

Yokohama Development Knowledge Sourcebook



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Washington, DC 20433
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Contact:

World Bank Group

Social, Urban, Rural and Resilience Global Practice

Tokyo Development Learning Center (TDLC) Program

Fukoku Seimei Bldg. 10F, 2-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011 Japan

Phone: +81(3)3597-1333

Fax: +81(3)3597-1311

Web: <http://www.jointokyo.org>

About Tokyo Development Learning Center (TDLC)

The Tokyo Development Learning Center (TDLC) program is a partnership of Japan and the WBG. TDLC supports and facilitates strategic WBG and client country collaboration with select Japanese cities, agencies and partners for joint research, knowledge exchange, capacity building and other activities that develop opportunities to link Japanese and global expertise with specific project-level engagements in developing countries to maximize development impact.

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Background and acknowledgments

This report was prepared by the Tokyo Development Learning Center (TDLC) under the auspices of the Social, Urban, Rural and Resilience Global Practice of the World Bank Group.

The City of Yokohama offers useful lessons for other cities seeking to achieve sustainable urban development. It simultaneously managed rapid economic growth and a sharp rise in population through a series of thoughtfully conceived and well-integrated development projects and regulative measures, each designed to be implemented over the long term and actively involving participation of citizens and the private sector. As a result, Yokohama transformed itself from a deteriorating suburban residential town on the outskirts of Tokyo into an eco-friendly, livable city with a strong economic base.

Beginning in the 1960s, Yokohama's urban development moved organically from strategy to coordinated multi-sector action. This was in contrast to the approach of other cities, which more often relied on construction plans and projects developed by individual sectors and departments. A key factor in this approach was the role of the Planning and Coordination Department (PCD), which combined sector-based plans under a single vision and strategy. Despite the significance of PCD's role, its story has not been fully documented and is not known outside Japan.

This research aims to address that gap. More broadly, it aims to understand the extent to which political will and the vision of key individuals contributed to the city's development; to identify approaches and lessons that can be replicated in other cities; to determine what environment (institutional, regulatory, etc.) needs to be created for such approaches to work; and to extract useful lessons for other cities at various stages of development.

Research for this project was carried out by a team led jointly by Yuko Okazawa and Daniel Levine, and the sourcebook itself was prepared by Kokusai Kogyo Co., Ltd. The team gratefully acknowledges the Government of Japan for support through the TDLC program. We are also grateful to World Bank Group colleagues Joanna Mclean Masic, Megha Mukim, Phil Karp and Haruka Imoto for providing peer review and other valuable inputs. The team is especially grateful for the important contributions from Professor Satoshi Sadohara of Yokohama National University, Professor Nobuharu Suzuki of Yokohama City University, and staff from the City of Yokohama Housing and Architecture Bureau, Resources and Waste Recycling Bureau, and International Affairs Bureau. Finally, special thanks go to former City of Yokohama personnel Mr. Kazunari Doi, Mr. Shirou Hamano, and Mr. Seiichirou Mori.

Abbreviations

BEMS	building energy management systems
CEMS	community energy management systems
CPP	City Partnership Program
EMS	energy management system
FY	fiscal year
GDP	gross domestic product
HEMS	home energy management systems
JICA	Japan International Cooperation Agency
MM21	Minato Mirai 21
PCD	Planning and Coordination Department
SCADA	supervisory control and data acquisition
SMEs	small and medium enterprises
TDLC	Tokyo Development Learning Center
UR	Urban Renaissance Agency of Japan
YMM21	Yokohama Minato Mirai 21 Corporation
YSCP	Yokohama Smart City Project

Preface

About this sourcebook

The *Yokohama Development Knowledge Sourcebook* is a guide to assist developing cities facing urbanization pressures. It provides practical “how to” guidance from the City of Yokohama by sharing the city’s experiences and accomplishments in urban planning and development, in particular the challenges it faced and the solutions it devised.

Yokohama is well known in Japan for its sustainable and integrated urban development, pursued under the rubric “City of Citizens” Yokohama’s urban development and city administration rely on participatory approaches, public-private partnerships, coordination across sectors and departments, and flexible and creative solutions to financial and other issues. These approaches were all initiated in the 1960s by a cross-cutting department within the city called the Planning and Coordination Department (PCD). This set of approaches ensured that Yokohama’s Six Major Projects, a collection of large-scale long-term infrastructure and urban development projects, were carried out in coordination with one another successfully completed.

This sourcebook explores some of the strategies and ideas adopted by city stakeholders to create today’s beautiful, thriving metropolis, one attractive to both residents and businesses and home to a modern green port that serves as a hub of international trade. It is intended as a resource for a wide range of practitioners in developing cities, including national policy makers, specialists in various fields, government officials (at central, regional, and local levels), communities, civil society and nongovernmental organizations, and the private sector.

About the City Partnership Program

As part of an ongoing partnership with the Government of Japan formed to share development experience through the World Bank’s Tokyo Development Learning Center (TDLC), the World Bank established the City Partnership Program (CPP), to collaborate with select cities in Japan. This sourcebook has been produced as an output of a partnership between the World Bank and the City of Yokohama formed under CPP in 2016.



Mayor Ms. Fumiko Hayashi and Mr. Daniel A. Levine, World Bank Group Tokyo Office

Source: Tokyo Development Learning Center

Executive summary

The second most populous city in Japan after Tokyo, Yokohama is known by residents and visitors as an attractive, well-functioning city. The city center, called “Minato Mirai 21,” is renowned for the beauty of its waterfront view and integrated urban design. Well-developed railway and road networks contribute to mobility within the city and connect the city to surrounding areas. Green spaces are harmonized with residential areas and are maintained and supported by active community-based management. Overall, the City of Yokohama offers one of the best examples of integrated urban development in Japan. This sourcebook tells the story of Yokohama’s urban development and extracts practical lessons to assist developing cities around the world facing the pressures of urbanization.

Yokohama’s path to integrated urban development was not straightforward and included a number of challenges. Following extensive damage during the Great Kanto Earthquake of 1923 and devastating bombing during World War II, the city experienced rapid urbanization and population growth in the 1950s. These changes posed significant challenges, including scarcity of housing, inability to provide infrastructure and public services at a pace with urban growth, and haphazard and mixed developments resulting in pollution, traffic congestion, and other common urban problems (**chapter 1**).

In the 1960s, under new mayor Ichio Asukata, the city responded by launching an integrated urban development plan called the Six Major Projects. This group of projects aimed to strategically address Yokohama’s urban challenges and build up key infrastructure services. Yokohama emphasized the new city concept under the rubric “City of Citizens.” When a lack of cross-sectoral coordination in the city was identified as a key obstacle for implementing the Six Major Projects, the city established a new department called the Planning and Coordination Department (PCD) to coordinate across both sectors and stakeholders (**chapter 2**).

To carry out its role and coordinate with both internal and external stakeholders, the PCD was given a position directly under the mayor in the city’s hierarchy, and was staffed by talented recruits from diverse professional backgrounds. The PCD’s unique management methods, including investments in technical capability, raised the caliber of city staff and allowed them to ably support the implementation of extremely long-range projects (**chapter 3**).

The City of Yokohama and the PCD tackled numerous project implementation challenges—including a lack of appropriate regulatory frameworks and a lack of financial resources—by developing innovative approaches, constantly improving communications among stakeholders, and effectively engaging the public and the private sector. These solutions made it possible to coordinate the Six Major Projects and thus to provide an integrated solution to the city’s challenges (**chapter 4**).

Yokohama's first and foundational phase of planned urban development proceeded steadily over 30 years. While PCD itself was dissolved in 1983, the momentum created by the department carried the Six Major Projects forward to completion. PCD's legacies, including its focus on people-centered development, are evident in urban development projects currently under way in Yokohama (**chapter 5**).

Yokohama's urban development experience provides a source of valuable insights for other cities across the world. It points specifically to the importance of properly selecting projects, using flexible approaches, developing institutional frameworks, producing tangible results in the short term, and engaging the community and stakeholders (**chapter 6**). These five key takeaways from Yokohama's urban development experience as shown in figure ES.1

- 1 Selective project-based approach is effective when resources are limited
- 2 Clear long-term vision with flexible approaches is critical to accomplish project-based development
- 3 Fostering an institutional framework to implement cross-sectoral coordination is a key element for holistic area-wide urban development
- 4 Presenting tangible short-term impacts is important for sustainable long-term urban development
- 5 Community-based movements and engaged stakeholders are essential factors in ongoing sustainable city development

Figure ES.1 Main takeaways from Yokohama's experience

Yokohama's lessons are applicable to all cities facing rapid economic growth and a sharp rise in population, and this sourcebook should prove useful to a wide range of practitioners in developing cities.

Introduction: The City of Yokohama today

Both residents and visitors consider Yokohama one of the most attractive cities in Japan. This section briefly describes Yokohama and its major features for those unfamiliar with the city.

Geography

The City of Yokohama is the prefectural capital of Kanagawa Prefecture and the second most populous city in Japan, following Tokyo. In 2016, it had a population of 3.7 million living within its 434.5 km² of land area.¹ Yokohama is located approximately 30 km south of Tokyo, with the east side of the city facing Tokyo Bay (figure I.1). Along the coast, the city contains large commercial ports and industrial zones, which play a pivotal role in supporting economic activities within Yokohama and the Tokyo metropolitan area more broadly. Connected by a well-functioning transport network to the Tokyo metropolitan area, approximately 25 minutes away by train, the city is also popular as a residential area for those commuting to Tokyo.

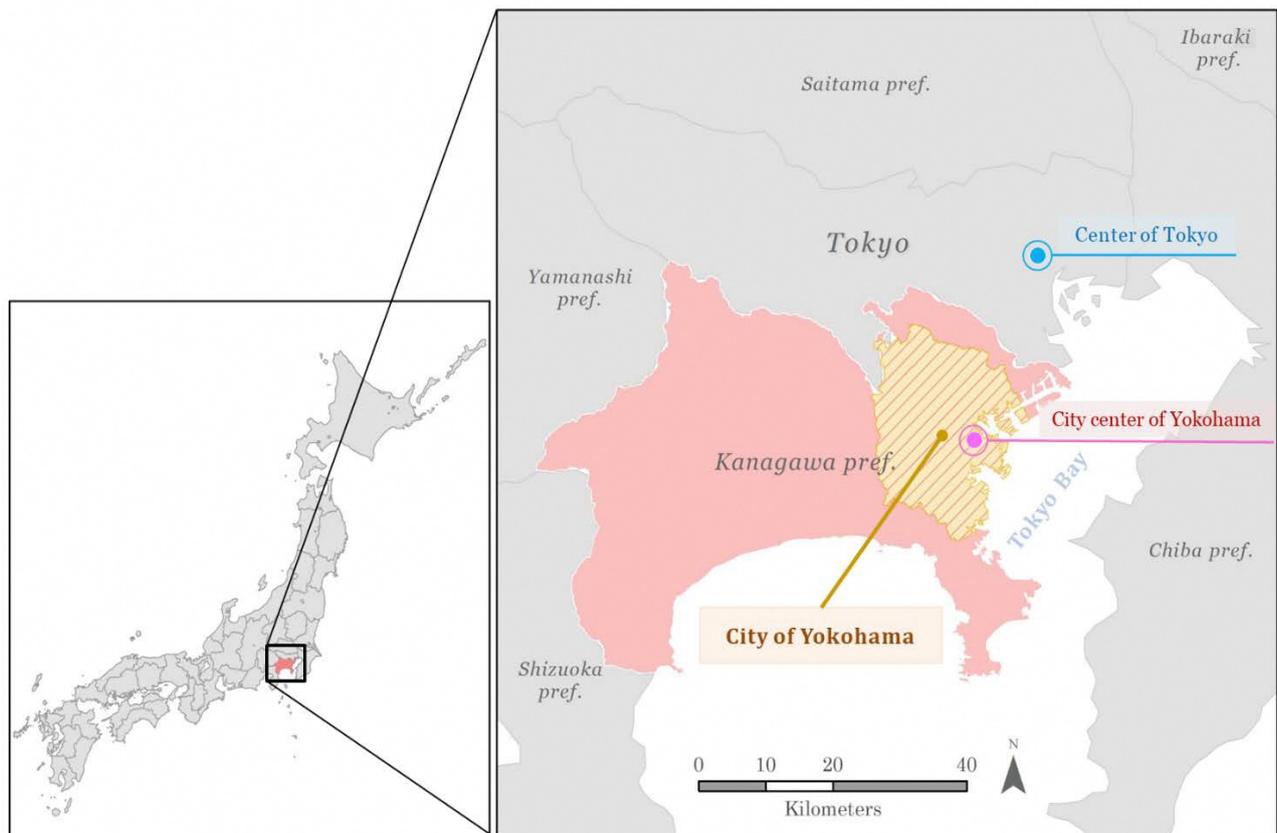


Figure I.1. Yokohama’s location within Japan and in relation to Tokyo

Economy

¹ City of Yokohama, “Statistical Look at Yokohama,” <http://www.city.yokohama.lg.jp/ex/stat/>.

