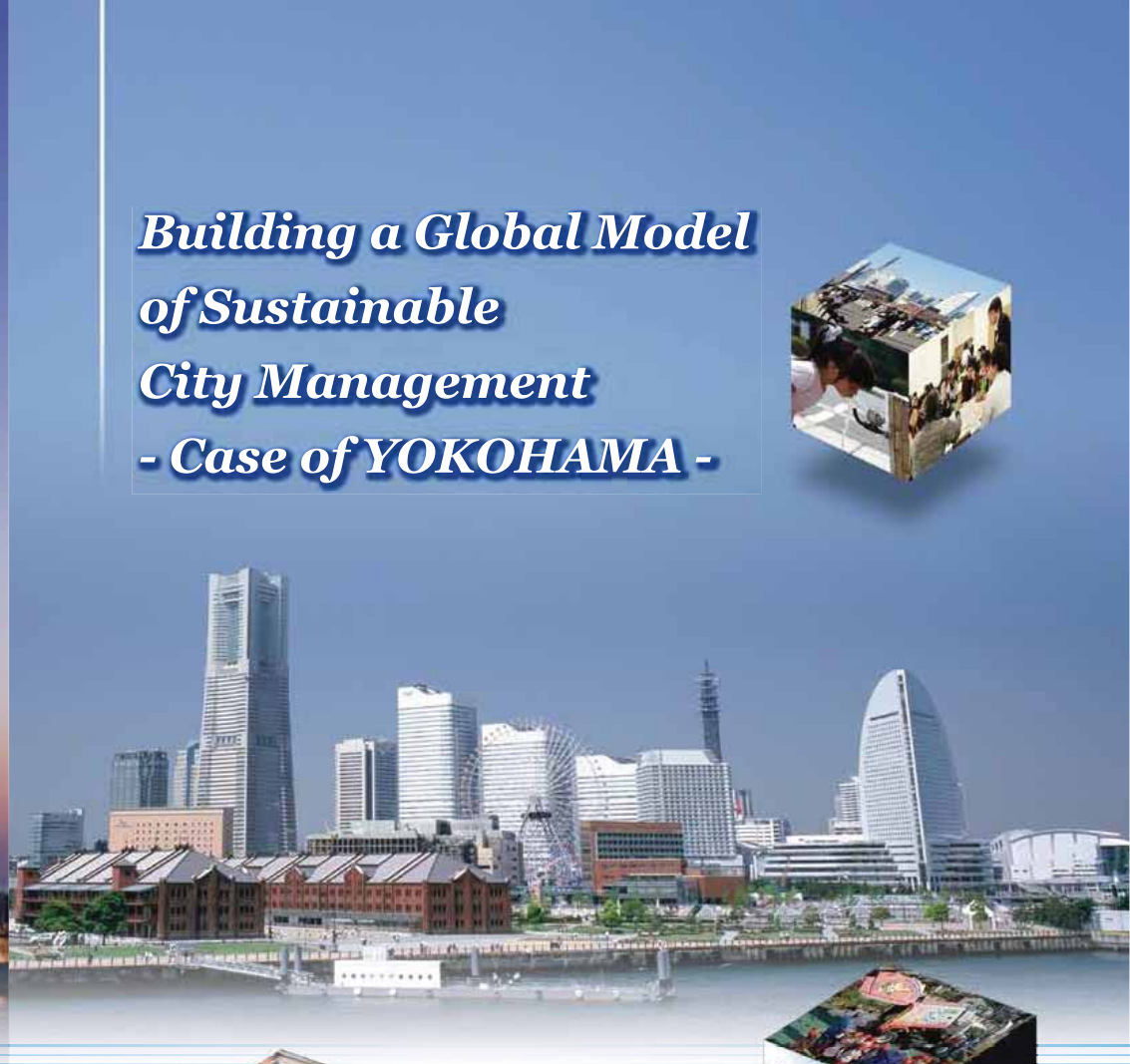


Building a Global Model of Sustainable City Management - Case of YOKOHAMA -



Japan International Cooperation Agency
<http://www.jica.go.jp/english/index.html>



International Technical Cooperation Division, Policy Bureau, City of Yokohama
<http://www.city.yokohama.lg.jp/seisaku/kyoso/yport-e/>

Published October 2013



Messages

Urban population in developing countries in 2010 quadrupled from the figures in 1970, indicating that around two thirds of the world's population growth happened in cities located in developing countries during the past 40 years. Furthermore, cities have become an important place for socio-economic activities, leading a country's economic growth, and looking at Asia, approximately 80% of the region's overall goods and services were produced in cities, as of 2008.

Nevertheless, the results of developing countries' economic activities and concentration of population in the urban area have their negative aspects. We can see in the rapidly growing issues of lack in urban infrastructure, deterioration of the urban environment and the growing number of urban poor. The importance of sustainable urban development is increasing more than ever.

Many of the current issues faced by cities in developing countries are the same as what Japanese local governments were confronted with and overcame through the continuous efforts and measures of the people involved during the period of high economic growth. A wide range of extremely useful experience and knowledge have been accumulated in Japan and can be applied to the urban development of developing countries.

The City of Yokohama has proactively engaged in international cooperation projects for providing solutions to developing countries' urban issues. It applies its knowhow gained through the City of Yokohama's "Urban Development", consisting of the 6 strategic projects that characterize Yokohama. In 2011, it signed the Comprehensive Partnership Agreement with JICA, becoming the first Japanese local government to execute such an agreement.

To realize our Vision of "Inclusive and Dynamic Development", one of the 4 Strategies is "Promoting development partnerships". JICA aims to promote its development assistance in a global community through partnerships with a wide range of stakeholders, including Japanese local governments. As part of this initiative, we have recently analyzed and summarized the City of Yokohama's knowledge and experience and produced this brochure to serve as a reference tool in international cooperation.

I sincerely hope that this brochure will contribute to the sustainable growth of cities in developing countries, promote cooperation among local governments and cities, and at the same time, lead to Japan's growth in future.

October 2013

Akihiko Tanaka
President

Japan International Cooperation Agency



Yokohama City has faced various environmental issues resulting from rapid industrialization and growth of population upon its growth to become a mega city with a population of 3.7 million. The city has managed to overcome such urban issues, and together with its citizens, the city has always aimed to realize a safe and comfortable city, accumulating sophisticated industrial functions, pursuing strategic urban management, and providing high-standard infrastructure and urban services.

Grounding on such experiences, Yokohama City has promoted international cooperation through sister cities/ partner cities, CITYNET, etc. with cities in other countries. To further pursue international cooperation, Y-PORT (Yokohama Partnership of Resources and Technologies under Public-Private Partnership) was launched in 2011, and in October in the same year, Yokohama City also became the first city to conclude a partnership agreement with JICA.

It is deemed that readers of this brochure, likewise Yokohama City, are facing various urban issues today. However, there is no universal solution to such issues, and the reality is that each issue must be solved in the context of each city, utilizing the technology of the private sector. Hence Yokohama City's approach may not be directly applicable to the cities of each reader, but nevertheless, it is believed that sharing our experiences and know-how will lead to overcoming various urban issues of each city.

Yokohama City will continue to serve for the further development of various cities and the improvement of civic lives through Y-PORT.

October 2013

Fumiko Hayashi
Mayor

City of Yokohama



Overview

Towards a sustainable city management...

Today, we are in the “Age of Cities”. City is the key driver of economic, cultural and societal growth of a country. Yet, it is also within city where we face numerous urban issues taking place everyday. City is in a position to think and work proactively to bring about urban solutions, listening carefully to the citizens urgent and long-term needs.”

Challenges in today’s cities

Urban Issues of Emerging Cities P.6-7

Emerging cities in today’s world faces numerous urban issues. Rapid economic and population growth have led to congestions, pollutions, and scarcity of social and economic infrastructure, degrading quality of people’s life and accelerating vulnerability to natural disasters. How can cities enforce an appropriate urban management to cope with these challenges?

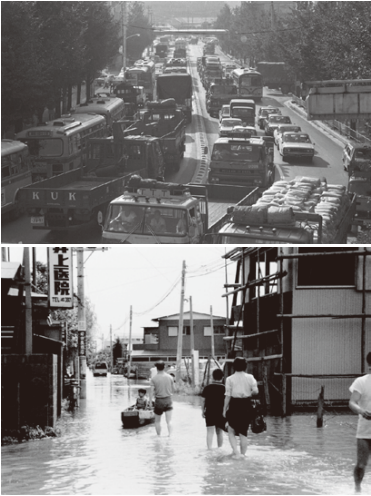


Source: JICA Study Team

Yokohama City faced the urban challenges, yet has transformed itself to address these issues together with its citizens

Yokohama City in Brief P. 8-9

Yokohama also experienced the significant urban issues in the past when a strong economic growth took place and population increased dramatically in the city. In order to cope with the issues, Yokohama introduced various development projects and regulative measures, each of which were designed to ensure integration with other measures and consistent and long-term implementation, as well as active participation of citizens and private sectors. As a result Yokohama has transformed itself from a degrading suburban residential town into an eco-friendly, livable city with a strong economic base.



