have different characteristics. Whereas western blocks mainly comprise public facilities and private houses, central blocks are lively with business and commercial facilities. Eastern blocks also have many business facilities. Since western and eastern sections of Osaka City have been redeveloped, necessitating the development of an artery linking these sections, the City decided to improve Nagahori Street as an east-west axis, concurrently with construction of the underground shopping mall and parking lots.

### (3) A model urban street improvement project

The portion of Nagahori Street between the Kizu River and Matsuyamachisuji Avenue is 61 m wide. The absence of high-rise buildings along this wide street creates an open and expansive atmosphere, which is very rare in central Osaka. Unlike Chuo or Sennichimae Streets, Nagahori Street is not a major trunk road in Osaka's traffic network. Accordingly, it has relatively light traffic, permitting the implementation of a redevelopment project. Meanwhile, Osaka City must urgently develop comprehensive urban environmental improvement policies to create an ideal living environment. Under the policy aimed at "Creating a Street Friendly to People and the Natural Environment," Osaka City intends to improve Nagahori Street as a model urban street improvement project.

## 6.2 Redevelopment Plan

### 6.2.1 Development of the street into Osaka's symbolic road

To improve landscapes along Nagahori Street with the aim of developing the street into Osaka's symbolic road, it is also necessary to improve the facades of various facilities facing the street, in accordance with a comprehensive district redevelopment program. This requires the cooperation of residents and other parties concerned.

Accordingly, the City formed a council comprising representatives of local residents, academicians, and governmental organizations concerned. The council discussed the redevelopment plan and landscape issues, including pavement color and designs of various road accessories. Other subjects included road maintenance and management, construction of bicycle parking space, and refuse collection methods. During the council meetings, representatives of residents agreed to impose autonomous regulations on architectural design of the buildings along the street, and to form a resident organization responsible for road maintenance. Through the council, the City successfully obtained from residents, and from other parties concerned, under-

standing of and cooperation with the redevelopment plan.

### 6.2.2 Restoration of Shinsaibashi Bridge

The Shinsaibashi Bridge, originally constructed in 1622, was named after its builder: Shinsai of Minoya Okada. The bridge subsequently underwent a number of reconstructions; in 1873, a bow-shape iron truss bridge was imported from Germany. (Photo 8) In 1909, it was replaced with a stone bridge comprising two arches. (Photo 9) The stone was high-quality granite quarried in Ehime Prefecture. Citizens of Osaka called it "*Megane bashi* (eyeglasses bridge)," and long loved this Western-style bridge with its superb and elegant design. In the corners of the bridge were gas lamps, whose reflection on the river surface further enhanced the landscape around the bridge.



Photo 8 Shinsaibashi Bridge in 1873



Photo 9 Shinsaibashi Bridge in 1909

Recently, Osaka City decided to restore Shinsaibashi Bridge, and to repair the gas lamps that were still there. For the bridge pillars and railings, the stones originally used for the bridge constructed in 1909 were used again. To reproduce the stream of the Nagahori Canal, water has been led to run above the top-light ceilings of the underground shopping mall. Osaka's gas service began with the installation of the gas lamps on this bridge; today, only Shinsaibashi Bridge has gas lamps still in use.

## 7. Conclusion

The Nagahori District Underground Traffic Network Construction Project was implemented with the following three basic policies: construction of safe and comfortable facilities; facilities friendly to all visitors; and facilities that promote Nagahori District. The construction of Crysta Nagahori and Nagahori Parking Lots took only five years, because [1] the City obtained generous support and coop-

eration from residents; and [2] the project was funded by several organizations concerned.

On the other hand, large sums were and still are necessary for construction, maintenance, and operation of underground facilities and ensuring security and amenity for all visitors. Strict regulations imposed on construction of underground shopping malls also necessitate additional costs. Accordingly, the City intends to request the deregulation of related laws. At the same time, the City will continue to work to promote the use of the underground parking lots.

Finally, Osaka City would like to express its sincerest gratitude to the Transportation Bureau and to contractors that undertook the construction work, local residents who rendered generous support and cooperation, and related governmental agencies, especially the Ministry of Construction.