The economic scale of Yokohama is enormous, even for Japan. In 2016, the City of Yokohama's gross domestic product (GDP) was ¥2 trillion (US\$120 billion), which accounted for 40.7 percent of the GDP of Kanagawa Prefecture and 2.5 percent of the GDP of Japan.² Yokohama's large-scale economy is firmly supported by robust business activities in the city. Major industries of Yokohama include services, real estate, wholesale and retail (i.e., shopping), manufacturing, transportation, and telecommunications.

Reputation

The City of Yokohama enjoys a good reputation and positive image overall. In a survey of "Top 10 Most Popular Cities to Live in Japan, 2017 (East Japan version)," it was ranked third³. The main reasons cited for its popularity were its "historical feel combined with convenience and modernity" and its "easy access to most destinations, within 30 minutes." As suggested by the nickname "Hamakko" (meaning people of or from Yokohama), living in Yokohama is regarded as fun and fashionable; locals are proud of their city. The City of Yokohama is also a well-known travel destination, with attractions such as Minato Mirai 21 (MM21), Chinatown, and Yamate (or old western town). The city attracted 36.14 million visitors in 2017, with tourism consumption totaling ¥319.5 billion (US\$2.88 billion).⁴

From ordinary to thriving: The story of Yokohama

Today, the City of Yokohama is known in Japan for its successful integrated urban development. But Yokohama went through a long transition and met many challenges before becoming the thriving city it is today. This sourcebook sheds light on Yokohama's experiences with and approaches to development, and it offers valuable lessons for other cities attempting to overcome their own challenges. Yokohama's story begins in chapter 1, which describes the challenges Yokohama faced when it began its development.

² Ibid.

³ https://suumo.jp/edit/sumi_machi/2017/kanto/
The survey was conducted by Recruit Sumai Company Ltd

⁴ City of Yokohama Culture and Tourism Bureau, "Annual Report 2016,"
<http://www.city.yokohama.lg.jp/bunka/outline/about/pdf/annualreport2016eng.pdf>.

CHAPTER 1

YOKOHAMA'S URBANIZATION CHALLENGES AND PATHWAYS FOR DEVELOPMENT



*The city center of Yokohama, 1961
Photo credit: City of Yokohama*

The City of Yokohama started out as a small fishing village. Selected to serve as one of the few ports open to foreign vessels during isolationist times, Yokohama transformed rapidly into a center of commerce and trade, despite experiencing a huge earthquake (and associated fire) in 1923 and devastating damage during World War II. After the war, rapid urbanization posed a significant challenge to Yokohama's urban management and city planning.

The City of Yokohama is admired for its urban design and city planning. However, the path to successful city development was long, and it included hardships and challenges—challenges that are common to cities in many other countries. This chapter describes the issues facing the city before it began to plan and implement the Six Major Projects that became the backbone of its success.

Beginnings of Yokohama (1850s–1910s)

Opening of the port: It was in the 1860s that Yokohama—a small fishing village—started to take its place on the front stage of Japanese history. When the mission of Commodore Perry of the United States arrived in 1853, the Japanese feudal government, whose foreign policy at that time was strictly isolationist, was forced to open a port near the capital. Since then, the port and the City of Yokohama have functioned as a hub of international trade. As trade grew, many foreign nationals came to Yokohama and settled in the city, and Yokohama took on the appearance—particularly to wondering, formerly isolated Japanese eyes—of a foreign city. Soon, there was a need to expand port capacity. New port construction was implemented in 1896 and again in 1917, turning Yokohama into an even larger hub of trade and commerce.



Arrival of the Perry expedition in 1853

Devastation by disaster and war (1920s–1950s)

The Great Kanto Earthquake: In 1923, Yokohama, along with the greater Tokyo area, was struck by the Great Kanto Earthquake. Most major buildings, along with the city hall, schools, ports, and other infrastructure, totally collapsed and were further destroyed by a fire that razed the city. All city functions were totally paralyzed, and 95.5 percent of homes and buildings were destroyed.⁵ During the reconstruction process, city leaders decided to industrialize the city, responding to a growing global demand for heavy industries such as steel and ship building. Since then, Yokohama has developed its function as an industrial city, in addition to being a hub of commerce and trade.



City center devastated by the 1923 earthquake

⁵ City of Yokohama, Planning Bureau, Planning and Coordination Department, “Building the International Port City of Yokohama: Yokohama, A.D. 1859–A.D. 2001,” 2002.

World War II: Following a short period of recovery after the Great Kanto Earthquake, Yokohama experienced further hardship in World War II. Having important port facilities and industrial areas, Yokohama was a prime target for Allied attacks. As a result of the Great Yokohama Air Raid in May 1945, nearly half of the city area was razed to the ground. This devastation meant that Yokohama's postwar recovery took a substantial amount of time. One major obstacle to recovery was land requisition by the occupation forces. Most of the buildings left intact, as well as intact port facilities, were requisitioned by the Allied forces for a few years, and as a result the city's economic activity significantly stagnated. It wasn't until the early 1950s that the requisitioned areas reverted to Japanese control. The management of the port was transferred back to the city in 1951.



City devastated after the Great Air Raid 1945

Urbanization challenges (Post-1950s)

Rapid population increase: Gradually recovering from wartime devastation, Japan entered a high economic growth period. Yokohama and many other areas surrounding Tokyo experienced a huge influx of population from the Tokyo area, resulting in urban sprawl (figure 1.1). Strikingly, Yokohama's population doubled in just two decades, from 951,000 in the early 1950s to 2.3 million in the early 1970s (figure 1.2). This rapid increase in city population caused a variety of urban problems and became a challenge to the city and its leaders.

Scarcity of housing: In this period of rapid population growth, scarcity of housing soon became a serious issue, particularly in the suburbs of the city close to Tokyo, which received the most significant influx of population. The increased demand for housing resulted in both rapid and haphazard development by private developers and a significant rise in land value. During the five years between 1957 and 1962, the land value in the city surged 370 percent, in turn causing a surge in rental prices for housing. The

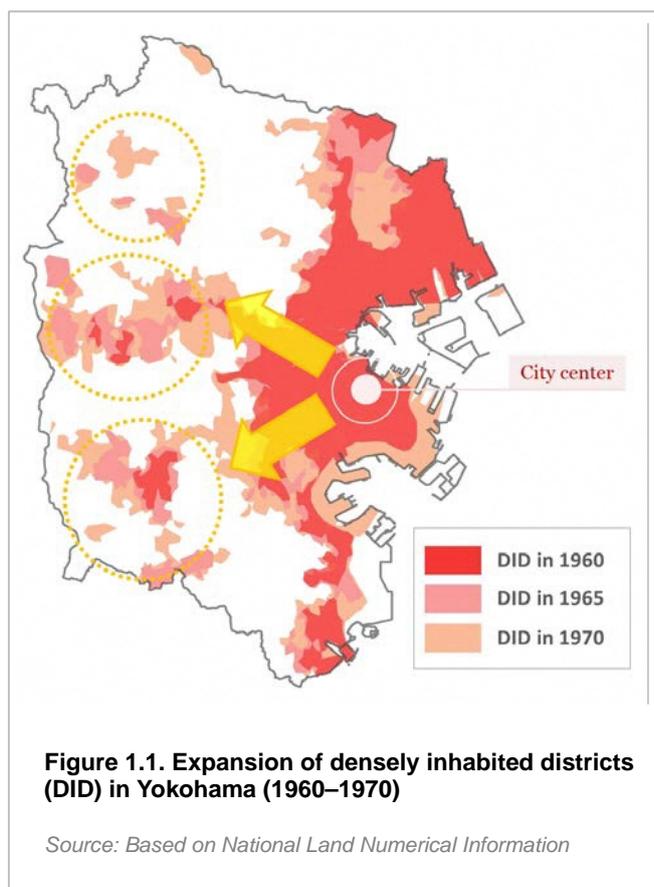
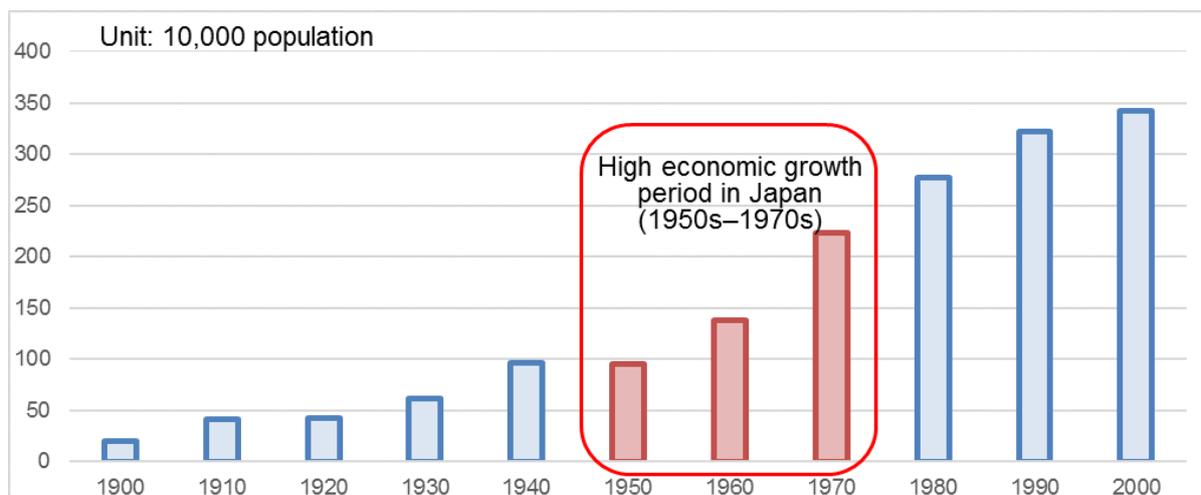


Figure 1.1. Expansion of densely inhabited districts (DID) in Yokohama (1960–1970)

Source: Based on National Land Numerical Information

rise in land value also resulted in home ownership in Yokohama dropping by 5 percent, to 61.4 percent, between 1955 and 1960.⁶According to the census of 1960, Yokohama was the worst city in Japan in terms of housing space per person.



Source: City of Yokohama

Figure 1.2. Population growth trend (1990 to 2000)

Poor infrastructure and living conditions: The rapid development and growing size of urban areas placed a significant financial burden on the City of Yokohama. The city was responsible for providing basic infrastructure services and public facilities to the newly developed residential areas, but the paucity of its budget meant that these services were delayed. Many of the newly developed areas remained without adequate levels of infrastructure services in the 1960s, documented by low infrastructure service penetration rates. According to the lifestyle survey issued by the city in 1964, the water supply penetration rate was 81.3 percent, which was the worst among the six largest cities in Japan (Tokyo, Osaka, Yokohama, Nagoya, Kyoto, and Kobe). Likewise, the sewage coverage rate was only 28.4 percent, compared to the six-city average of 32 percent, and the percentage of toilets connected to the sewerage system was a negligible 1.2 percent. Household waste was collected only 2.5 times per month on average, and uncollected waste became a source of foul odors and hygiene problems. The road penetration rate in the city as of 1962 was a mere 3.8 percent. Finally, difficulties in acquiring new public land meant that the number of schools was insufficient—and hence that schools were packed with more students than they were designed to accommodate.⁷

Serious pollution: Pollution also soon became a serious issue in Yokohama. According to the lifestyle survey of 1964, complaints regarding pollution accounted for 78 percent of total complaints by citizens received by the city in 1962. The most frequently reported forms of pollution were noise (45 percent), odor (38 percent), and smoke (18 percent), and these complaints came largely from areas

⁶ City of Yokohama, “Yokohama Lifestyle Survey,” 1964.

⁷ Ibid.

where small and medium enterprises (SMEs) were operating without adequate treatment facilities, and in close proximity to local residences.⁸ Moreover, an increase in traffic in the city added to the noise and air pollution, and led to a rising number of traffic accidents.



Air pollution originating in industrial zone

In summary

This chapter provided an overview of Yokohama's early history with a focus on the challenges it confronted. The city faced significant hardships across many decades, and its population suffered as a result. The rapid and largely unplanned urbanization that began in the 1950s created various pressures and demands within the city for appropriate urban management and development planning. The following chapter describes how Yokohama addressed these issues and created a new city through policy, city planning, and the formulation of citywide urban development projects.

⁸ Ibid.

CHAPTER 2

YOKOHAMA ACTS TO MEET ITS URBANIZATION CHALLENGES



Photo credit: Port and Harbor Bureau, the City of Yokohama

When rapid urbanization posed a significant challenge, Yokohama responded by completely changing the direction of the city's planning policy. A newly elected mayor reenvisioned Yokohama as a "City of Citizens," initiated citywide urban development projects (the Six Major Projects), and created a new organization called the Planning and Coordination Department. Taken together, these steps represented a break from the traditional administrative culture in order to promote cross-sectoral coordination and multi-stakeholder engagement within the city.

Rapid urbanization in Yokohama posed significant challenges to the city in terms of urban management and planning, and significantly increased the need for new city planning. This chapter describes how the city came to formulate a new planning policy and create an organization that would serve as focal point for new city planning. The chapter also introduces the beginnings of Yokohama’s new urban development projects—the Six Major Projects—and their main objectives.