Source: Yokohama City Historical Reference Room

Yokohama’s experience, or the “7 approaches” to achieve the sustainable growth, can bring a new perspective for city governors and urban planners around the world

The “7 Approaches” for Sustainable City Management P.12-27

Similar to what emerging cities in the world face nowadays, Yokohama also experienced significant urban issues from the 1960s through the 1980s, when strong economic growth took place and the population dramatically increased in the city. The experiences of challenges to urban issues can be shared with other cities around the world for sustainable development. Yokohama’s experience, or the 7approaches we took to achieve the sustainable growth, can bring a new perspective for city leaders and urban practitioners and planners around the world.



Source: Urban Development Bureau, City of Yokohama Source: Environmental Planning Bureau, City of Yokohama



To be a partner with your city

International Cooperation of Yokohama City P. 28-31

The City of Yokohama is actively promoting international cooperation among cities in urban development. Through its new international cooperation program, Y-PORT (Yokohama Partnership of Resources and Technologies), the City aims at bringing out not only the City’s own expertise but also those of private sector firms. Yokohama will continue to work together with cities in emerging economies to achieve sustainable urban development of the world.



Source: Policy Bureau, City of Yokohama

Source: Waterworks Bureau, City of Yokohama



Source: Yokohama Convention and Visitors Bureau, City of Yokohama

Uncontrolled Expansion of Urban Areas



The density of urban areas has been increasing and urban areas have been spreading as people seek employment, education and urban services in cities.

How can cities promote and control urbanization with environmental preservation, infrastructure development and land use management?

Traffic Congestion



Because of a lack of transport infrastructure, public transportation and traffic management, increasing traffic volume has caused large economic externalities, air pollution, social destabilization, worsening mobility and accessibility. How can cities develop transport networks integrated with land use and provide better transportation services?

Threat to Economic Competitiveness



Inefficient socioeconomic activities cause low productivity, lack of employment and investment opportunities and a drop in tourism. While private investment has been promoted under economic development and globalization, how can cities promote competitive economic activities in a sustainable manner?

Widening Infrastructure Gap



Development and provision of infrastructure cannot meet the demand of an increasing population because of a lack of facilities, management capacities and low technologies. While resources and capacities are limited, how can cities expand infrastructure development and provide effective services?

Urban Issues of Emerging Cities and City Regions

Emerging cities have faced complex issues that affect each other, such as traffic congestion, worsened living environments, increasing disasters, lack of urban infrastructure and services, pollution, erosion of nature, etc.

While effective measures and solutions are delayed, the centralization of population and motorization have accelerated, and these urban issues have become more serious.

Yokohama City has experienced and addressed these issues.

“Urbanization will continue, accelerate, and is irreversible.”

The role of cities is becoming more and more important as an engine of economic growth, center of quality services, information, knowledge, cultural interchange, etc. Competition among cities is becoming fiercer not only at the international/regional level but also within a country.

Vulnerability to Hazards and Risks



Both urban and rural areas are vulnerable to flooding, landslides, and the need for disaster management of earthquakes, tsunamis, rising sea levels, etc. At present, land-use management, disaster measures and raising awareness of citizens are still lacking.

How can cities strengthen present disaster measures, and preparedness for possible future risks?

Degrading Living Environment

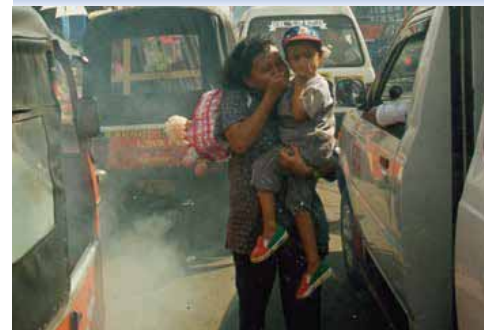


The living condition of urban areas has worsened in terms of safety, sanitation, convenience and amenities.

The lack of urban infrastructure, land use management, housing policies for low-income groups cause these problems.

How can cities provide appropriate policies and measures for housing, improve living environments of built-up areas and develop new towns?

Pollutions



Worsening pollution such as air, water, soil and noise, vibration, etc. have affected living environments and health.

These are caused because of lack of effective measures, inappropriate land use, location of industries, and traffic management, etc.

How can cities take measures against pollution?

Difficulties in Urban Management



Urban problems have become more acute and sustainable development has been threatened because of the lack of capacities of urban planning and management, inappropriate institutional frameworks, lack of finances, corruption and red tape.

How can cities manage and guide urban development with public participation and consensus?

Yokohama is the second largest city in Japan, home to a population of 3.7 million people. Today, Yokohama is one of the prime international ports in Japan and has long led the country's development in heavy industry. Simultaneously, the city has become one of the most livable cities in the world and is well known in Japan as a popular place for people to live because of its high-standard living environment and good accessibility to Tokyo, as well as between the city center and its residential suburbs.

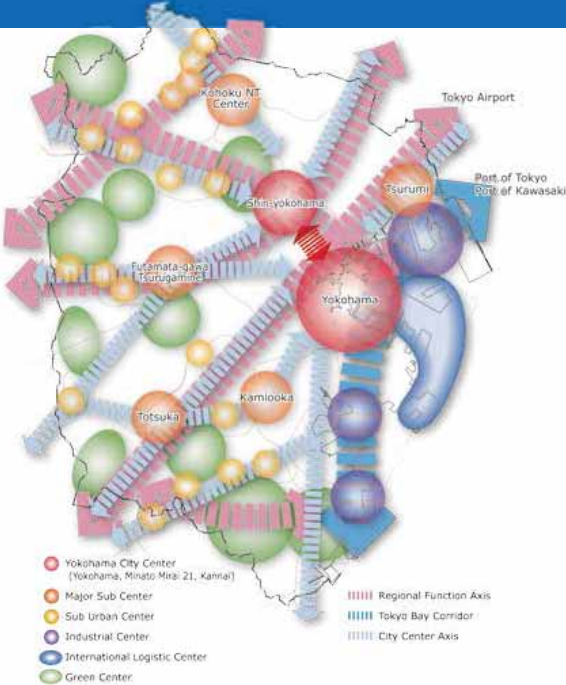
Yokohama is a chosen destination for tourism by both local and foreign tourists due to its rich history, vibrant culture, and the availability of various entertainment facilities.

There is a long way to go, however, to be an internationally competitive and livable city.



Yokohama City in Brief

The exquisite urban environment of Yokohama City is a result of coordination and cooperation between the city government and citizens during its long 150-year history.



Main Indicators of Yokohama City	
Population	3.69 million (2011)
Population Density	8,491 people/ km ² (2011)
% of Pop. over Age 65	19.6 % (2009)
Land Area	434.98 km ² (2010)
Green Space Ratio	29.8% (2009)
Gross City Product	12.77 trillion JPY (2008)
Citizen's Income	3.101 million JPY/ capita (2008)
% of Public Transport	42.7% (2008)
Registered Vehicles	1.3 million, 0.84/ household
GHG Emission	5.18 ton/ capita (2009)
No. of Tourists	24.8 million (2012)
No. of MICE Events ¹⁾	47 (2010)
Livable City Ranking ²⁾	1 st (2011, 2012)

1) Medium to large scale international events (more than 300 participants of which over 50 are foreigners)
 2) Among 47 prefectures in Japan (source: SBI Life Living)
 Source: Y-PORT pamphlet, City of Yokohama

Opening the Port and Modernization



After opening the port in 1859, it became an international trading city as a gateway of western culture and modern technology.

Recovery from Earthquake and War Damage



After the war in 1945, most of the city center was destroyed, and financial and commercial facilities were expelled from the city because of condemnation, so economic activities were hindered.

Rapid Population Growth and Urbanization



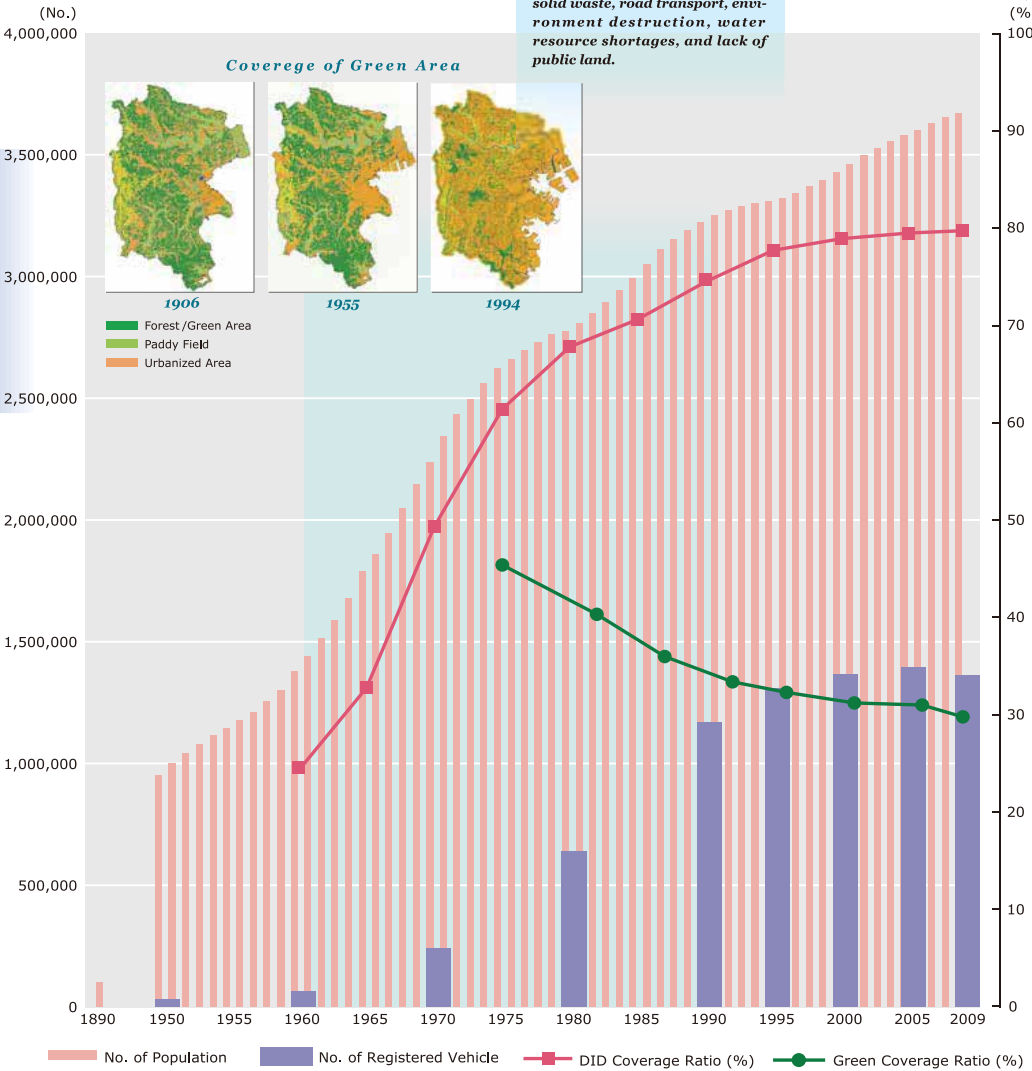
Yokohama became a bedroom town for Tokyo when a strong inflow of population took place in Tokyo. Rapid population growth and urban sprawl caused various urban problems, which was called the "5 big wars" : solid waste, road transport, environment destruction, water resource shortages, and lack of public land.

