

# Urban Development Management through Regulations and Guidelines

Housing Area where Land Formulation Guideline was / was not 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

## Principles of "Yokohama Method"

For comprehensive approach to urban development, a holistic urban management including survey, planning, implementation and management was established as following "Yokohama Method", in addition to a legal system.

## 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

## Urban Growth Boundary based on Urban Planning System in Japan

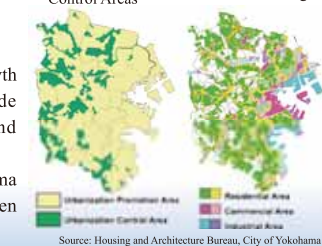
To avoid urban sprawl, development permit system was legislated to set the urban growth boundary in the amended Urban Planning Act in 1968. This boundary is to divide urbanization promotion area where development is promoted within 10 years and urbanization control area where development is prohibited.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

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

# Facilitation for Appropriate Development and Preservation

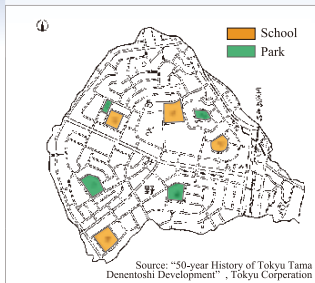
## General Guideline on Housing Land Developments

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.



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

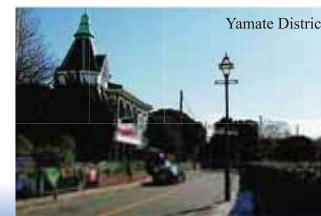


Source: Housing and Architecture Bureau, City of Yokohama

## 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.



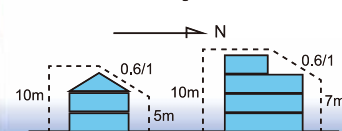
Yamate District

## 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

Source: "URBAN DESIGN YOKOHAMA", Urban Development 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

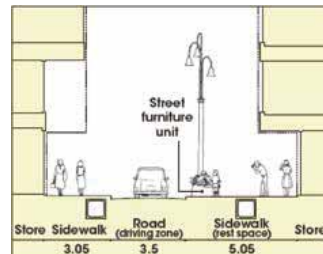
## Various Undertakings of Urban Design

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.



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

Setback Image of Motomachi District



Store Sidewalk (driving zone) 3.05 Road (driving zone) 3.5 Sidewalk (rest space) 5.05 Store  
Pedestrian space produced by the setback of walls in lower part

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

## Urban Axes of the City Center

# 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 urbanscapes, 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.

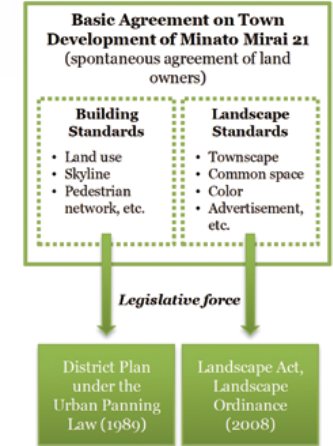
In 1988, landowners whose estates had precedence over infrastructure development in the Minato Mirai 21 Central District and the Yokohama Minato Mirai 21 Corporation together concluded a "Basic Agreement on Town Development under Minato Mirai 21". This agreement is a guidance to operate the MM21 district 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

Mayor's Meeting with 10,000 Citizens



Source: Yokohama City Historical Reference Room, City of Yokohama

Town Walking for Barrier-Free Check



Source: Road and Highway Bureau, City of Yokohama

Workshop with Citizens



Source: Housing and Architecture Bureau, City of Yokohama

Volunteer Group for Park



Source: Environmental Planning Bureau, City of Yokohama

## 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

Kohoku New Town Project Promotion Council



G30 Campaign



Source: Resources and Waste Recycling Bureau, City of Yokohama

People's Forests in Bugen-ji Temple



Source: Environmental Planning Bureau, City of Yokohama

## 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 during 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