An industrial Yokohama envisioned by national policy

Impetus to develop port facilities and industrial zones: In 1950, the Japanese government enacted the Law to Develop Yokohama as an International Port City. In accordance with this law, Yokohama’s mayors from 1950 to 1963 formulated a master plan for the city’s urban development. One outcome was the Basic Comprehensive Plan to Build an International Port City, published in 1957, which focused on improving the city’s port facilities as well as developing coastal industrial zones. How Yokohama shifted away from this focus toward people-centered development—despite the emphasis of national level policy on industrial development and hard infrastructure—is described below.

A shift toward a “City of Citizens”

Watershed election for “people-centered development”: Yokohama’s urban development policy was a front-and-center issue in the mayoral election of 1963. While the incumbent mayor focused on policies for “industry-led city development,” the challenger, Ichio Asukata, called for “people-centered development” that included citizens’ needs in city planning policy and that emphasized improving the living environment while also pursuing industrial development. Asukata was elected mayor based on his strong commitment to making Yokohama a “City of Citizens.” His election catalyzed a massive change in direction in Yokohama’s urban development policy, supported by citizens hoping for positive change in their urban environment.

Encouraging citizen’s participation in city planning: Placing people-centered development at the core of his city planning policy, the new mayor made efforts to understand local needs and introduced direct community participation in city planning. An enormous direct public hearing between mayor and citizens was conducted in October 1967, the first attempt in Yokohama’s history to encourage public involvement on a large scale. The hearing drew the participation of 10,000 citizens, and the mayor and participants openly discussed a wide range of topics of concern. Another distinctive approach of the mayor was an initiative known as



Public hearing with the participation of 10,000 citizens in 1967

Direct Letters from Citizens to Mayor, which solicited letters of complaint about the city environment. Comments about the lack of infrastructure services and public facilities helped the mayor understand the needs of citizens and make sure these needs were reflected in future city planning and action. Partly as a result of this initiative, the city began to offer medical service for the aged and immunization services for children free of charge; built public facilities such as schools, libraries, parks, playgrounds, and health care centers; and built or refurbished infrastructure facilities such as sewerage treatment centers.

Formulation of the Six Major Projects

Selective application of a project-based

approach to priority issues:

With people-centered development now at the core of city planning, the new mayor hired urban planning consultants to formulate a new city development plan that would address the underlying problems arising from rapid urbanization. In 1964, following intensive surveys and studies, a new vision for city development was announced: Yokohama was to become “a cosmopolitan city and leading cultural center” by virtue of its three main characteristics: its status as a port city, an industrial city, and a residential city (figure 2.1). In 1965, the overarching vision was followed by an announcement of major city development

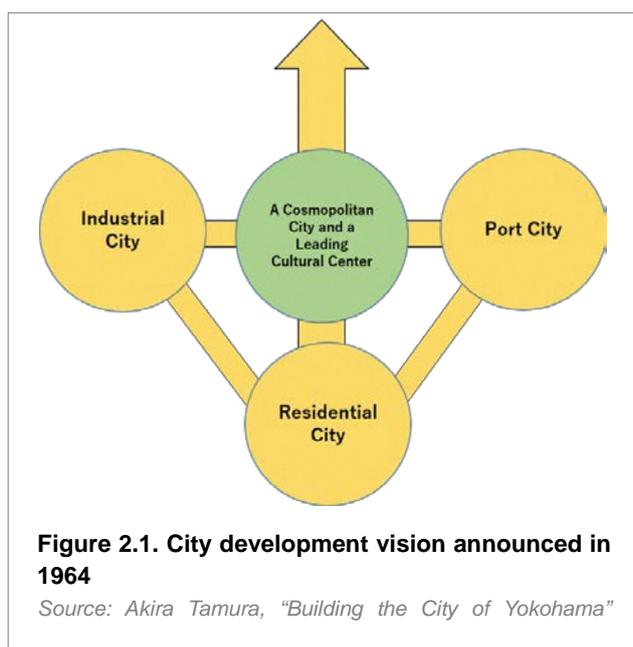


Figure 2.1. City development vision announced in 1964

Source: Akira Tamura, “Building the City of Yokohama”

plans called the Six Major Projects. These projects constituted a comprehensive response to existing urban development challenges and included the following:

- 1) Road network development with the redesign of the existing highway development plans to ease citizen concerns
- 2) Construction of a new and iconic bridge to ease traffic congestion
- 3) Enhancement and revitalization of the city center
- 4) Land reclamation for relocation of industrial zones
- 5) Development of sustainable residential towns
- 6) Subway development

What was striking about the Six Major Projects was that they represented a unified approach to strategically address priority urban issues. Despite comprising six individual components, the Six Major Projects were mutually linked and designed to synergistically and holistically solve urban problems.

Breaking traditional silos for integrated city planning

Need for “cross-sectoral” coordination: Before the tenure of Mayor Asukata, Yokohama's city administration was run by individual departments acting separately. As each department had a strong connection with related ministries within the central government, departmental policies and plans often heavily reflected the intentions of those ministries. Cross-sectoral coordination was rare, and the city's overall policy was often a mere collection of separate policies reflecting the individual ideas of each department. For example, Yokohama's transportation department worked as an agency of the Ministry of Construction and proposed constructing an elevated highway following national level initiatives, despite many concerns about impacts on local commercial activities, urban landscape, and other infrastructure development plans. With various departments pursuing individual goals in this manner, city planning lacked coherence as a whole, and it was difficult for the city to devise a comprehensive vision for future city development. Also, without a specific department responsible for actual implementation of city planning, what was planned often remained on paper.

Confronted with the situation of multiple departments implementing individual plans, the new mayor vigorously carried out administrative reforms. The Planning and Coordination Department (PCD) was established in 1968 to improve internal and external coordination. The PCD was positioned right under the mayor, and Akira Tamura, one of the urban planning consultants who worked on the new city development plan (see section above), was appointed as head of the PCD and tasked with realizing the mayor's concept of a “City of Citizens.”

In summary

This chapter showed how Yokohama changed the direction of its city development from industry-led development to people-centered development. Once there was a clear vision of the city's ideal future, the Six Major Projects were formulated to address priority urban development issues while establishing necessary infrastructure facilities. When a lack of cross-sectoral coordination was identified as an obstacle to implementing the planned integrated urban development projects, a coordination department, PCD, was established to enhance internal and external coordination. The next chapter takes a closer look at PCD, including its special functions and missions, unique organizational characteristics, and management approaches.

CHAPTER 3

AN INSTITUTIONAL BREAKTHROUGH: ESTABLISHMENT OF PCD



Yokohama introduced the Planning and Coordination Department to manage and implement the Six Major Projects. To carry out this very specific mission, the PCD was positioned directly under the mayor in the organizational hierarchy of the city. PCD's unique management methods and capacity development activities raised the caliber of city staff and allowed them to effectively support the implementation of extremely long-range projects.

The Planning and Coordination Department was established in 1968 as a special organization tasked exclusively with managing and implementing the Six Major Projects. This chapter explores PCD's background and history, organizational structure, roles and missions, and unique management methods.

Mission and position in the city's organizational hierarchy

A department responsible for the Six Major Projects: The specific mission assigned to PCD was the implementation and overall project management of the Six Major Projects. In order to pursue this mission, PCD was positioned within the city's organizational hierarchy with a direct reporting line to the mayor and thus above other departments. Leveraging its favorable position within the organization, PCD was able to enhance internal cross-sectoral coordination between departments as well as external coordination of agencies, thus contributing to integrated city planning.

Department structure and major assignments

PCD's five major responsibilities: PCD consisted of five main sections—Project Development, Urban Research, Administration, Comprehensive Land Use Planning, and Planning and Design—with around 40 staff as of 1974. Overall, PCD was responsible for the management of the Six Major Projects and through this, the pursuit of sound urban development in Yokohama. It was given five more specific tasks or responsibilities (described below), which were each chiefly pursued by the most relevant section among PCD's five main sections; see figure 3.1.

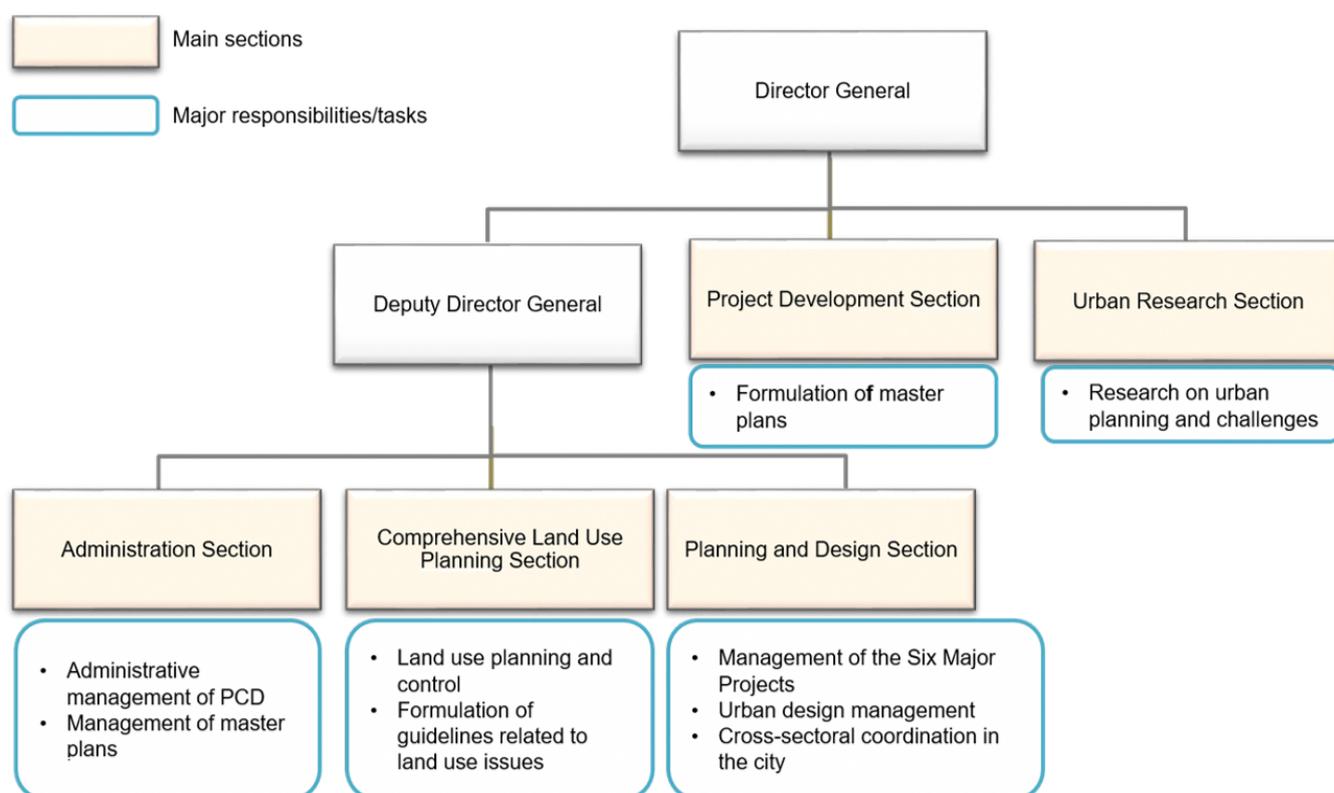


Figure 3.1. Organizational structure of PCD (as of 1974)

1) Implementation of the Six Major Projects: PCD's Planning and Design Section was positioned as the head of project management for each of the Six Major Projects. This section handled all issues that came up during the implementation process. In carrying out the Six Major Projects, the PCD adopted a centralized project-based approach that strategically prioritized urban issues citywide and addressed them by implementing projects selectively; this was a departure from previous sector- and department-based selection and implementation. Using this approach, Yokohama and PCD were able to direct limited municipal resources to address the highest-priority issues. Such a deliberate project-based approach on the part of the city administration was an innovative practice at the time, and was adopted as a practical means to ensure that plans were actually implemented. Under this task, PCD clarified the goals and vision of each project, so that stakeholders and citizens could better understand the importance of and rationale for each of the Six Major Projects.

2) Land use planning and control: PCD's Comprehensive Land Use Planning Section was in charge of overseeing land use in the city and preventing unplanned development. To ensure that development occurred with appropriate oversight and adequate levels of city-provided infrastructure and facilities, Yokohama first prohibited development in much of the city's undeveloped area under the City Planning Act (1968). Regulations and development restrictions were relaxed in these areas only when city budgets were ready for proper, planned development in them. Through this means, the city was able to control the speed of urbanization and promote urban development incrementally. PCD also developed additional regulations on land use to supplement deficiencies in existing laws and regulations; for example, it created guidelines to preserve townscapes, guidelines to conserve public land where scarce, and regulations requiring developers to create open green space for the public when constructing buildings. Such efforts allowed PCD to control the speed and location of urban development in Yokohama.

3) Urban design and planning: The concept of overall urban design had been newly introduced to Yokohama's city planning around the time PCD was established. Yokohama wanted an integrated city design to make the city more attractive as well as comfortable for citizens. To this end, an urban design team was established under PCD's Planning and Design Section, a first in the city. The team led the design of architecture and promenades, not only for the Six Major Projects but also for other projects undertaken in the city. Urban design was often discussed together with the issues of land use and landscape in the Six Major Projects, and the team was also involved in creating guidelines that regulated such issues.