Innovation for Sustainable Development



Yokohama today works on continuous innovations and experiments to cope with the new urban issues of globalization.

Source of Photos:
 Yokohama City Port Opening Memorial Hall (1),
 Yokohama City Historical Reference Room (2,3),
 Yokohama Convention & Visitors Bureau (4)



Source of Maps: Yokohama Environmental Science Research Institute, Environmental Planning Bureau, City of Yokohama
 Source of Data: Statistic Data of City, Yokohama

Similar to what emerging cities in the world face nowadays, Yokohama City also experienced significant urban issues from the 1960s through the 1980s, when strong economic growth took place and the population dramatically increased in the city. The City Government, which complies with requests and demands of citizens directly, must formulate plans with a long-term perspective. In 1965 when Yokohama City had faced various urban issues, Yokohama's goal to be the "International Cultural Management City" was formulated, which integrated the historical development background of a port city, an industrial city and a residential city.



Source: JICA Study Team based on "Urban Development of Yokohama", General Affairs Bureau, 1965

Approaches to Sustainable Urban Development

Yokohama's experience, or the "approaches we took to achieve sustainable growth, can offer a new perspective for city governors and urban planners around the world.

In order to cope with the issues, Yokohama introduced various development projects and regulative measures, each of which were designed to ensure integration with each other, consistent, long-term implementation, as well as active participation of citizens and private sectors.

By calling for collaboration with the National Government, private sectors and citizens for planning and implementation, Yokohama City has provided public services and facilities to attain policies and targets for urban development.

Yokohama today forges ahead with continuous innovations and experiments to cope with the new urban challenges.

The experiences of challenges to urban issues can be shared with other cities around the world for sustainable development. Yokohama's experience, or the 7 approaches we took to achieve the sustainable growth, can bring a new perspective for city governors and urban planners around the world.

Examples of Target Benchmarks of Urban Development

- **6 Strategic Projects** for strategic infrastructure development
- **190,000 employment** in Minato Mirai 21
- **300,000 population** of 2,500ha in Kohoku New Town
- **30%** waste reduction target of G30 Plan
- **15 minutes** accessible from home to nearest station
- **Less than 30 minutes** accessible to urban center
- **100% service coverage** of sewerage system
- **Zero children** on waiting list for child care support

Building Basic Urban Structure through Integration of Strategic Projects



Urban Development Management through Regulations and Guidance



Enhancing the Attractiveness of the City through Urban Design and Town Management



Private Sector and Citizen's Participation



Building a Resilient City through Comprehensive Disaster Prevention



Providing 24-hour Lifeline for All Citizens



Continuous Innovations



Building Basic Urban Structure through Integration of Strategic Projects



Source: Urban Development Bureau, City of Yokohama

Strategic Project-Based Approach

Yokohama in the 1960s and 1970s, during which strong economic growth took place in Japan, faced serious urban issues, which were correlated with each other intricately. Rapid economic development in Tokyo resulted in urban sprawl and land development of neighboring suburban areas including Yokohama City. Population growth in this period was 5-10% per year, which was much higher than other metropolitan areas in Japan at the time.

This rapid urbanization caused a lack of urban infrastructure and services, traffic congestion, pollution and insufficient social services, etc. Furthermore, the local budget was limited in providing sufficient urban services and facilities to meet increasing demand. Yokohama City decided to solve these issues drastically by implementing strategic basic infrastructure projects,

which would formulate a massive urban structure, which was similar to the backbones and organs of people. “6 Strategic Projects”, composed of 3 urban development and 3 transport development projects, were elaborated projects that were closely linked to each other.

Furthermore, the comprehensive project implementation process called for involvement of various stakeholders, not only city government but also national government, the private sector and citizens. A shared vision and clear project images mobilized and vitalized these stakeholders to work together for implementation.

These major projects required a large amount of funding, which Yokohama City alone had no way to cover on its own. Instead, Yokohama chose to share the financial burden with other stakeholders, such as the national government and the private sector. Yokohama’s proactive proposals successfully pushed the national

government to implement the proposed projects by using the national budget, which was a pioneering case for city governance in those days.

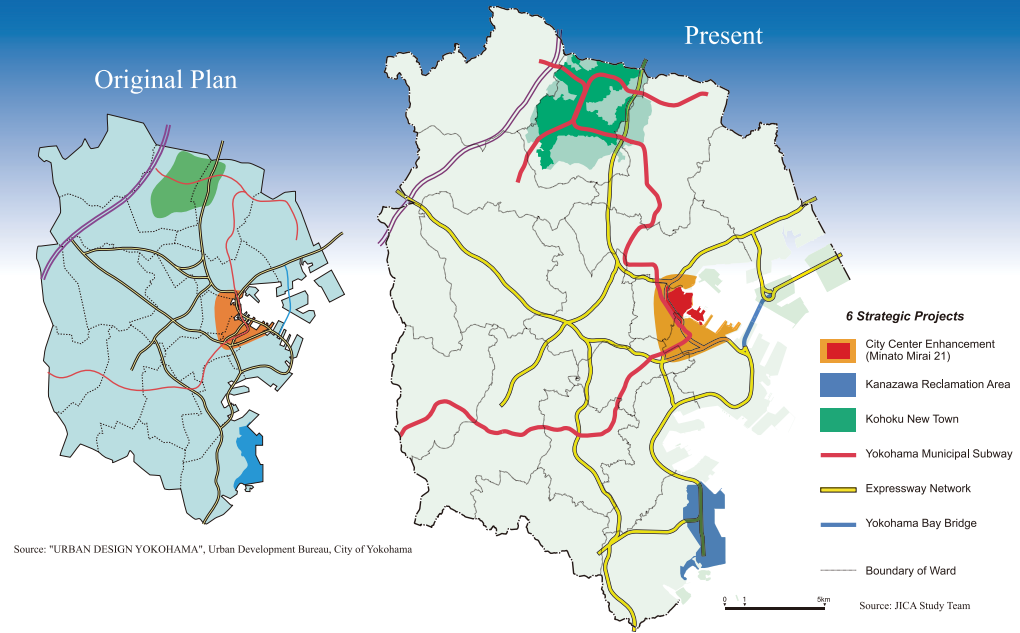
Yokohama also facilitated private investment by establishing partnerships with private developers and encouraging their participation in the projects. The city issued both domestic and foreign currency bonds that were guaranteed by the national government.

Synergy Effects and Integrated Projects

The six projects were originally integrated, supporting and enhancing the functions of each other and had synergistic effects. Such large-scaled, mutually connected projects were essential in establishing the foundation for the development of the city as a core economic center as well as a comfortable, livable city for the entire citizenry.