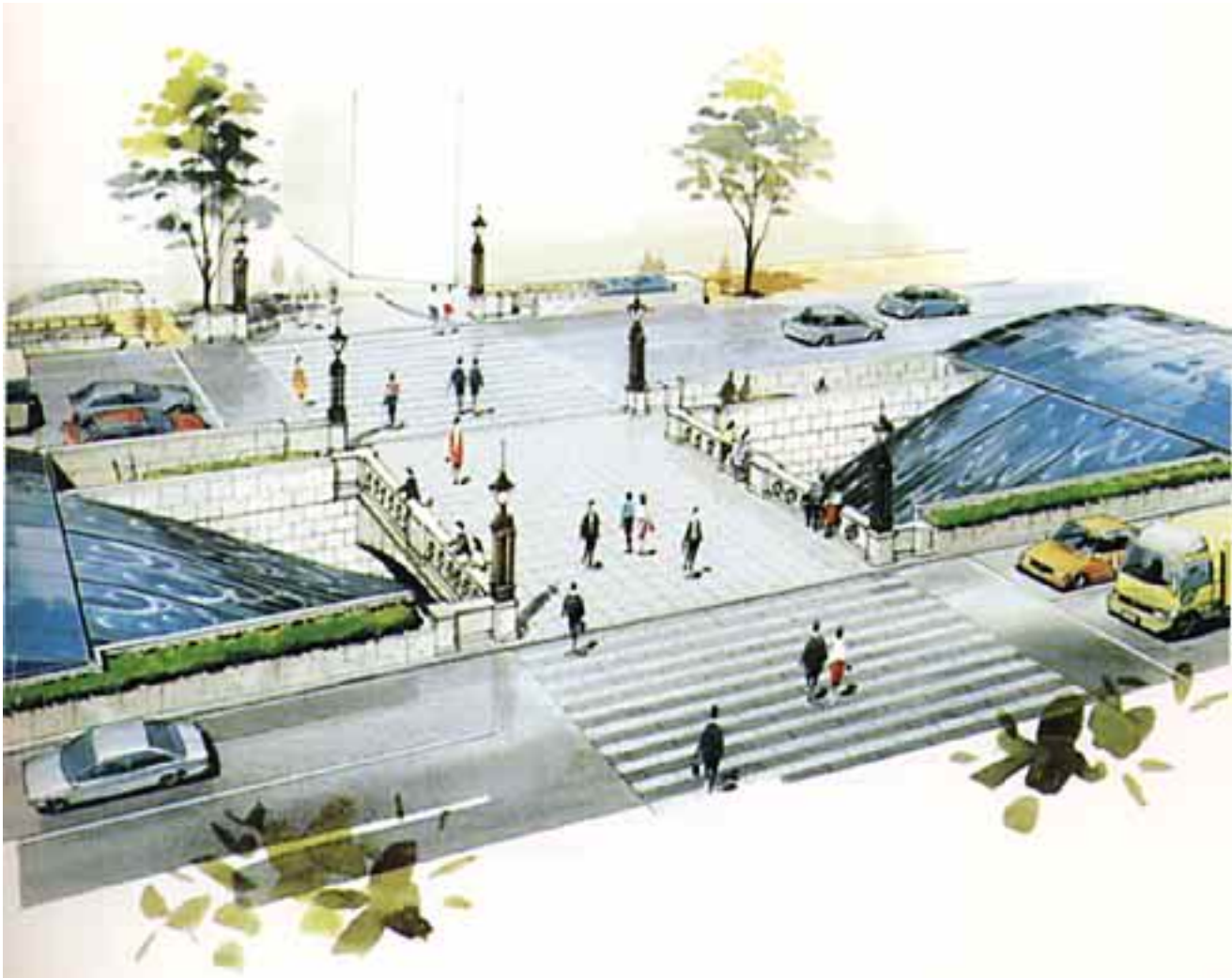


Fig. 3 Current Shinsaibashi Bridge Modeled after Bridge Constructed in 1909