4) Cross-sectoral coordination: PCD's role included cross-sectoral coordination between departments within Yokohama's city administration. When PCD was first established, each city department was strongly connected to its related "home" ministry in central government, and policies formulated at the city level were greatly influenced by related policies at the national level. To create consistency within the city's planning, the PCD played the role of negotiator, adjusting

opinions from each department to foster more integrated urban development in line with the overall vision and plan for the city.

5) Urban research: As PCD was responsible for examining and analyzing public opinion on city policies, an Urban Research Section was created for this task. This section ensured that local needs, extracted from public opinion, were reflected in city policy. It conducted studies on the living environment in Yokohama via a lifestyle survey, and compiled and disseminated the results. This section also periodically published studies and reports on urban issues, a practice that continues today. To strengthen the PCD's ability to coordinate, this department also assessed departmental budgets and their use across the City of Yokohama.

Strategic staff posting and recruiting

Recruitment of staff from a diversity of professional backgrounds: In a departure from convention, PCD was staffed by people from diverse backgrounds, recruited internally as well as externally, so that PCD could act beyond traditional departmental boundaries as well as coordinate among departments. Going against conventional recruiting and appointment methods, which sourced staff from within the city government, the head of PCD himself, Akira Tamura, was headhunted from a consulting firm with the expectation that he would be able to successfully implement the Six Major Projects. He had been a member of the team of consultants hired by Mayor Asukata that conducted preliminary surveys for Yokohama's new city planning and developed the concept that later became the Six Major Projects. Committed to making his original plans a reality, the new head of PCD vigorously led project implementation throughout his tenure (1968–1980). To make PCD functional, Tamura recruited new staff with diverse expertise and professional backgrounds who were able to handle the wide range of issues required by the Six Major Projects. Some positions were filled with staff recruited from relevant internal departments, but other positions, such as the urban design team, were given to outside recruits, including the young designers who later helped establish Yokohama's urban design concept. By recruiting staff with appropriate backgrounds and posting them to the right positions, PCD gained the institutional capacity to holistically tackle and cope with the myriad of issues that inevitably arose in the course of implementing the Six Major Projects.

Innovative PCD approaches and the “Yokohama method”

Inculcating flexibility, teamwork, and information sharing: The new head of PCD introduced many innovative approaches and methods in pursuit of effective organizational management and smooth project implementation. In particular, Tamura placed great weight on human resource development and sought to cultivate this same mindset among his staff as well as the large city administrative body. The importance accorded to human resource development was also clearly reflected in PCD-led activities and operations, including in two innovative conceptual management styles, known as “*atypical liquidity*” and “*one-large-table principle*,” and in a capacity development style called “*periodic meetings to crystallize and set project goals*.” These approaches, described below,

together form the “Yokohama method” and are still utilized as an effective management method in Japan, particularly in the field of urban development.

- **Atypical liquidity:** This pragmatic management concept officially recognized the need for flexibility in planning and the fact that needs change over time and sometimes make old plans obsolete. This approach was not only useful for project management, but also helped planners make decisions and function in the absence of a proper legislative framework. In such a situation, planners might need to act spontaneously—for instance, by setting up a tentative regulatory framework until the national framework was established. This concept, espoused by Akira Tamura, was adopted by PCD as a core principle and became a code of conduct for those involved in planning.
- **One-large-table principle:** PCD meetings were conducted by gathering around a single round table to discuss ideas and share information—an atypical practice in Japanese society at that time. The goal of this practice was threefold: (1) to increase solidarity among staff members; (2) to ensure that all necessary information about projects was equally shared among staff; and (3) to enhance the exchange of ideas. As an added benefit, it helped staff avoid overlapping of tasks and duplication of work, since staff members knew what tasks others were working on; it was thus possible for each task to be performed more comprehensively than it would have been otherwise.
- **Periodic meetings to crystallize and set project goals:** Regular meetings under the *one-large-table principle* were conducted at PCD, mainly for the benefit of less senior members (below manager level) for educational purposes. As part of a capacity development exercise, these less senior members were asked to clarify the goals and objectives of the individual tasks over a week, a month, or several months, and then discuss processes and methods before all of the staff. In addition, reaching beyond PCD itself, the head of PCD regularly conducted study meetings with the purpose of educating young professionals. Typically, participants from several different departments were encouraged to discuss a variety of topics concerning the city, including approaches and measures to address related issues.

In summary

This chapter provided an institutional overview of PCD, an organization specially created to implement the Six Major Projects. From its position high within the organizational hierarchy of the city, PCD was able to promote cross-sectoral coordination among stakeholder departments and overcome the typical bureaucratic sectionalism in municipal culture, thereby solving a myriad of challenges in project implementation. The next chapter will discuss the Six Major Projects and key actions taken by the PCD to resolve Yokohama’s urban development challenges.

CHAPTER 4

A “CITY OF CITIZENS”: HOW PCD MET CHALLENGES TO CREATE A NEW YOKOHAMA



Photo credit: Port and Harbor Bureau, the City of Yokohama

The Six Major Projects were a comprehensive urban development plan consisting of six individual but mutually linked projects, designed to resolve priority urban problems in the city as a whole. As project implementer, the Planning and Coordination Department developed several innovative approaches to address the challenges it encountered.

This chapter first outlines the objectives and outcomes of the Six Major Projects so that the challenges they presented—and the solutions found by PCD to overcome them—can be better understood. The chapter then examines the unique approaches and methods developed by PCD in four categories: land use management, financial mechanisms, coordination, and public engagement.

The Six Major Projects

Strategic formulation as the backbone of the new Yokohama: The individual projects comprising the Six Major Projects—summarized below (with the years of implementation in parentheses)—were designed to synergistically work toward solving Yokohama’s urban development challenges. They were also carefully planned as an integral part of a new Yokohama. The geographic location of the projects is shown in figure 4.1; the time frames for their implementation are shown in figure 4.2.

- 1) **Revised development of a highway network (1968–1980):** The objective of the road development project was to mitigate inner-city traffic congestion and improve connectivity to the Tokyo metropolitan area. A predecessor plan, already agreed upon by the central government before the Six Major Projects were developed, risked harming the landscape of the city center, and the PCD successfully proposed an alternate, pedestrian-friendly plan.
- 2) **Yokohama Bay Bridge construction (1964–1989):** The bridge construction project aimed to build an iconic new bridge that would enhance the landscape while also alleviating traffic congestion in the city center. The resulting cable-stayed bridge, 860 m long, adds to the beauty of the Yokohama skyline and remains an icon of the Yokohama waterfront.
- 3) **City center enhancement project (1969–1983):** The process of creating a new Yokohama entailed revitalization of the city center. The project site, nowadays well-known as “Minato Mirai 21,” is one of Yokohama’s most popular shopping and tourist destinations, as well as a business district.
- 4) **Kanazawa land reclamation project (1968–1986):** A land reclamation project off the Kanazawa shoreline aimed to create industrial zones where businesses could be relocated away from the city center. The project was designed to include a recreation space and green buffer dividing residential areas from the industrial area, as well as well-managed business infrastructure.
- 5) **Kohoku New Town development (1965–1996):** A sustainable residential town was developed in the Kohoku area, incorporating several innovative and resident-friendly urban environment approaches.
- 6) **Subway development (1968–1999):** The objective of the subway project was to connect suburbs and the city center and to provide a commuter line that enhanced business and livability. Subway lines now connect suburbs, including the Kohoku New Town area, to the Kanazawa area

as well as the city center.

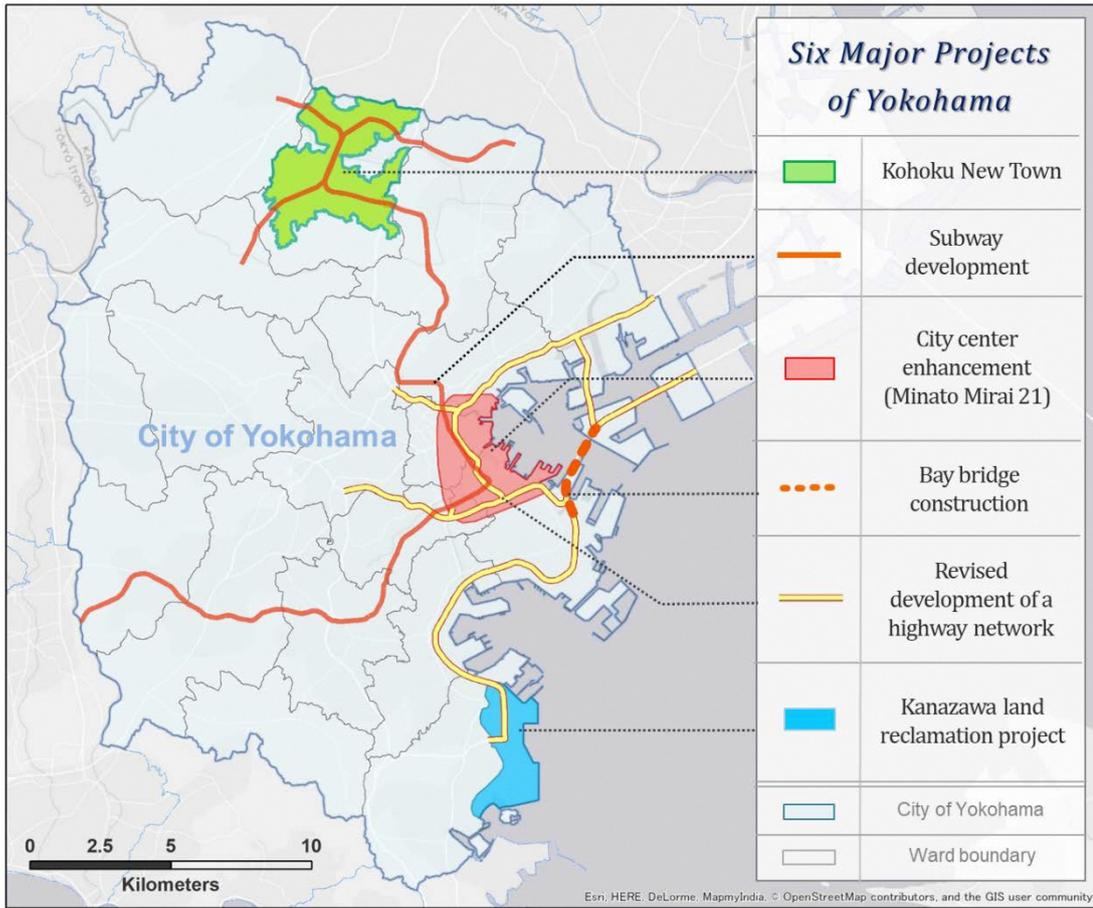


Figure 4.1. Location of the Six Major Projects

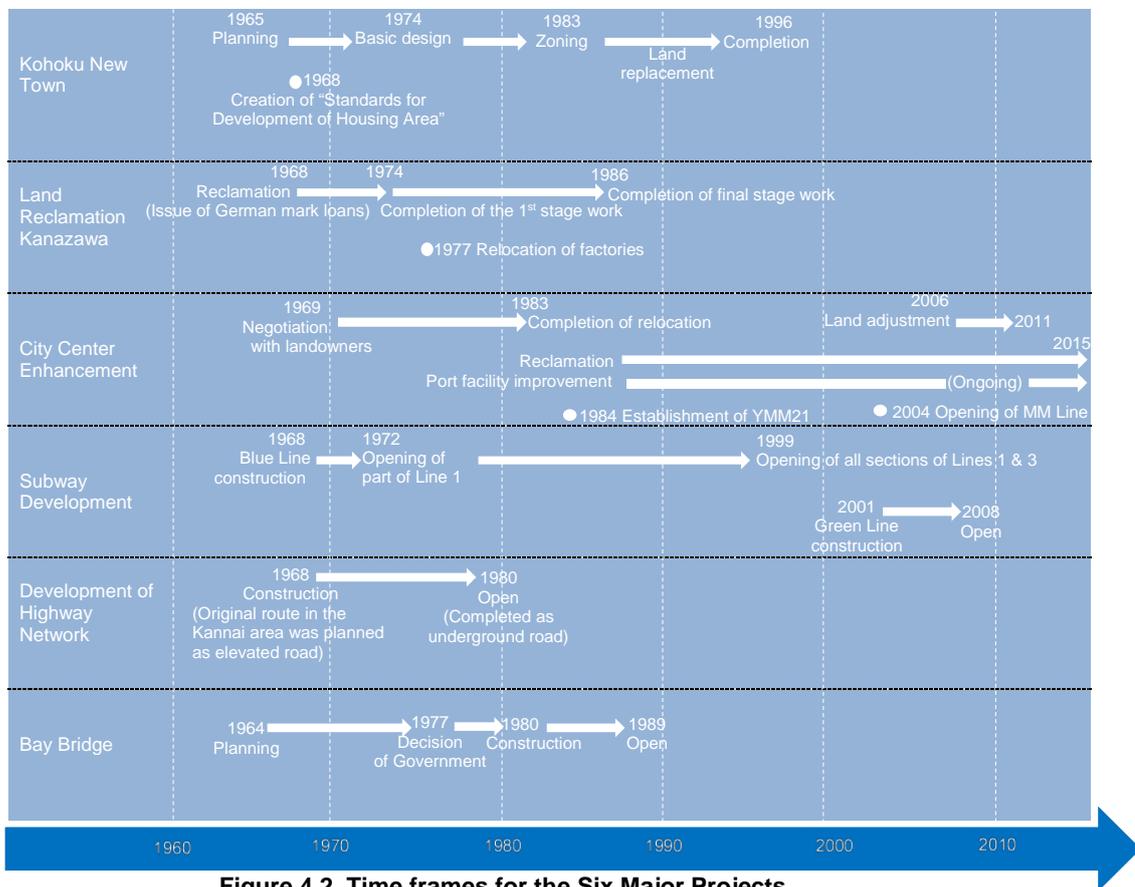


Figure 4.2. Time frames for the Six Major Projects

The Six Major Projects: A closer look

1) Revised development of a highway network (1968–1980)

Intended to ease inner-city traffic congestion, this project became the first test of whether Yokohama could stay true to its vision of creating a “City of Citizens.”