Providing a Functional Foundation for the City’s Development

The 6 Strategic Projects



Elements of “The 6 Strategic Projects”

Minato Mirai 21 and other City Center Enhancement

Creating new business, commercial & cultural centers as the City’s economic driver

Subway Network Development

Connecting city centers and suburbs by public transport network

Kanazawa Reclamation

Creating an eco-friendly industrial zone to which factories relocate and create good environments for workers, residents and visitors

Expressway Network

Distributing goods and people by formulating a trunk road network as the backbone of the City

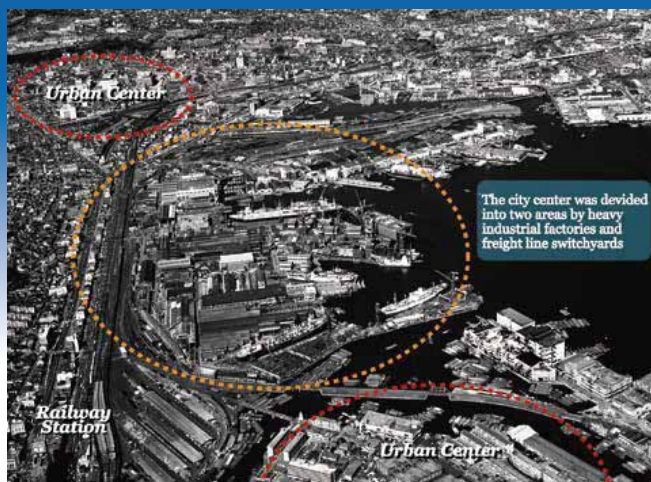
Kohoku New Town

New town development with independently enjoy urban services by connecting to the urban center of Yokohama by subway

Yokohama Bay Bridge

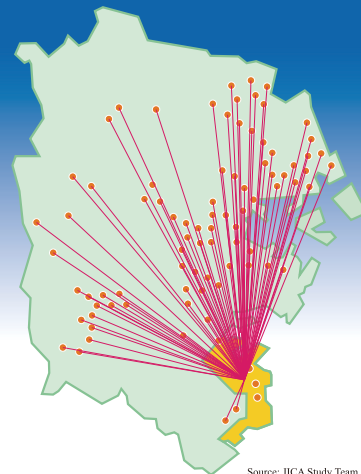
860m bridge for goods transport, also served as a monumental icon for the waterfront city center

The City Center Enhancement Project - Aerial Photo before Project



Source: JICA Study Team based on photo of Amano Studio

Kanazawa Reclamation Project - Relocation of Factories to Kanazawa Industrial Zone



Source: JICA Study Team

Area Developments for Improving Economic Functions & Livable Environment

1) “Minato Mirai 21 (MM21 or Future Port for 21st Century) Project”, the waterfront rejuvenation project, created a revitalized business and cultural center in the waterfront zone, which is today attracting a number of global firm offices, shops, museums, MICE events, and tourists from around the world.

City center enhancement projects including MM21 were aimed at strengthening the economic function of the city, in order to transform itself from a mere bedroom town for commuters to Tokyo into a new economic center that

provides employment opportunities, investment attractions, and entertainments. To create employment in the City, half the number of commuters to Tokyo at the time was set as the target number of employment in MM21 (190,000 people).

However, so much land in Yokohama City including this waterfront zone used to be dominated by heavy industries and factories in the 1960s. In order to implement the city center enhancement projects, the city conducted the 2) “Kanazawa Reclamation Project”, the 660 ha land reclamation project that provided a designated industrial zone with highly environmental-conscious designs with wastewater treatment facilities and preserved greeneries. Private heavy industrial companies decided to relocate to this area, by

utilizing vacant land for urban redevelopment projects of MM21. Nowadays, MM21 District is a showcase of Yokohama's urban development. In addition, factories that used to be scattered around the city were encouraged to relocate to this new area. The City worked on the negotiations with some of the private operators for the relocation. Their relocation improved the overall environment of the city and also created much vacant land, which was utilized creating more public spaces and facilities.

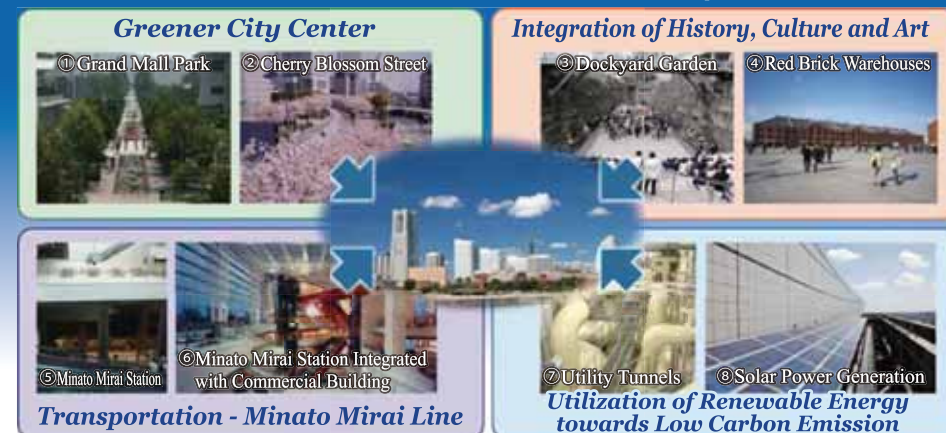
3) “Kohoku New Town Project” was developed as a planned residential area with commercial centers, public facilities and agricultural land, and is today accommodating many commuters to the new city centers mentioned above. The new town was designed to provide a

comfortable living environment while restraining the trend of disorganized, environmentally destructive construction of housing around the city. The new town offers green zones, parks, and hillside open spaces, designed to create a beautiful, livable environment for all residents.

Access Developments for Enhancing Mobility

In order to improve accessibility for these new areas and to solve traffic congestion, transport networks of 4) “subway development” and 5) “expressway development” were also implemented.

Minato Mirai 21 District: Showcase of Yokohama's Urban Development



Source: JICA Study Team based on photos of JICA Study Team (1,5), “MINATOMIRAI 21 ECO Information”, Urban Development Bureau, City of Yokohama (2,7,8), “URBAN DESIGN YOKOHAMA”, Urban Development Bureau, City of Yokohama (3,4) and Nikken Sekkei Ltd. (6)

The subway network of the City was formulated to provide public transportation services to inconvenient areas where private railway companies didn't operate.

Municipal City Subway provided a good access for Kohoku New Town to the city center of Yokohama.

Expressways were also developed. The new expressways were designed to segregate the roads for local and medium-/long-distance travel to enhance mobility of people and goods both within and around the city. Though it was originally planned to develop an elevated expressway in the city center, the City discussed with the National Government and finally decided to develop an underground expressway to preserve the

landscape and commercial functions of the city center. This is one of the experiences which the City developed transport infrastructure from viewpoint not only of traffic functions but also of overall urban development.

The City also accomplished the construction of an 860 m “Yokohama Bay Bridge” in the Port of Yokohama, mainly designed for goods transport by heavy trucks as a direct route between the portland industrial area in the City and the Tokyo area. The segregation of cargo traffic helped reduce congestion within the city, and the bridge became a new monumental icon for the waterfront area.

Kohoku New Town Project



Source: Urban Development Bureau, City of Yokohama

Yokohama Municipal Subway



JICA Study Team



Yokohama Bay Bridge

Photo by Mizuho Kuwata

Urban Development Management through Regulations and Guidelines

Housing Area where Land Formulation Guideline was / was not Applied

Housing Area where Land Formulation was NOT Applied

Housing Area where Land Formulation was Applied

Source: JICA Study Team based on the photo from "Practical Method of City Planning - A record of ten years experience of Yokohama City's Bureau of Comprehensive Planning", 1978

Effective Urban Management

Population increase rate of Yokohama City was the highest among major cities in Japan, and urban sprawl, lack of schools, parks and sewerages caused financial burdens on city budget. To solve these issues, the City initiated to manage urban development with a strong leadership, by utilizing national laws and developing city's original ordinance and guidance system, which were called "Yokohama method" to develop a comfortable living environment.

1. To analyze urban issues comprehensively
2. To develop strategies to solve issues
3. To set targets which the City should take initiatives
4. To review existing legal and institutional framework
5. To implement necessary policies and measures
6. To create new systems
7. To propose necessary improvements of systems to the National Government

Regulation and Guidance

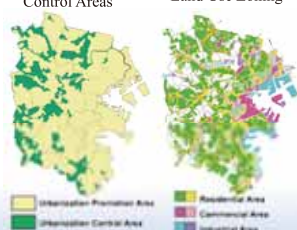
Yokohama City controlled pressures of urban development by getting the most out of national urban planning systems. To protect natural environment and to save public investment for infrastructure development, the City limited urbanization promotion area as minimum

and deliberately set relatively large portion as urbanization control area. Boundaries between urbanization promotion and control areas were set in detail respecting contour and other natural conditions. To control development pace, areas categorized as urbanization control areas were gradually converted to urbanization promotion areas as necessary.

Furthermore among urbanization promotion areas large part were set as low density residential zones to avoid high urban pressure on infrastructure due to population concentration and high density.

The City publicly announced original ordinances and guidelines to regulate and guide local government as well as private developers for appropriate urban development.

Coverage of Urbanization Control Areas Land Use Zoning



Source: Housing and Architecture Bureau, City of Yokohama

Urban Growth Boundary based on Urban Planning System in Japan

To avoid urban sprawl, development permit system was legislated to set the urban growth boundary in the amended Urban Planning Act in 1968. This boundary is to divide urbanization promotion area where development is promoted within 10 years and urbanization control area where development is prohibited.

In urbanization promotion area, zoning is set to regulate land use. In case of Yokohama City, 1/4 of entire city area is designated as urbanization control areas to preserve green areas.

Facilitation for Appropriate Development and Preservation

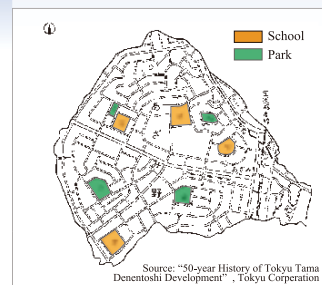
General Guideline on Housing Land Developments

While it was necessary to provide public services and facilities such as schools and parks to meet demands of increasing population by housing development, these urban facilities were not developed enough till 1965, and the Cities would face financial collapse if no actions were taken.