Figure 4.3. Highway in Yokohama

Source: Metropolitan Expressway Company Limited



There was an urgent need to control the heavy traffic resulting from travel between Yokohama and the Tokyo metropolitan area following the rapid increase in the number of vehicles in both areas. The original plans for a highway connecting Tokyo and Yokohama, which were created by the central government before the Six Major Projects were announced, called for an elevated highway that harmed the beauty of the city center. PCD proposed an alternative plan, which required part of the highway to be constructed underground (figure 4.3, right). The subsequent negotiation was one of the first and most challenging tasks for PCD because it involved disagreement with the central government. Such counterproposals were extremely rare at the time and considered troublesome; for PCD, a new organization without established trust and support relationships even among city colleagues, pressing the counterproposal was doubly difficult. However, PCD’s eventual success increased its standing within the city and ultimately strengthened its other projects.

2) Yokohama Bay Bridge construction (1964–1989)

Yokohama’s new iconic bridge aimed to alleviate heavy traffic in the city center.

Closely integrated with the highway project (above), the construction of the Yokohama Bay Bridge created a direct link between the coastal industrial zones of Yokohama and the Tokyo area, enabling cargo traffic to bypass the busy city center. Construction of the bridge started in 1980 (although planning and decision making began as early as 1984), and it was completed in 1989. The 860 m cable-stayed bridge was designed



Night view of Yokohama Bay Bridge

not only to mitigate traffic but also to create a beautiful waterfront, and it remains an icon of Yokohama to this day.

3) City center enhancement project (1969–1983)

Planned as the core of the new Yokohama, the city center represents a creative and innovative city.

This project, also known as the MM21 project, aimed to develop a new city center that would also serve as the economic hub of the prefecture. A central element within the Six Major Projects, this project consisted of three subprojects: (i) relocation of a ship-building yard of a dominant heavy industry firm (Mitsubishi Heavy Industries Ltd.); (ii) reclamation of the coastal area near the ship-building yard and readjustment of unused land (figure 4.4); and (iii) development of a subway line connecting the two existing urban centers—the old city center of Yokohama and Yokohama Railway Station—via the MM 21 site. The negotiation for relocating the ship-building yard commenced in 1969, and relocation was finally completed in 1983. A private company named Minato Mirai 21 was established in 1984 to take over PCD’s role in the city center’s continued development.



Aerial view of MM21

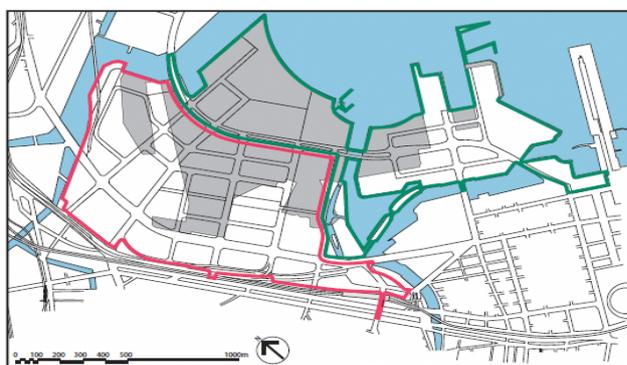


Figure 4.4. Reclamation and readjustment works of MM21

Source: City of Yokohama

Zone	Project Name	Developer	Remarks
	Land Reclamation	Yokohama City	74 ha. Term: Dec.1983 - Aug.2015
	Land Readjustment	Urban Renaissance Agency(URA)*	102 ha. Term: June2006 -march.2001
	Port Facility Improvement	Yokohama City National G'ment	78ha. Term : 1983-ongoing



Inside Minato Mirai station: Railway station and commercial building were integrally developed.

4) Kanazawa land reclamation project (1968-1986)

New industrial zones were developed for relocated SMEs and a ship-building company.

As urbanization accelerated in Yokohama, industrial activity by SMEs operating without proper waste treatment facilities created environmental problems. To relocate these SMEs, a reclamation project on the Kanazawa shoreline was carried out in 1968 and developed as an industrial zone. This project was also strongly linked to the rehabilitation of the city center, as a dominant heavy industry firm was relocated from the city center to this area. The industrial zone was well designed and included infrastructure such as sewage and waste treatment systems. The project also created an environment that allowed employees to live close to their workplaces. Business and housing areas were divided using a green buffer zone, and recreational spaces and public facilities provided a comfortable living and working environment (figure 4.5).



Figure 4.5 Map of the Kanazawa industrial zone showing land use

- | | |
|---|--|
|  Residential zone |  Green zone |
|  Urban facilities zone |  Urban redevelopment zone |

5) Kohoku New Town development (1965-1996)

This urban development project was one of Japan's largest carried out via public-private cooperation.



Kohoku New Town

In the 1960s, the suburban areas of Yokohama saw a dramatic rise in unplanned development. The Kohoku New Town project aimed to preempt such development in the Kohoku area by collaboratively designing a new town with input from existing residents and private sector developers. Three innovative approaches were applied by the

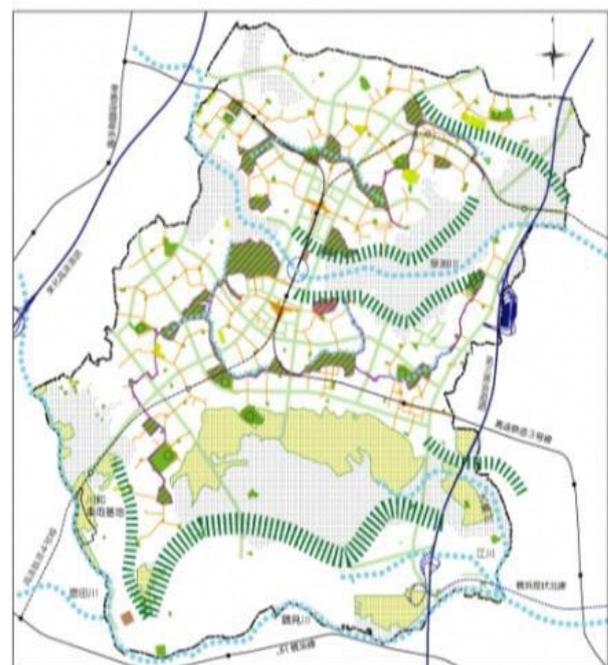


Figure 4.6. Green matrix

Source: City of Yokohama

PCD to this project: (i) the creation of guidelines (“Housing Area Development Guideline”) that were not legally binding, but that nevertheless communicated a vision to the private sector developers and elicited their voluntary cooperation; (ii) the “green matrix,” which was systematically designed to connect the development’s scarce parks and trees by means of footpaths, thus visually optimizing the sense of a green environment despite land limitations (figure 4.6); and (iii) active resident participation in the decision-making process, including zoning and “selective land relocation,” which allowed landowners facing relocation to select (from within designated areas) where they would be moved. See the next section for more details on approaches (i) and (iii).

6) Subway development (1968–1999)

The subway provided a connection between the suburbs and the city center.

The project aimed to develop a commuter line (Yokohama Municipal Subway) between the city center and suburban areas, including the Kohoku New Town, in order to enhance business and livability functions of the city overall. The Yokohama Municipal Subway is operated by the City of Yokohama Transportation Bureau and has two lines: the Blue Line and the Green Line (figure 4.7). The construction of the Blue Line started in 1968 as part of the Six Major Projects. The Green Line is a new addition that opened in 2008. The subway lines also function as a direct connection to the Tokyo metropolitan area.



Figure 4.7. Line map of Yokohama Municipal Subway: Blue and Green Lines

PCD's unique approaches and methods

Facing challenges by creating new solutions: In implementing the Six Major Projects, PCD faced a variety of challenges, such as lack of appropriate regulative frameworks for land use control, paucity of municipal budgets, and the need for coordination among stakeholders. To deal with these challenges, PCD applied unique approaches and methods according to individual projects' needs. These approaches and methods included *land use management*, *financial mechanisms*, *coordination*, and *public engagement*. Each category is discussed below and illustrated by one or two examples.

Land use management via consensus-based frameworks

Overcoming the lack of existing legislation and frameworks: Effective urban development requires proper management of land use, including regulation of unplanned development. However, land use management can be challenging to municipalities when appropriate national level legislation and/or regulative frameworks are absent, as was the case in Yokohama. PCD overcame this difficulty by developing its own regulatory frameworks—based on consensus—for use in the Kohoku New Town and Minato Mirai 21 (city center enhancement) projects.

Securing public land through the Housing Area Development Guideline: In Kohoku New Town, the scarcity of public land became a serious issue when rapid housing development caused a significant rise in land value. Although it was the city's responsibility to provide basic public infrastructure and facilities such as water supply, sewerage systems, roads, and schools, Yokohama's limited budget made it difficult to acquire the land needed for this infrastructure. As there were no laws or regulations in place that properly regulated securing of public land for housing development, PCD developed the Housing Area Development Guideline (Guideline). It instructed real estate developers to transfer part of the land they were developing to the city—through sale at low prices or donation—to enable the development of public infrastructure and facilities.⁹ This was regarded as quite an innovative approach at the time: namely, a municipality taking spontaneous action to develop its own rules on land use in order to compensate for the lack of applicable legislation at the national level. Although the Guideline itself did not have legally binding power, it is noteworthy that the vast majority of private sector developers complied with it in pursuit of the public good.

Consensus-based land use control in partnership with private sector: For the city center enhancement project (the MM21 project), PCD was faced with the task of long-term land use management across a vast area and the need for integrated urban development in cooperation with

⁹ For land infrastructure development, the private developers were required to donate more than 3 percent of development area, with the minimum requirement being 150 m², while more than 4 percent was required to public development agency. For public facilities such as schools, developers were required to sell 5 percent of development land at ¥3,000/m² (approximately US\$27m²). City of Yokohama, "Housing Area Development Guideline in City of Yokohama", *Periodical Study Report* 19 (1968): 75-78.

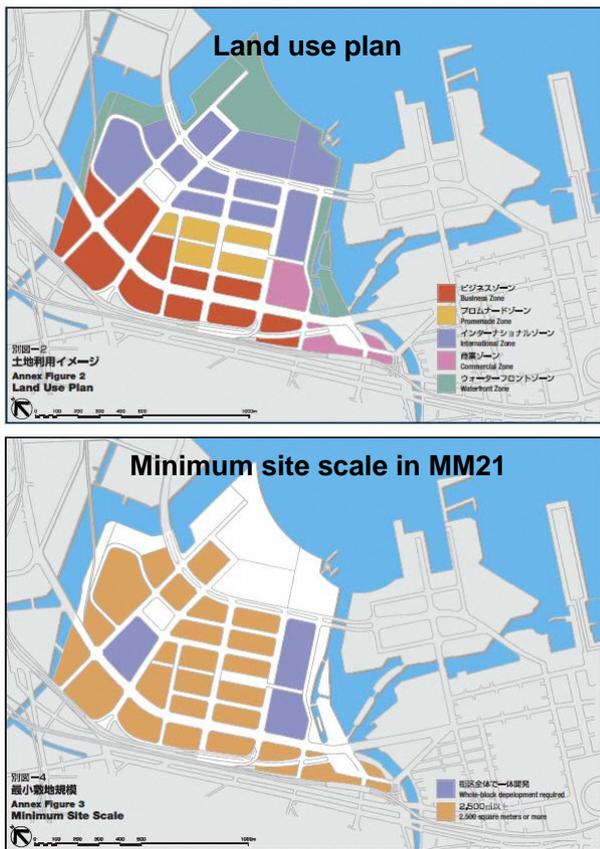


Figure 4.8. Land use plan and minimum site scale in MM21 under the Agreement
 Source: City of Yokohama