To request developers of large-scale urban development for providing public lands of schools, roads, parks, waterworks, etc. "General Guideline on Housing Land Developments" was formulated in 1968. This guideline was a planning standard which Yokohama City applied to appraise development plans by developers.

Based on the guideline, plans of public facilities which were not designated under the Urban Planning Act such as schools and parks are appraised, and the City requested developers to share costs of these facilities or to provide public lands for them.

In sum, Land Formulation Guideline was effectively applied to set rules between the City and developers to secure public facilities and lands and to guide urban development properly to meet planning standards.



Source: "50-year History of Tokyu Tama Denentoshi Development", Tokyu Corporation

Project Name: Land Readjustment Project in Motoishikawa Ohba Area
Period: 1969-1977
Area: 179.7ha
Implementation body: cooperative composed of a developer and land owners of the area
Application of Guideline: cost sharing or land contribution for school, park, road for public use



Elementary School



Park



District Road



Residential Road

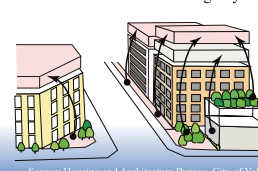
Source of Photos: JICA Study Team

Urban Area Environmental Design System

To provide incentive to private developers to participate and create better build up urban environment, "Urban Area Environmental Design System" was formulated in 1973.

Under this system private developers would get bonus in height control and floor area ratio by providing public facilities in private lands such as sidewalks, civic plaza and parking space. Through this method, the City guided and aimed at creating better urban environment with private sector participation.

Urban Area Environmental Design System

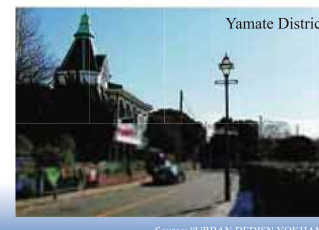


Source: Housing and Architecture Bureau, City of Yokohama

General Guideline for the Preservation of Scenic Yamate

The Yamate District, which was a Former Foreign Settlement, was successively developed with condominiums after the postwar derequisition and many Western-style buildings were subsequently lost.

"General Guidelines for the Preservation of Scenic Yamate" were then decided upon in 1972 to preserve the landscape of historic residential/educational districts in the low-rise area.



Yamate District

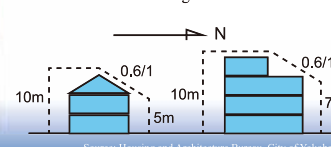
Source: "URBAN DESIGN YOKOHAMA", Urban Development Bureau, City of Yokohama

Guideline for Sun Shadow and Height District

Insolation problem occurred because of high dense of housing areas, so it was required to reduce conflicts and to regulate building height.

In addition to the Building Code, Yokohama City designated "Guideline for Sun Shadow" in 1973 to guide to restrict building shape and heights to secure sunlight for existing housings. Furthermore, north side slant line was regulated in height district.

Regulation of North Side Slant Line in Height District



Source: Housing and Architecture Bureau, City of Yokohama

Enhancing Attractiveness of the City through Urban Design and Town Management



Source of Photos: Yokohama Convention & Visitors Bureau (1,6), "URBAN DESIGN YOKOHAMA", Urban Development Bureau, City of Yokohama (2,3,4,5)

Urban Design in Yokohama

Urban design has served not only as a strategy to overcome urban issues but also to balance both convenience/economic efficiency and humane characteristics of the city such as beauty/entertainment. Hence urban design has towed the city's movements towards creating a characteristic and attractive urban environment in Yokohama.

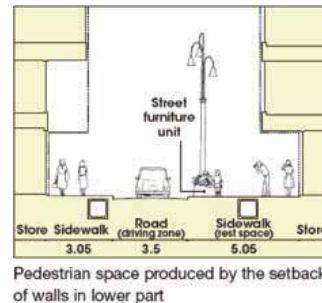
The major objectives for urban design are stipulated in the Urban Design Plan of Yokohama as follows:

1. Support and create a safe and comfortable pedestrian environment
2. Treasure indigenous natural values such as topography and vegetation
3. Preserve historical and cultural inheritances
4. Increase open space and greenery
5. Value water space such as the sea and river
6. Increase a place for mutual interaction and communication among citizens
7. Pursue formational and visual beauty within the city

Various Undertakings of Urban Design

Central Area: The formation of a Waterfront Axis (see pic 1 above) in the coastal area of the central urban area and a Green Axis that travels from inland to the sea, which are the main attractions of Yokohama. Unique urban design is also applied to Bashamichi Area (see pic 2 above) and Motomachi Area (see pic 3 above and figure on right, setback of lower levels to create space for pedestrians), both known as historical old towns in Yokohama.

Setback Image of Motomachi District



Source: "URBAN DESIGN YOKOHAMA", Urban Development Bureau, City of Yokohama

Urban Axes of the City Center



Source: "URBAN DESIGN YOKOHAMA", Urban Development Bureau, City of Yokohama

Movement to Respect Historical Values

Public Area: Major undertakings include Light Up Yokohama (see pic 4) which commenced in 1986 with the purpose of effectively revealing characteristic assets of Yokohama and creating attractive nocturnal urban scenes, which differ from those of daytime. The Open-Air Cafes (see pic 5) are adopted as part of further deployment of the redevelopment of Nihon-Odori, thanks to the local community's initiative and after repeated social experimentation.

Community Development Embracing History:

The General Guidelines for Community Development that Embraces History involves a system for preserving and using historic buildings with top priority placed on the preservation of their exterior appearance and by encouraging land owners to actively use the insides, thus preserving historic landscapes that are characteristic of Yokohama (see pic 6). One example includes the preservation of the historic landscape along Nihon-Odori, in which historic buildings were preserved in the lower part of the new architecture with high-rise buildings constructed behind them, so that the historic landscape would be preserved.

Participatory Town Management and Legislative Control

It is over a quarter of a century since the Minato Mirai 21 project began in 1983. Diversified urban functions to form a high-quality urban area have been created by various stakeholders, including Yokohama City, private sectors, citizens including residents and employees.

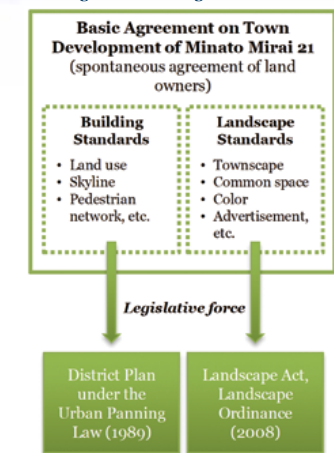
In 1988, landowners whose estates had precedence over infrastructure development in the Minato Mirai 21 Central District and the Yokohama Minato Mirai 21 Corporation together concluded a "Basic Agreement on Town Development under Minato Mirai 21". This agreement is a guidance to operate the MM21 district in an appropriate manner, while it doesn't have the force of law.

Some of the articles which must be strictly controlled and regulated are applied for as standards under the following laws with legal basis: District Plan under the Urban Planning Law, Landscape Act, and Landscape Ordinance.

By combining regulations and guidelines, city, private sector and citizens share a common vision and rules to sustain the MM21 District.

What is noteworthy is that a spontaneous agreement by landowners existed prior to the application of legal control, which is one of the reasons for the success.

Concept Diagram of Participatory Town Management and Legislative Control



7. Building Height Control



Building Height Control

8. Skyline of Minato Mirai 21



9. Pedestrian Network



Pedestrian Network

10. Grand Mall Axis



11. Creation of Public Space using a part of private facility



Creation of Public Space using a part of private facility

12. Public Space in a Private Facility



Source of Photos and Figures: "Basic Agreement on Town Management under Minato Mirai 21", 2003 (7/9,11,12), Urban Development Bureau, City of Yokohama (8,10)

Private Sector & Citizens' Participation



The People-Driven Development

Public policies, which affect a wide-range of stakeholders or even all citizens, often faces numerous obstacles in the process of their implementation. Even carefully designed policies could fail to be properly enforced and accepted by the public, sometimes due to a lack of public awareness, conflict of interests, and/or lack of human or financial resources in local administration to reinforce these policies. Indeed, many of the emerging cities in today's world are struggling to successfully implement a variety of their new policies, such as pollution control, disaster management, various educational programs, etc., designed to cope with the rapid change of their living environment. People's mind and lifestyles do not necessarily follow the speed of the changing environment, and yet there is always a limitation for what local governments can do by themselves.

They need cooperation and collaborations with citizens as well as the private sector in order to make the entire society to get adapted to the growth and achieve a sustainable development.

The City of Yokohama, since the beginning of its population and economic growth, has worked closely with its people and firms in the city. The City has conducted a range of educational programs and campaigns to raise public awareness to gain understanding and consensus for its policies. Recently designated volunteer groups organized by local communities have been actively engaged in beautification activities of parks and roads. Yokohama was also aware of the city government's limitation to lead the sustainable development on its own and actively utilized private firms and other existing organizations,

such as community groups and NGOs, to help the urban development at the grassroots level. Cooperation and collaborations among the city government, citizens, and private sectors did not only help implementation of governmental policies, but also have enabled the city to make new types of challenges and achieve bigger success in high-level targets and goals, based on their shared visions for an ever-advanced sustainable city.

The following are some examples that represent Yokohama-style urban development that encourages private sector and citizens' participation.

Sharing Visions for Facilitating Consensus and Implementing Policies



Participation in Town Planning

Kohoku New Town is one of the 6 strategic projects of Yokohama City, which aimed to construct a multi-function new town in the suburbs, located 25 km southwest of downtown Tokyo. The basic concept of the plan was formulated by residents, the city government, and the developer, which is the Japan Housing Corporation (JHC, now the Urban Renaissance Agency).

These three bodies organized a "Kohoku New Town Project Promotion Council" to discuss the plan to create an ideal city whose inhabitants would play a major role in its development.

Residents were involved from the very initial stages of planning as main actors of the plan, with technical support from JHC and facilitation of Yokohama City. It took a long time to discuss each issue and agree with stakeholders from the planning stage, but this effort enabled smooth and effective implementation of the project after consensus building. This organization was operated for 20 years from 1976 to 1996.

Such consistent and intensive participation of citizens was an innovative approach in urban planning and development, and became a model for other cities.

Yokohama G30 Plan

The "Yokohama G30 Plan" is a project established by the City of Yokohama in

order to cope with the increasing volume of waste generation driven by the rapid population growth during the late 20th century. To restrain this negative trend and facilitate waste recycling, the G30 Plan was enforced in January 2003. Considering fiscal year (FY) 2001's 1.61 million tons of waste as a baseline, it aimed to reduce waste generation by 30% by FY2010.

To achieve this goal, citizens were required to participate in segregating their garbage into newly established 15 categories. At the enforcement of the G30 Plan, garbage collection offices did not pick up residential wastes which were not properly segregated.

As for commercial/ industrial wastes, these companies were also instructed to return waste to firms if inappropriate waste were discovered.

Enforcement of such strict rules required a high degree of public awareness and dedicated cooperation from both citizens and companies, so that the city widely conducted education and promotional activities with more than 11,000 seminars over a two- year period to explain how to reduce and sort waste. About 600 campaigns were held at railway stations, and more than 3,300 awareness campaigns were organized at local waste disposal points. Eventually, local communities and schools also came to work together, to create a supportive, collaborative environment.

Citizen volunteer 'garbage guardians' explained proper sorting measures to citizens and sought cooperation from

those who were not supportive of the new segregation measures.

As a result of these collaborative efforts, Yokohama's 30% waste reduction target was achieved in FY2005, five years ahead of target, and waste generation was reduced by 43.2% by FY2010. Thanks to solid waste reduction, two deteriorated incineration factories needed not to be operated. It provided a big impact to reduce the City budget. Collaboration with citizens and the private sector has made key contributions to the success of the effort.

People's Forests

City of Yokohama has protected forests and natural woods in participation with land owners within the city under the "People's Forests" policy, established in 1971 as an original system of the City. Today, 40 forest zones with a total area of 498 ha were registered as People's Forests, where citizens can freely enjoy hiking or relaxing. 25 official volunteer groups were set up to protect and maintain these forests. The City made a long-term contract of longer than 10 years with land owners, and provides a subsidy for greening and tax exemption for land. In order to protect the beautiful and valuable greenery within the modern City of Yokohama, land owners and volunteers as well as the City 21 maintain the forests together.

Building a Resilient City through Comprehensive Disaster Prevention



Rainfall Adjustment Pond – Upon Rainfall

Rainfall Adjustment Pond – Normal Condition

Source of Photos: Road and Highway Bureau, City of Yokohama

Disaster Prevention in Yokohama City

Building resilience towards various natural disasters is essential to realize a safe and secure urban environment.

Yokohama City's disaster prevention measures are taken under the strong coordination of the city, enterprises, and local residents. All stakeholders act under a risk management strategy stipulated by the city and demarcation of roles are clear.

Local residents regularly participate in disaster drills, which helps them to move effectively upon actual disasters. The city also publicizes various hazard maps (tsunami, liquefaction, flood, landslides) to help the stakeholders become more disaster-ready.

Flooding of Maioka River



Source: Road and Highway Bureau, City of Yokohama

Flood Disasters River Improvement

Tsurumi River in Yokohama City, classified as a 1st Class River, has a long history of intense flooding that made the river notorious as the "Violent River." As a result of rapid urbanization in its river basin beginning in the 1950s, natural environment such as forests and greenery were lost. Roads were paved with asphalt and therefore without a natural reservoir, rain inflow to rivers was rapid, provoking the risk for inundation.

Therefore, Tsurumi River was one of the first rivers in the nation which underwent "Integrated Flood Control", i.e. river improvement, retarding basin, disaster prevention adjustment ponds, etc. and its effect has been recognized.

In Japan, a 1st Class River is directly managed by the Ministry of Land, Infrastructure, Transport, and Tourism, hence Yokohama City works together with the nation and Kanagawa Prefecture to ensure safety for a 50mm hourly rainfall (expected once in 5 years).

Comprehensive River Basin Management

Since Yokohama's urbanization began from the coastal areas, densely populated downstream areas met difficulties to prevent floods due to limitations to increasing flow capacity by river expansion. In addition, housing development in the basin area brought about the increase of inflow to rivers. Therefore, measures that enable storage of rainfall in the basin area are critical to increase safety from floods.

Hence, rainfall storage facilities in public areas such as school and parks have been adopted, and guidance through the "Land Formulation Guideline" to place rainfall adjustment ponds have been introduced, which both contribute to decrease rapid inflow of rainfall to rivers.

Building a Resilient City through Comprehensive Disaster Prevention

Drainage System Improvement

Another important flood prevention measure is the introduction of drainage facilities. It aims to ensure safety for a 50mm hourly rainfall (expected once in 5 years) and 60mm hourly rainfall (expected once in 10 years) for lowlands which heavy damage from inundation is expected. Pumping facilities and storm water culverts are being introduced for the latter.

Earthquake Disasters Linking with Regulations

Another factor for success was that disaster prevention was linked with regulations for construction, hence it was made sure that buildings were disaster-resistant before they were actually approved and built.

Embedding such aspects in regulations was an innovative system for disaster mitigation, and enabled to decrease the potential of disaster occurrence from steps of planning and construction.

Real-Time Earthquake Monitoring System

The Real-Time Earthquake Monitoring System is a system which aims to grasp the situation of various locations in Yokohama after the occurrence of an earthquake. This enables swift initial movements and the rapid set-up of a disaster countermeasures office. There are a total of 42 sensors in the city for the local residents to receive information about earthquake prediction on a real-time basis, and contributes to disaster mitigation.

Response upon Disaster Occurrence Local Disaster Prevention Points

Yokohama City was the first to designate elementary schools as local disaster prevention points. This location is not only used as a safe shelter during disasters, but also used as a stronghold for information transmission and communication, storehouse for lifesaving kits, food and water, other living supplies, and emergency toilets. Elementary schools in Japan are designated per community, and actually this unit is just right for planning local disaster measures.

Building on this learnt experience, Yokohama City introduced "local disaster prevention points" which became the new standard for other municipalities and the nation. This system was innovative because it was linked to the community unit and enabled disaster mitigation at the community level.

Underground Water Tank

Yokohama City has underground water tanks which can be used upon disastrous events. In normal times, it is an underground water tank which is a part

of the water pipeline network, and should the water pressure decrease, the inflow/outflow valves close, enabling the tank to become a store of clean drinkable water. Such underground water tanks are set up in schools, which are designated as regional medical first-aid stations, which are far from water distribution facilities.



Source: "MINATO MIRAI 21 Information Plans and Projects, Vol.84"

Reacting upon Emergency

Upon the occurrence of disasters, an Emergency Transport System which connects major facilities (city hall, civil engineering offices, firehouses, hospitals) to emergency roads is enacted, and buildings along emergency roads are made earthquake-proof to ensure smooth transport during disastrous times.

Disaster Prevention Training at the Local Disaster Prevention Point



Source: Asahi Ward Office, City of Yokohama

Providing 24-hour lifeline for All Citizens

1. Doshi Watershed Protection Forest



2. Girl Drinking Tap Water at the Park



3. Wastewater treatment plant



4. Stream where treated wastewater is discharged



Source of Photos: Waterworks Bureau, City of Yokohama (1,2), Environmental Planning Bureau, City of Yokohama (3,4)

From the Source to the City

Emerging cities face challenges to facilitate necessary infrastructure in a short period to cope with the rapid population growth. Water is one of the essential infrastructures to meet basic human needs.

Lacking water could cause serious damage to citizens' lives and low quality of water affects people's health. In addition, an excessive use of well water by households and companies could cause land subsidence resulting in serious flooding paralyzing city functions.

Since the City started a water supply system in 1869 and in 1887, respectively,

as the first modern system in Japan, the City committed steady development even amid rapid population growth, dramatically increasing the reach of both the water supply and sewer system.

Currently, the water supply and the sewer system have coverage of 100% and 99.8%, respectively. During the course of network development, Yokohama realized that to ensure not only a stable supply but also high-quality water, it is important to return to the basic principle and protect well springs.

Yokohama continues to preserve the Doshi Watershed Protection Forest (see Pic 1), about 2,800 ha of water source land in Doshi Village, which is about 70

km from Yokohama. This provides confidence for Yokohama and enables us to develop a long-term plan of providing high-quality water.