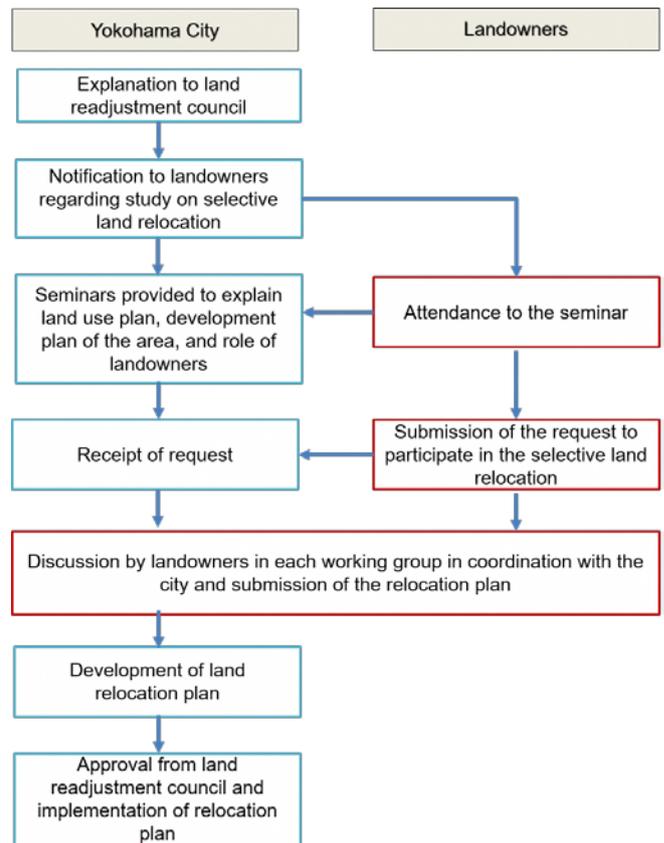


Figure 4.9. Approval flow on development plans by private developers within the City Planning Council
 Source: Hiroshi Kishida, “City Planning Strategy and Project Management”

the private sector. In an urban development project of this scale, it was desirable to have the public and private sectors act as joint managers and work together under a cooperative framework. Thus, the **Yokohama Minato Mirai 21 Corporation (YMM21)** was established in 1984 as a public-private joint company to promote appropriate land use management and planning in the area. An innovative approach taken by YMM21 was the creation of shared rules that governed the direction of MM21 development and that were applicable to businesses and landowners. These rules—the Basic Agreement on Town Development under Minato Mirai 21 (Agreement)—were agreed upon in 1988 by major landowners. The Agreement laid out rules on land use and zoning; it also touched upon construction matters such as minimum site scale, building height, space for pedestrian networks, and setback of external walls (figure 4.8). The Agreement was operationalized and managed by a subsequently established **City Planning Council**, whose core members were the city, YMM21, and relevant businesses. YMM21 took on the responsibility of scrutinizing the development plans submitted by developers prior to obtaining legal construction permission; submission of plans was then made compulsory for all developers who wished to take part in city development. The submitted plans were examined by a committee over several discussion sessions with developers; plans were often modified to more closely match the development concept of MM21 (more detail on the process is in figure 4.9). The overall approach actively involved private developers in the city development process, enabling them to leverage their ideas and knowledge to create a city center with a unique look and feel.

Mechanisms to share financial responsibility

Exploring multiple financial mechanisms: The City of Yokohama needed to mobilize as much private sector funding as possible for the implementation of the Six Major Projects. The projects would place a significant financial burden on city finances if the sole budgetary source was public funding through the general municipal budget. Thus, PCD explored various approaches for the City of Yokohama to raise funds in partnership with the private sector. Significant efforts were also made to raise funds using municipal and foreign bond schemes.

Outsourcing downstream development activities to the private sector: In terms of property development activities conducted as part of the Six Major Projects, the role of the City of Yokohama and PCD was usually limited to planning and overall project management. Actual implementation, including land readjustment,¹⁰ construction, and business operation, was outsourced to the private sector, an arrangement that allowed portions of the development project to rely on the financial resources of the private sector. For example, the Kohoku New Town development project was implemented in cooperation with the Urban Renaissance Agency (UR)¹¹, a private sector entity (figure 4.10).

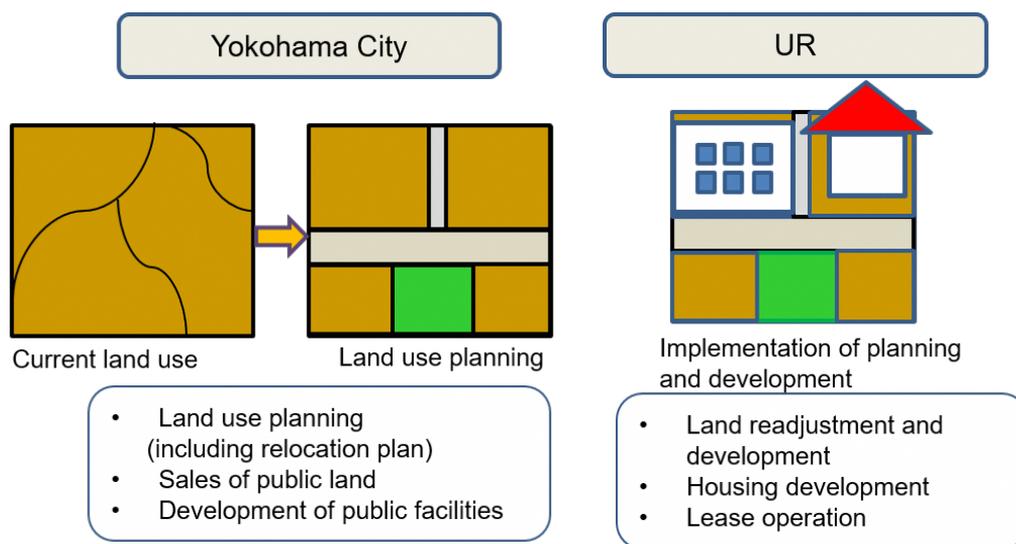


Figure 4.10. Shared responsibility between the city and UR in the Kohoku New Town development project

¹⁰ Land readjustment is an approach commonly used in Japan to enable the government to assemble private land for urban expansion regeneration. The government pools or assembles the various privately owned land parcels in a given area and prepares a land use plan for the overall area, including designating spaces for public infrastructure and services such as roads and open spaces. It then implements the plan and provides the necessary trunk infrastructure. At the end of the process, the government returns to all landowners a land parcel proportional to their original parcel but of smaller size (for instance, 50–60 percent of the original land parcel)—except that the new land parcel is of a higher value because it is now serviced urban land. World Bank, “Land Readjustment,” <https://urban-regeneration.worldbank.org/node/31>.

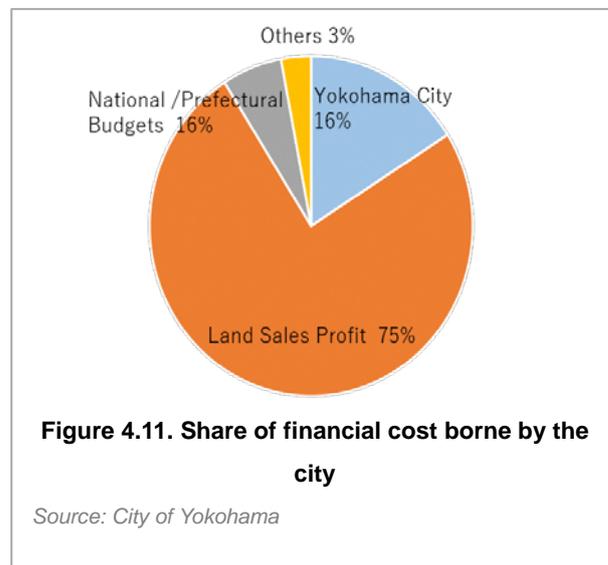
¹¹ UR was formerly the Japan Housing Corporation, an independent public corporation established to address Japan’s post-war housing shortages and responsible for large-scale housing developments, including land acquisition, land readjustment, and housing supply and lease.

The city was responsible for land use planning, sale of public land in preparation for development, and provision of public facilities in the developed area. Upon acquisition of land, UR implemented the actual property development in accordance with the city land use plan after land readjustment, and once the area was developed it ran a housing lease operation as part of its business scheme.

Sharing financial costs with the private

sector: The city center enhancement project significantly utilized private sector resources. Because of the project’s extremely large scale, the responsibility for MM21 development was shared by the city and multiple private sector partners. For this project, the City of Yokohama was responsible for land use planning, land reclamation of shoreline areas, and development of port facilities. On the private sector side, UR took responsibility for land adjustment, while Mitsubishi Estate, which became one of the largest landowners of the MM21 district, handled property development. The financial

burden was also shared between the parties. The City of Yokohama bore 16 percent of total project cost, which covered the tasks it was responsible for, and the remaining cost was covered chiefly by land sale profits, although national and prefectural budgets were also partly utilized (figure 4.11).



Issuing bonds to fund project implementation: The City of Yokohama issued long-term municipal bonds in an effort to increase financial resources in this period. The funds raised through bonds were utilized by many of the Six Major Projects, as shown in table 4.1. When the Kanazawa land reclamation project required substantially more funds than could be covered by municipal bonds, a PCD staff member suggested using German mark bonds to take advantage of their long-term low interest rates. In total, German mark bonds were issued three times over the lifespan of the land reclamation project; along with yen-denominated bonds and land sales, these bonds helped secure the project’s financial source. The use of foreign bonds was deemed quite radical at the time, but the City of Yokohama successfully diversified its financial sources and obtained the necessary funds to complete its projects.

Table 4.1. Main financial sources of the Six Major Projects

Project	Chief financial sources
Kohoku New Town development	- Land sales profit (97%)
Kanazawa land reclamation project	- Bonds (36%) - Land sale profits
Subway development (Green line)	- Bonds (50%) - Subsidies
City center enhancement project	- Land sale profits (75%) - National, prefectural, and city budgets
Revised development of a highway network	- Bonds (82%) - National, prefectural, and city budgets - Subsidies
Yokohama Bay Bridge construction	- Bonds (96%) - National, prefectural, and city budgets

Source: City of Yokohama

Coordination within the city organization and beyond

Coordination as a key factor contributing to the success of the Six Major Projects: As described in earlier chapters, a major problem hampering implementation of the Six Major Projects was the lack of coordination among city departments; this was the problem PCD was established to address. PCD worked on a daily basis to connect and coordinate among relevant parties and foster dialogue between them.

Persistent coordination by a cross-sectoral entity: Coordination was key to the PCD's ability to change the original highway construction plan. Although a plan for an elevated highway had already been agreed to by Yokohama and the central government, there were concerns that an elevated highway through the city center would be aesthetically unattractive and that it would cut off a bustling shopping area and hurt local commerce. To press for an underground highway instead, PCD coordinated with both internal city actors and external actors in the prefectural and central government. It held meetings with relevant city departments, including road construction, city planning, and transportation, which all acted independently of one another and according to the policies determined by the central government (and which therefore opposed the idea of an underground highway). But persistent negotiation by PCD persuaded relevant departments that an underground highway was the better option. Externally—outside the city administration—PCD negotiated with the prefectural and central government, directly approaching key persons in the Ministry of Construction and elsewhere to argue—ultimately successfully—that the underground

highway was best for the city. Equipped with both a bird's-eye view of the needs of the city as a whole and an understanding of departmental concerns, PCD was able to successfully advocate for the city.

Directly engaging with stakeholders and the public

Setting up public-private councils for direct dialogue: In 1967, after the launch of the Kohoku New Town development project, the City of Yokohama organized the **Kohoku New Town Development Council** to foster communication between the city, local residents, and the private sector development partner, UR. The purpose of the council was to inform local residents of development plans, and to listen to their feedback, positive and negative. The council comprised staff from the City of Yokohama and UR as well as representatives of each district in the Kohoku area, and all that was discussed in the council was reported directly to the mayor. In addition to the general committee, the council was organized into three special committees that focused on land readjustment, agricultural land management, and the living environment. This council enabled the City of Yokohama and PCD to successfully handle sensitive issues, such as land relocation, through direct dialogue with local residents.

Selective land relocation: In an ambitious and large-scale undertaking like the Kohoku New Town development project, land readjustment was inevitable and that a large number of landowners in the project area were faced with relocation and zoning adjustments. To proceed with necessary land readjustment while also meeting the needs of landowners, the city introduced a selective land relocation method that allowed landowners themselves to select the land where they would be relocated from among various appropriate zones. Selective land relocation was conducted through the Kohoku New Town Development Council (see section above), as follows: A construction study section was established within the council to discuss the relocation plan and four designated zones: city center, residential area, factory and warehouse, and agricultural area. A working group for each zone was organized to discuss the detailed land use plan, plot scale, and overall future vision for the designated areas allocated to that particular zone. Discussion points were submitted to the city as stakeholder requests and then reflected in the relocation plan (figure 4.12). This innovative method of land relocation successfully managed a large-scale relocation while taking the needs of landowners into account. This was the first time such a participatory form of land relocation had been attempted in Japan, and the land use plan established through this process is the foundation of land use plans used in Kohoku New Town today.

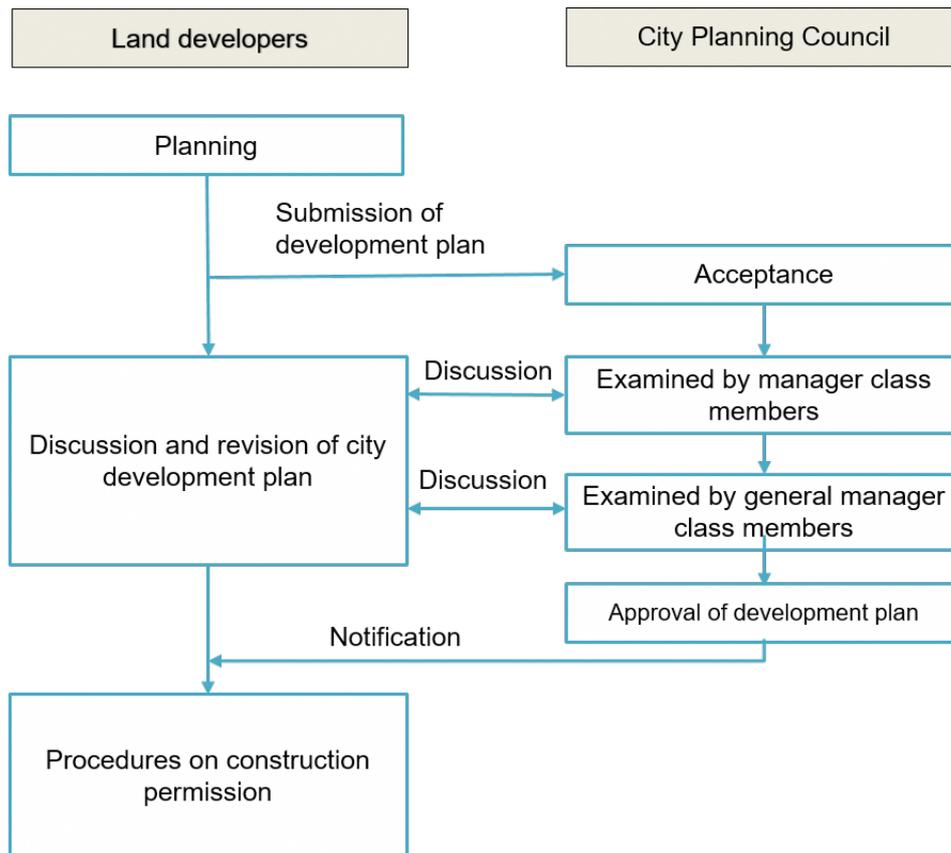


Figure 4.12. Implementation process for selective land relocation

Source: Urban Renaissance Agency

In summary

This chapter provided an overview of the Six Major Projects, a diverse set of infrastructure and urban development projects implemented by PCD. PCD used unique approaches to land use management, financial mechanisms, coordination, and public engagement to solve challenges posed by the projects. At least partly owing to PCD’s creative and proactive problem solving, the City of Yokohama successfully implemented its citywide integrated urban development plan. PCD’s unique approaches and methods are still considered effective and are in use in Yokohama as “PCD legacies.” The next chapter describes Yokohama’s post-PCD urban development and how the PCD legacies are being utilized in three representative next-generation urban projects.

CHAPTER 5

SUSTAINABILITY AND MEETING THE CITY'S CHANGING NEEDS



Sustainable development is one of the main concerns for any city today. Yokohama's first and foundational phase of planned urban development saw 30 years of steady progress and created long-lasting benefits. The PCD was dissolved mid-way through this period, in 1983, but the momentum created by PCD carried the Six Major Projects to completion, and PCD's legacies, including the focus on people-centered development, are evident in the next-phase urban development projects now under way in Yokohama.

The Six Major Projects, commenced in the 1960s, all successfully reached completion in the early 1990s. These were extremely long-term projects, even in urban development terms, and they turned Yokohama into a city renowned for its urban design and integrated urban development. Many events occurred during the 30 years that could have derailed any of these six projects, including mayoral elections and organizational reforms that saw the dissolution of the Planning and Coordination Department itself. This chapter discusses PCD approaches that contributed to the successful completion of the Six Major Projects, and looks at three recent urban development projects that show how PCD approaches and philosophies continue to keep Yokohama a thriving, livable “City of Citizens.”

Dissolution of PCD and PCD legacies

A shift in social demands and needs: In the 1980s, as infrastructure development gradually brought the city’s living environment to the point where it met expectations, citizens’ demands shifted to improvement of social welfare services. To answer this need and to simultaneously carry out both hard (infrastructure) and soft (welfare) projects in a financially sustainable and balanced way, the city divided PCD into two departments, the Urban Planning Department and the Planning and Finance Department, in 1983. The Urban Planning Department inherited the Six Major Projects and its successor department brought them to completion.

PCD practices lead to successful continuation of the Six Major Projects: The Six Major Projects were well under way when PCD was dissolved in 1983. Several PCD methods and approaches, described in previous chapters, contributed to the successful continuation of the Six Major Projects despite such a disruption. First, the importance of cross-sectoral coordination was at this point well recognized, and the Urban Planning Department seamlessly took over this task. Second, the efforts in capacity development, education, and involvement of junior staff within and without PCD created an overall vision and mindset that remained even after PCD’s dissolution. The younger staff, recruited and trained by the head of PCD, continued to recruit and train like-minded successors through the “Yokohama method,” while they themselves moved into leading roles in city development and saw the original projects to completion. Finally, the existence of private sector partners lessened the extent to which organizational issues within the city affected project progress, and external parties such as YMM21 were able to continue actual project implementation.

PCD’s continued impact: The good practices and achievements of PCD live on in Yokohama today. Infrastructure completed through the Six Major Projects has greatly improved the living quality for Yokohama’s citizens and served as a base for Yokohama’s next-phase urban development. PCD’s legacy also lives on in the urban development culture of the city, where active citizen participation and involvement of business continue to be core principles and approaches.

Post-PCD Urban Development in Yokohama

Three recent urban development projects by the City of Yokohama illustrate how the engagement of citizens and partnership with business—important innovations at the time of the Six Major Projects—have become embedded in Yokohama’s project implementation approach. Yokohama’s identity as a “City of Citizens” remains intact. The three projects—which together address emerging issues of sustainability, a low-carbon society, aging, waste reduction, and more—illustrate how good practices and methods, once identified and put into effect, may be applied to constantly evolving challenges.

The Yokohama Smart City Project (2010–present): Next-phase infrastructure for an innovative city

Increasing demand for a “Smart City”: In Japan today, there is an urgent need to build smart cities, develop and deploy technology to reduce CO₂ emissions, and thus achieve a low-carbon society. However, newly developed technologies often require large-scale proof-of-concept demonstrations before successful commercialization. The City of Yokohama has stepped up to provide the private sector with experimental opportunities, inviting private enterprises to demonstrate their new technology and at the same time improve the city’s existing infrastructure facilities.

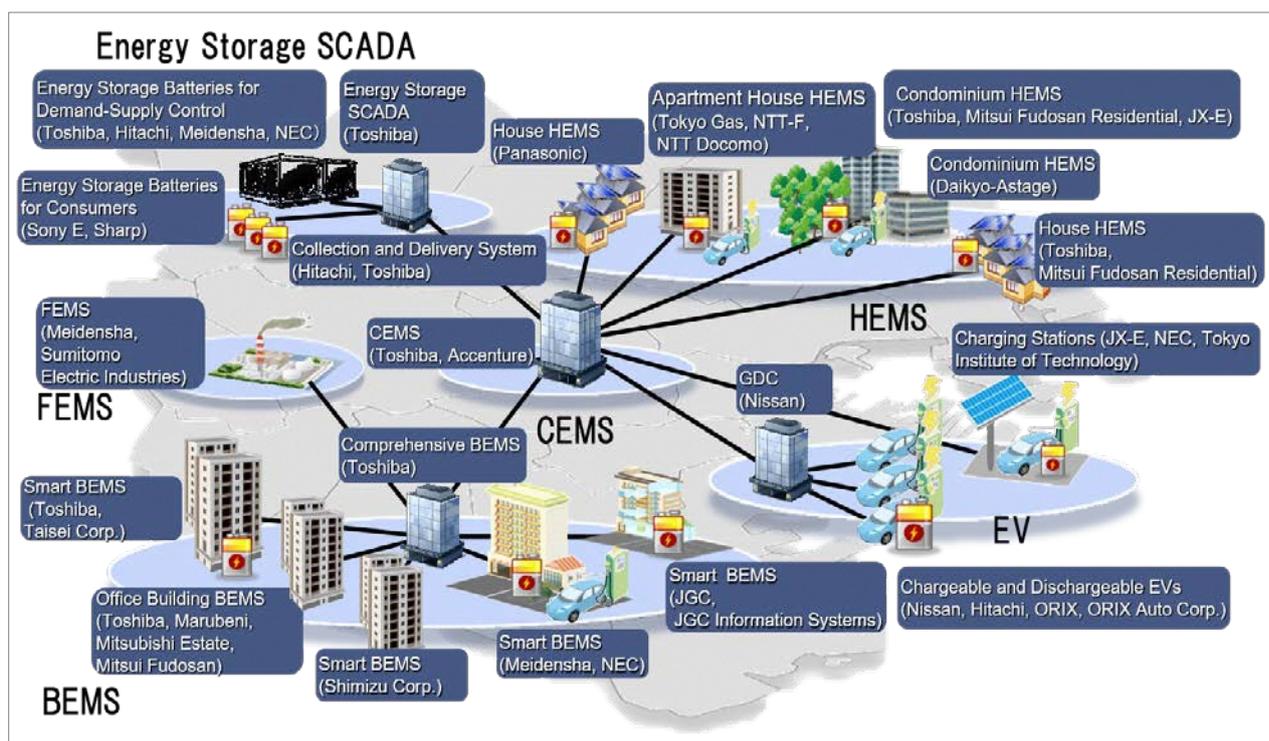


Figure 5.1. Overview of Yokohama Smart City Project

Note: BEMS = building energy management systems; CEMS = community energy management systems; EMS = energy management; HEMS = home energy management systems; SCADA = supervisory control and data acquisition.

Building on infrastructure developed through the Six Major Projects: The objective of the Yokohama Smart City Project (YSCP), billed as a “Next-generation Energy and Social Systems Demonstration Project,” is to verify smart-grid technology in a smart-city setting. The project also tests business models using such technologies. Deployed within the Six Major Projects project area, the YSCP counts among its stakeholders not only the City of Yokohama but also private companies, including a

gas company, a power company, electronics manufacturers, and an automobile manufacturer (figure 5.1). The YSCP takes advantage of, and improves, existing infrastructure developed as part of the Six Major Projects—for example, it has introduced an energy cogeneration system in the MM21 area. Through YSCP, energy management systems (EMS) were installed throughout MM21: in the form of community energy management systems (CEMS) connected to an integrated controlling system for storage batteries (supervisory control and data acquisition, or SCADA), as home energy management systems (HEMS) in selected apartments and detached houses, and as building energy management systems (BEMS) in selected offices and commercial buildings. The work of YSCP is still experimental and ongoing, but businesses have already moved from proof-of-concept to experimenting with business models; the Yokohama Smart Business Association, a public-private partnership organization, was established in 2015 to promote the technologies and know-how developed through YSCP.

The Yokohama G30 Project (2003–2010): Waste reduction through collaboration with citizens and businesses

Managing an increase of waste: The City of Yokohama’s rapid urbanization since the 1960s was accompanied by a significant rise in the total volume of solid waste. This increase posed a challenge to Yokohama’s solid waste management system and put significant pressure on the capacity of two landfill sites that are used after incineration. The city initiated a waste reduction policy called the Yokohama G30 Plan (G30) in January 2003, aiming to reduce waste generation by 30 percent by fiscal year (FY) 2010, with the 1.61 million tons of waste generation in FY 2001 as a baseline.

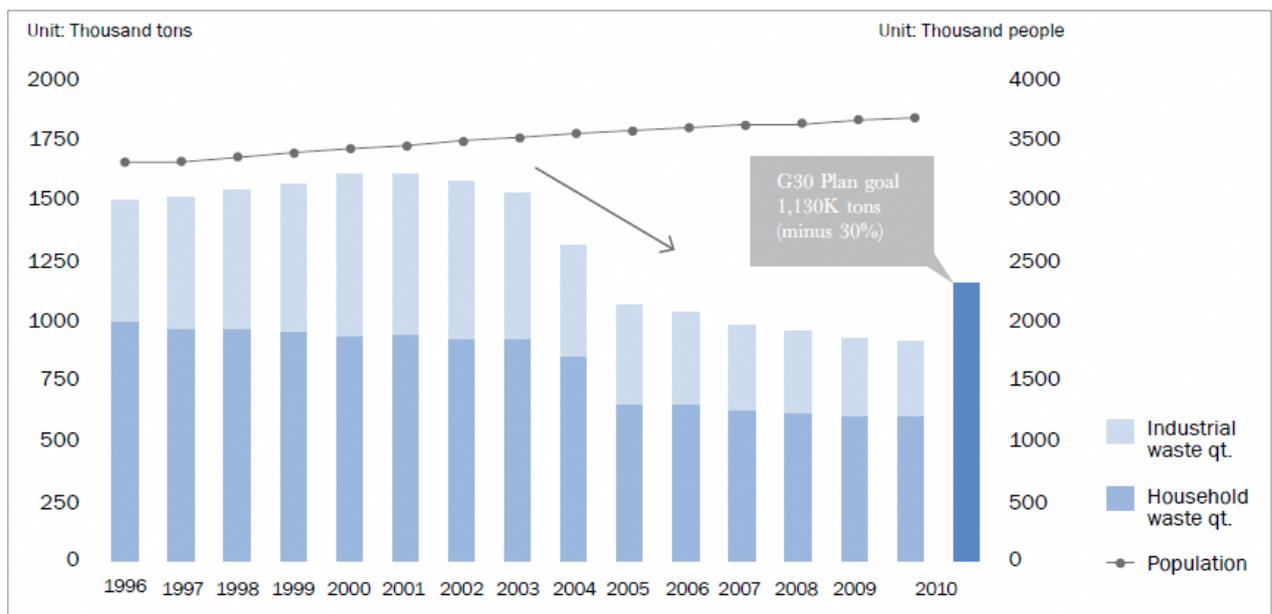
Successful mobilization of citizens and the private sector:

Waste segregation at the source of waste generation was essential to meeting these goals, and the city needed to teach citizens to separate out recyclables and other waste in their homes. The city held 11,000 seminars and environmental education sessions to raise public awareness and to disseminate the new waste segregation rules, using a participatory approach. These efforts by the city soon triggered a widespread civic movement,



Public awareness raising activities by the city

with residents educating each other and voluntarily working to convince the skeptics. The number of businesses supporting and implementing waste segregation also gradually increased, and significantly contributed to reducing the amount of waste generated. The City of Yokohama achieved a 30 percent reduction of waste generation in FY 2005, five years ahead of target (figure 5.2), despite continued population growth in the city. Subsequently, the reduced amount of waste enabled the city to close two of seven incinerators in 2005–2006.