Phasing Approach to Ensure Implementation

In order to meet a rapid demand increase, Yokohama took a phasing approach and expanded its water supply network eight times during 120 years. The water supply population has been increased steadily according to the population increase of the City.

On the other hand, the development of a wastewater system had lagged behind the population increase.

Managing a Network of Service and Environmental Impact

The City adopted a phasing approach with two methodologies to install sewer systems, the combined system and the separate system. In the early stage, the City applied the combined system collecting wastewater and rain water together in order to install the system rapidly and cost-efficiently at a city center; during the expansion period, the separate system was adopted to be implemented in the rest of the city, partly utilizing private funds.

Rivers in the Past

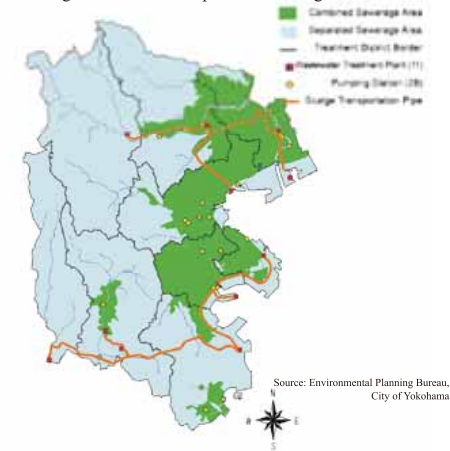


Source: Environmental Planning Bureau, City of Yokohama

Service Coverage of Sewerage and Water Supply and BOD at Rivers by Year



Coverage of Combined/Separated Sewerage Areas



Environmental Friendly Management of the Water Cycle

Rapid urbanization put pressure on the environment. Sewage contamination and factory effluent deteriorated river water quality and exuded a bad smell. Expanding the sewage system and wastewater treatment plant together with appropriate factory effluent control and guidance, Yokohama achieved dramatic reduction of BOD of rivers (see Pic 3). Discharged water is regularly inspected to assure a satisfactory level of quality (see Pic 4).

Well-Functioning Infrastructure as a Network

Developing a modern water supply and sewer facilities system is one step, however, providing secure and safe operation and maintenance during a life cycle is another key factor to maintaining high-quality water (see Pic 2).

Water source land in Doshi Village, Yamanashi Prefecture is about 70 km from Yokohama and the total length of the pipes from the water intake to the water supply is about 9,200 km. Despite the considerable length, the rate of leakage is about 5%, which can be only achieved by continuous maintenance and

operational management. Moreover, the low rate of leakage enabled efficient expansion of the water supply network with a minimum of funds.

System of User Pay

Financing of infrastructure development is another challenge for emerging cities. Yokohama, as other cities in Japan, introduced the principle of user-pay on water and wastewater charge and the city government successfully disseminated the concept. With a matured water supply and wastewater system in recent Yokohama, user charges contribute to cover operation and maintenance for assuring 24-hour service of the system.

Continuous Innovations



Source: Child and Youth Bureau, City of Yokohama.

Challenge with “New Urban Issues”

Yokohama experienced rapid development from a devastated postwar stage in the 1940s to a prosperous modern city within about 60 years, overcoming issues such as urban sprawl, lack of infrastructure, and pollution. Urban challenges for the City did not stop there, however. Instead the City has continued making innovations and efforts to deal with newly arising urban issues.

A new trend is that globally discussed need for energy conservation and emission reduction to tackle global warming and the issues of decreasing natural resources. Cities, which consume lots of energies and emit the majority of greenhouse gases, are required to be "smarter" in energy usage and look for alternative, renewable resources to facilitate more efficient and ecological life-styles and green economy. Another trend is aging and decline of population in large cities. In Yokohama,

its population is expected to start declining in 2019. The elderly population above 65 years old has exceeded 21% in 2013, and is expected to grow close to a million by 2025. At the same time, More and more women are willing to continue their work after having children so that there is an urgent need for the city to create such an environment which can support busy parents.

Without adequate support mechanisms, the birth rate may decline even further, accelerate aging of the population and shrinking of the labor force. Also, Yokohama believes that women's participation and contribution to its economy and society is essential in order to strengthen and rejuvenate the city. It is a challenge to eliminate any obstacles and create a supportive environment for both working mothers and their children.

Renovation of aging infrastructure is also an urgent need. Faced with global warming and potential natural disasters, “renovation” does not simply mean updating the old infrastructure, but we

need to create much “smarter” and “resilient” solutions.

In Japan, Yokohama plays a leading role to counter these new challenges with close collaborations with the citizens and private companies. In 2011, the City was selected by the Government of Japan as a “FutureCity”, pursuing to be a model city in terms of advanced technology, socioeconomic systems, services, business models and city building in order to resolve these new issues. Yokohama people are forward-looking and eager to make changes, continuously trying new experiments and innovations. The role of the city government is to provide them opportunities as well as necessary incentives and support to facilitate them forming new ideas and making actions.

Management of the “New Issues” to Achieve Sustainable Development



Source: Climate Change Policy Headquarters, City of Yokohama

Carbon Reduction Measures

Since 2010, the city has started an empirical examination of the “Yokohama Smart City Project (YSCP).” The latest smart technologies, including PV generation, storage batteries, various levels of energy management systems (EMS), are installed for operational experiments in many places in Yokohama City with over 1,900 households installed with Home EMS (HEMS) , which are connected to the Community EMS (CEMS) . The original project vision was created by the city government, which then proposed the idea to the public to see if the private sector would be interested in participating.

Companies with a variety of smart technologies joined the project as a result. A detailed master plan was created, a project management office was established, and the project was put into operation by these private players. The city also promotes “Yokohama Mobility Project Zero”, which aimed to popularize electronic vehicles and eco-driving, in collaboration with an auto manufacturer. These are efforts to develop a model of

an eco-friendly, smart city by means of cooperation among citizens, private companies, and the City Government, and to export the successful model to other cities in Japan and other countries.

Life Innovations

The City of Yokohama, has been dedicatedly promoting life innovations industry especially in the Keihin Coastal Area and is assigned by the national government as one of Japan's "Comprehensive Special Zones for International Competitiveness Development (CSZICD)". Currently, Yokohama promotes 18 R&D projects in its 7 areas of focus; namely, preventive medicine, diagnostics, regenerative medicine, IT (medical databases), drug development, medical device development, and a support mechanism for pharmaceutical/ medical device permission process. The aging society and the latest technologies brought about new market opportunities for both ventures and large global firms. The city helps these innovative players access to the national tax incentives, easing of restrictions, financial support, etc within the CSZICD.

Improved Accessibility to Child Care Support

In April 2013, Yokohama achieved “zero child on waiting list” for nursery services. For the last decades, large cities have faced capacity shortage in nursery schools, leaving many children on waiting lists and preventing their mothers from going to work. In order to solve the issue, the city has not only built new nursery schools but also introduced new measures to improve accessibility of these services. The city promoted the provision of nursery services by NPOs and other organizations utilizing vacant rooms in regular apartment buildings, which supplemented the shortage of designated nursery facilities. The city also has assigned nursery concierges in each district to provide related advice and information.

This “Yokohama method” was highly recognized by the national government and is now applied to the national plan of “Accelerate the zero childcare waiting list project” for the whole of Japan.

International Cooperation of Yokohama City

Long-term International Technical Cooperation of Yokohama City

Mutual Exchange between Sister Friendship Cities and Partner Cities

Yokohama City has long had friendship exchange and has provided technical assistance to Sister Friendship Cities, Partner Cities, and various other cities through CITYNET and JICA.

CITYNET (The Regional Network of Local Authorities for the Management of Human Settlements)

CITYNET was established to improve civic life and pursue sustainable urban development through the cooperation of local authorities in the Asia Pacific Region. It was launched in 1987 with 26 members, supporting the development and improvement of sustainable human settlements by the local authority. As of April 1st, 2013, CITYNET has 131 members from 24 countries and regions.

Yokohama City has been active in international assistance for urban transport, water supply, sewerage, solid waste management, etc., through dispatch of experts and acceptance of trainees. The city has also served as the secretariat for over 20 years since the establishment, and has accumulated experience as the leader of networking of local authorities.



Source: Policy Bureau, City of Yokohama

Technical Cooperation in Urban Development

In the water supply and sewerage sector, the city has actively accepted overseas trainees for technical transfer of operation and maintenance of water treatment facilities, and has also dispatched experts in the sector.

The Yokohama Waterworks Bureau has especially dedicated much effort for international cooperation for 40 years since 1973, with the achievement of accepting over 2,400 trainees (including short-term), and dispatch of over 240 experts to 30



Sister Friendship Cities	Partner Cities	Sister Ports
San Diego City (USA)	Beijing City (China)	Oakland Port
Lyon City (France)	Taipei City (Taiwan)	Vancouver Port
Mumbai City (India)	Busan City (South Korea)	Hamburg Port
Manila City (Philippines)	Ho Chi Minh City (Vietnam)	
Odessa (Ukraine)	Hanoi City (Vietnam)	Friendship Ports
Vancouver City (Canada)	Incheon City (South Korea)	Shanghai Port
Shanghai City (Sister City) (China)	Frankfurt City (Germany)	Dalian Port
Constanta (Romania)		
		Trade Cooperation Port
		Melbourne Port

Source: JICA Study Team based on map from Policy Bureau, City of Yokohama

countries. The technical cooperation with the Water Corporation in Hue Province is the largest project, and after 10 years of cooperation, the province has managed to pronounce a “Safe Water Declaration.” In 2010, the “Yokohama Water Corporation”, 100% financed by the Bureau, was established to further promote business utilizing the city’s technology and know-how to overseas cities.

The port sector, too, has accepted and dispatched delegations and related agencies through exchange activities with sister ports, and aside from regular anniversary activities and mutual training activities, it continuously accepts an annual 50 delegations from developing countries.

Active technical cooperation through the acceptance of delegations from developing countries is conducted in solid waste management and urban development/ urban transport sectors as well.

Overseas Dispatch of Water Supply Experts



Source: Waterworks Bureau, City of Yokohama

Yokohama Partnership of Resources and Technologies



Source: Policy Bureau, City of Yokohama

Y-PORT (Yokohama Partnership of Resources and Technologies under Public- Private Partnership)

While developing countries in Asia are undergoing rapid economic growth, various urban issues are occurring today such as the rapid increase of population in cities, urban sprawl, degradation of living and natural environment due to the lack of urban infrastructure, etc. These issues are very similar to what Yokohama City has experienced in the past. Therefore, Yokohama City believes that it can share past experiences with cities in developing countries, and together, solutions can be found.

Many of these urban issues are closely linked with civic life, and each issue is complexly interrelated with one another. Hence, no issue can be solved by a single sector. Solutions must be sought considering the aspects of multiple sectors, and city-to-city cooperation is important in order to solve issues from the citizens' viewpoint.

Yokohama City has commenced international technical cooperation aiming for “Sustainable Urban Development” by fully utilizing its experiences and know-how for urban development and also environmental technology of the private sector in the city.

Y-PORT, which refers to the Yokohama Partnership of Resources and Technologies under Public-Private Partnership, was launched in 2011. In this initiative, the basic partnership was formulated and strengthened with JICA, JBIC and other governmental agencies along with ADB and other international donors, and the private sector. Y-PORT is further undertaking technical cooperation for sustainable urban development with Cebu City in the Philippines and Danang City in Vietnam.

Currently, the “Asia Smart City Conference” is held as a platform to share best practices of urban development, including the aforementioned major achievements and activities.

International Technical Cooperation Division, City of Yokohama provides consulting service and proposals to solve urban development issues for cities of all over the world through the website below.

<http://www.city.yokohama.lg.jp/seisaku/kyoso/yport-e/>

Asia Smart City Conference



Source: Policy Bureau, City of Yokohama

Comprehensive Partnership Agreement with JICA

In October 2011, Yokohama City and JICA concluded a Comprehensive Partnership Agreement to further pursue mutual cooperation and to promote new initiatives such as Y-PORT. This is the first comprehensive partnership agreement which JICA concluded with a local authority. Contents of the agreement are as follows:

- (1) Acceptance of technical trainees, dispatch of experts, conduct of JICA Partnership Program, etc. and other technical cooperation
- (2) Promotion of Public-Private-Partnership for solving urban issues
- (3) Participation of Yokohama citizens to JICA volunteer activities
- (4) Education to promote international understanding in schools in Yokohama City
- (5) Conduct of international conferences and events for international cooperation
- (6) Mutual dispatch of staff



Source: Policy Bureau, City of Yokohama

Comprehensive Partnership Agreement with JBIC

In October 2010, Yokohama City and JBIC concluded a “Cooperation Agreement for Environment and Urban Infrastructure” to share information and opinions in order to combat both urban issues and global environmental issues arising in developing countries undergoing rapid urban development.

Utilizing Technology of the Private Sector

Co-creating with Yokohama's Private Sector for International Technical Cooperation

Yokohama City aims to establish itself as an independent international city. As a representative project to realize this goal, a city center enhancement project to create new business, commercial & cultural center as the City's economic driver is being implemented. The City is attracting global firms to the Minato Mirai 21 District and to the Kannai Station Area in which many major firms have as a result established offices and research centers. JGS Corporation, JFE Engineering Corporation, Chiyoda Corporation, and HITACHI Ltd. are among such representative firms. Yokohama City has concluded partnership agreements with these firms housing world-class technology, and are together pursuing international technical cooperation.



Urban development and industrial development, water supply and sewerage, etc.



Solid waste treatment, sewerage, renewable energy, etc.



Energy management, medication, biological process development, etc.



Energy, water environment, transport system, information and communication technology, etc.

Yokohama Water Business Conference

Yokohama City has realized a healthy water circulation over the past few decades. The City has closely worked with private firms and groups which support water infrastructure technology, and in November 2011, the "Yokohama Water Business Conference" was established (member firms total 147 as of August 2013). The Conference is led by the Mayor of Yokohama City, and the City's water supply and sewerage sectors are working in cooperation. The Conference aims to introduce the City's and the member firms' technology and know-how. The technology of member firms covers, among others, provision of parts, design and construction of plants, operation and maintenance, etc.



Source: Environmental Planning Bureau, City of Yokohama

Water Business Provided by Member Firms

Water Usage and Distilling	development of dams and irrigation channels, river improvement, transport of source water, distilling of seawater, etc.
Purification and Supply	development, operation and maintenance of water purification facilities, management of water quality, development and operation of water distribution facilities and supply pipes, etc.
Drainage, Treatment, Disaster Management	development, operation and maintenance of water pipes, pumping facilities, and sewerage treatment facilities, etc.
Reuse and Energy Use	water recycling, digestion gas energy generation, etc.

Promotion of Environmental Future City Initiative

Yokohama City was selected as the Environmental Future City by the Government in December 2011, a city which reacts to environmental issues and various social issues such as aging society. Under this initiative, the City is working with private firms (Accenture, Tokyo Gas, TOSHIBA, NISSAN, Panasonic, Meidensha, TEPCO, etc.) to challenge for the realization of a "Low-carbon and energy-saving (city)." Major projects being implemented include the introduction of renewable energy and unused energy, energy management in homes, buildings, and the community, development of next-generation transport, etc. The initiative is aiming to promote best practices done under this initiative to overseas in the future.

Yokohama Smart City Project (YSCP)

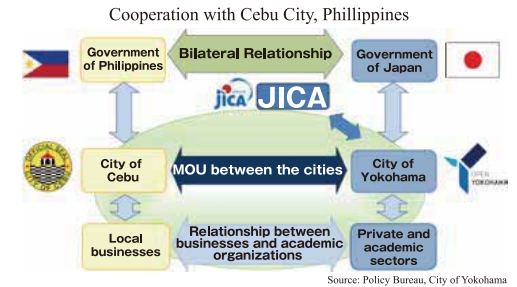


Climate Change Policy Headquarters, City of Yokohama

Cooperation with Cities

Cooperation with Cebu City, Philippines

Cebu City in the Philippines is in urgent need for solving issues such as traffic congestion, solid waste treatment, sewerage and drainage treatment, prevention and mitigation of flood disasters, etc., due to its rapid economic development and population growth. In March 2012, Yokohama City and Cebu City concluded a memorandum to promote sustainable urban development in Cebu City.



Assistance for Developing Long-Term Vision and Initiatives of the Private Sector

JICA and Yokohama City have jointly provided technical assistance to formulate the urban development vision for Metro Cebu entitled "Mega Cebu Vision 2050." This vision is composed of 6 fields and 4 development strategies which support their realization. Upon formulating this vision, the long-term vision of Yokohama City and the 6 Strategic Projects were introduced, and contributed to active debate and consideration by the Metro Cebu side. In addition, 3 private sector firms selected by the Ministry of Foreign Affairs is undertaking an environmental study, and the Yokohama Water Company established by the Yokohama Waterworks Bureau is conducting a capacity building project in Metro Cebu under JICA's technical cooperation project scheme.

Conference on Assistance to Cebu City by the Ambassador of the Philippines and Mayor of Yokohama City (April 2013, Philippine Embassy)



Source: Policy Bureau, City of Yokohama

Low-cost sewage treatment for wide application of septic management by AMCON Inc.



Dewatering Machine "Volute"

Source: AMCON Inc.

Hybrid solar-diesel power generation system by UYENO Green Solutions, Ltd.



Solar Diesel Hybrid Solution

Source: UYENO Green Solutions, Ltd.

Recycling waste plastic materials for better solid waste management by Mansei Recycle Systems Co., Ltd.



RPF and fluff Plastic Fuel Facilities

Source: Mansei Recycle Systems Co., Ltd.

Dissemination of the scheme on technical cooperation in Metro Cebu to other cities in Asian countries

In April 2013, Yokohama City concluded a memorandum to realize sustainable urban development with Danang City in Vietnam, which itself is aiming to become an Environmental City in the future. Major activities and initiatives under this framework include joint infrastructure site surveys with private firms from Yokohama City and Danang City, inspection of solid waste treatment facilities in Yokohama City by Danang City, "Danang Infrastructure Seminar" held in Yokohama City under the auspices of both cities, etc.

In addition, Yokohama City is cooperating with JICA under the project "Bangkok Master Plan on Climate Change 2013-2023" in Bangkok City, which itself is pursuing the realization of a low-carbon city. The contents of this Master Plan include (1) sustainable transport system, (2) energy-saving and alternative energy, (3) efficient solid waste treatment and sewerage treatment, (4) urban greenery, (5) adaptation measures, and is eyed as an initiative which Yokohama City's advantages of technical cooperation can be well applied to realize comprehensive urban development.