Source: City of Yokohama

Figure 5.2. Waste generation and reduction trends in Yokohama (1996–2010)

Sustainable Housing Model Project (Toka-Ichiba model project, 2011-present): Yokohama’s strategy for an aging society

Facing a rapidly aging society: Like other communities across Japan, the City of Yokohama is facing the problem of a rapidly aging society. The problem is more acute in certain suburban areas, where over 40 percent of the population is now older than 65, while the average figure for the city hovers above 20 percent. Aging exacerbates urbanization issues in several ways: it depresses urban growth; creates a new issue—the isolation of aged people from society; and increases the city’s expenditure for health and day care management.

Town revitalization leveraging the private sector:

The City of Yokohama, through its Housing and Regeneration Department, has launched the Sustainable Housing Model Project in four areas of the city (figure 5.3). Toka-Ichiba was selected as a model area in 2011. Within the model project area, two project zones, No. 20 and No. 21, are to be managed under a public-private-community joint management system (figure 5.4). No. 20 will be a housing complex for aged residents, with an attached day care center and community activity space. No. 21 will be a large-scale condominium for multigenerational families, including aged residents and

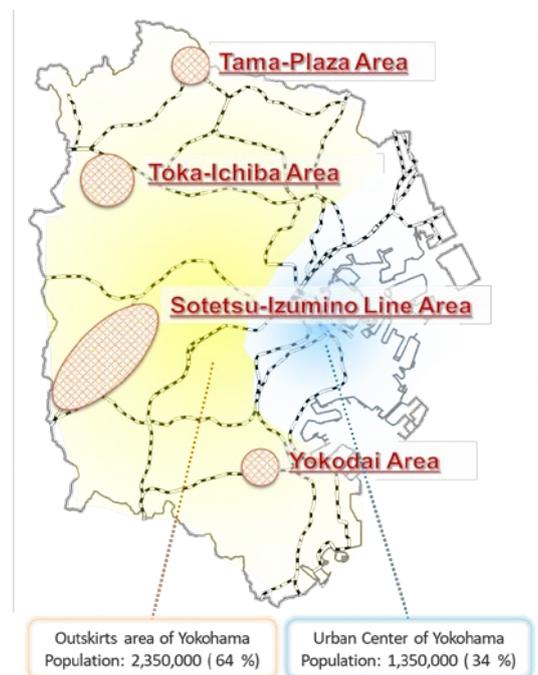


Figure 5.3. Project areas of Sustainable Housing Model Project

Source: City of Yokohama Housing and Regeneration Department (Edited by the author)

parents with small children; it is to be managed under a long-term contract between a private developer and the city that will span over 50 years of cooperative town management and the initial construction period. The expectation is for the city, developers, and citizens to cooperatively manage zones No. 20 and 21; the city has provided the broad vision and direction, but has left the rest flexible, trusting both residents and developers to manage their own residential areas within this community-based urban development. More details on roles and responsibilities of stakeholders are in figure 5.5.



Figure 5.4. Plan of Toka-Ichiba Project

Source: City of Yokohama Housing and Regeneration Department

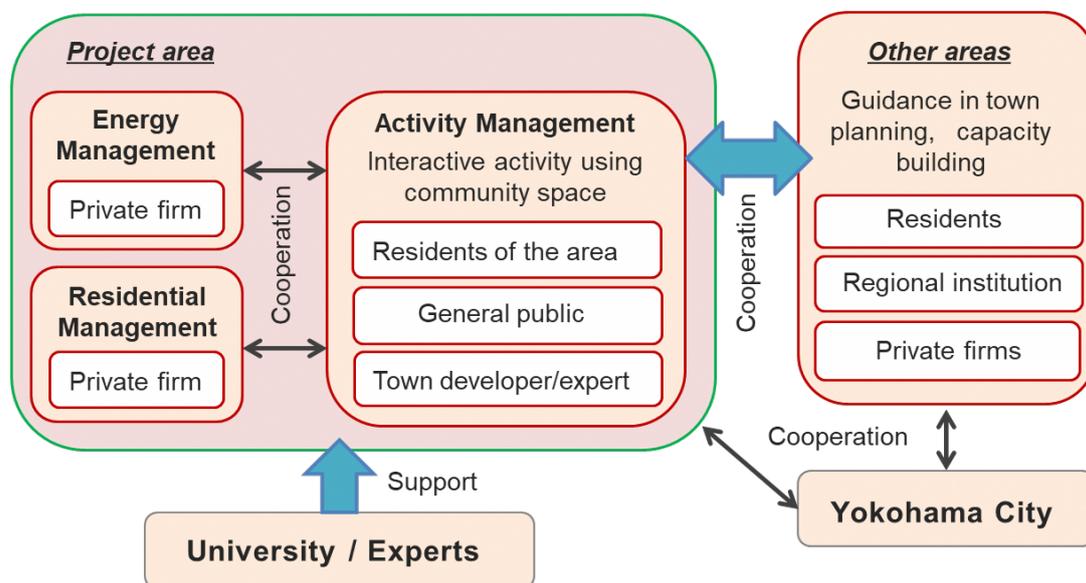


Figure 5.5. Roles and responsibilities of stakeholders in the Sustainable Housing Model Project

Source: Based on data provided by City of Yokohama Housing and Regeneration Department

In summary

This chapter continued the story of Yokohama’s urban development, and followed the story of PCD to its end. It looked at how Yokohama’s vision and PCD’s innovative approaches live on in the current era of new urban development projects. The next chapter summarizes the key lessons learned by Yokohama and offers them as potential approaches, examples, ideas, and key takeaways for cities across the world facing rapid economic growth and a sharp rise in population.

CHAPTER 6

MAIN TAKEAWAYS FROM YOKOHAMA'S EXPERIENCE



The City of Yokohama faced, and overcame, typical urbanization challenges stemming from rapid population growth. It also successfully dealt with organizational issues faced by many municipalities, including a shortage of resources, the need to implement projects within an immature policy environment, and the presence of funding frameworks dictated mainly at the central government level. The key lessons learned from Yokohama's experience are summarized in this chapter (in reference format) for use by cities across the world facing similar challenges.

Lesson 1

A selective project-based approach is effective when resources are limited.

Keywords: project-based approach, integrated projects, financial mechanisms, limited resources

A growing city may easily feel overwhelmed by the multitude of challenges facing it, especially when resources such as finances, workforce, and infrastructure are limited. This was Yokohama's situation in the 1960s. Yokohama moved its urban development forward by first identifying a limited number of projects that would set the strategic direction of overall urban development, and then focusing its resources on them. This approach was a realistic way to advance urban development when resources were limited. The process of strategic prioritization and the problem solving that occurred during project implementation created many intangible benefits—such as establishment of the city's identity, a habit of participation by citizens, and a culture of public-private partnerships—that are currently regarded as great assets for the city's sustainable development.

What worked for Yokohama?

The Six Major Projects were designed as a holistic solution to many but not all of the city's urbanization issues. For example, they did not cover waste management, which was a chronic problem in Yokohama. However, the Six Major Projects intentionally did impact the whole city, and the effective integration of the projects involved Yokohama and its citizens in a single citywide urban development initiative (**chapter 4**). The Six Major Projects' success may also be attributed to the decision to create an organization dedicated to coordination and project management, the Planning and Coordination Department (**chapters 2 and 3**). Yokohama was able to build on the Six Major Projects, once completed, to address other urban development issues, including (under the G30 project) the waste management issue (**chapter 5**).

Addressing limitations in financial resources

Yokohama deployed creative solutions to increase its financial resource base, including the utilization of municipal bonds, foreign bonds, and third-party funds, particularly from the private sector. The city mainly took a role in planning, while construction works—such as land readjustment, infrastructure, and housing—were undertaken by third parties. Applying land sales profits for reimbursement was also an effective method in some projects (**chapter 4**). Creating a melting pot of professionals from diverse backgrounds and levels of experience in PCD likely contributed to PCD's ability to devise such flexible approaches and solutions (**chapter 3**).

Lesson 2

A clear long-term vision with flexible approaches is critical to accomplish project-based development.

Keywords: sustainable project management, social demands, participatory approach

Creating a long-term vision or master plan is a common planning approach, but it often fails in implementation as social or organizational circumstances change. Yokohama tenaciously implemented the Six Major Projects over the course of 30 years by applying the management principle called atypical liquidity (**chapter 3**), which institutionalized flexibility in the face of social changes to ensure sustainable implementation of projects over several decades. Such flexibility was balanced by adherence to a clear, constant vision, which in Yokohama's case was a "City of Citizens."

Flexibly maintaining and realizing a long-term vision

The most critical factor in sustainable implementation of long-term projects may be adhering to a conceptual vision and planning. However, Yokohama was also flexible in its messaging; the "City of Citizens" message was reinterpreted at different points in time to respond to the latest social demands, and each of the Six Major Projects was not only managed, but also communicated, in a way that reflected both the times and the core vision of Yokohama as a "City of Citizens." PCD played an important role in introducing and cultivating such flexibility, starting with the successful overthrow of the approved highway development plan in favor of an alternative plan that better contributed to the long-term city vision and citizen needs (**chapters 3 and 4**).

The power of a "participatory" vision

Observers have noted, in retrospect, that Yokohama's long-term vision of itself as a "City of Citizens" helped encourage citizens and the private sector to act as partners in its projects. Having supplied a vision and basic blueprints, the city invited citizens to decide on and prioritize some of the specific aspects of the Six Major Projects; in this way, Yokohama's future was shaped by city residents working jointly with city government (**chapter 4**). Such participatory methods resulted in strong support for, and stable advancement of, the Six Major Projects. With its focus on the greater good of city residents, Yokohama's vision also proved a powerful tool in political negotiations with various stakeholders.

Lesson 3

Fostering an institutional framework to implement cross-sectoral coordination is a key element for holistic area-wide urban development.

Keywords: cross-sectoral coordination, project implementation, holistic urban development

Cross-sectoral coordination across departments and administrative bodies within a city government is a key to successful urban development. Achieving cross-sectoral coordination requires strong political power, technical understanding, and coordination skills. In Yokohama, PCD served in this coordinator role and is thus the main focus of this sourcebook. PCD had institutional power—given by the mayor—as well as talented human resources with diverse expertise, and it used both to foster coordination across sectors and break down organizational silos.

Success factors of a coordinator organization

The placement of PCD directly under the mayor, and thus at a higher level than other departments and bureaus in the city, ensured PCD's success. For example, one section of PCD was tasked to conduct financial evaluations of projects run by other departments, an arrangement that gave PCD the power to make interventions. PCD was also given authority for prompt decision making, and it was able to direct its own human resource recruitment and employ talented personnel from other departments and from external institutions. PCD staff were (uncharacteristically for Japanese city administration workers) allowed to remain in their position over the long term. Many key persons worked in PCD for more than 10 years, and their long-term engagement contributed to the success of the Six Major Projects, whose implementation was carried out over decades. PCD employed several communication and capacity-building methods, including “one-large-table discussions” and “periodic meetings to crystallize and set project goals,” which not only improved internal communications but also fostered a mindset among staff that continued even after PCD was dissolved (**chapter 3**).

Handling responsibilities beyond coordination

PCD was an implementer as well as coordinator of the Six Major Projects, tasked with land use, project implementation, urban design, and research in addition to multi-sectoral coordination. This range of responsibilities gave PCD management and staff practical, technical, and political perspectives that may have been lacking in a coordinator-only department. At the same time, PCD's responsibilities on the implementation side were limited to the Six Major Projects, giving them focus and avoiding undue overlap with other departments in the city (**chapters 3 and 4**).

Unremitting efforts and persistence

Even with the best of organizational setups, cross-sectoral coordination still requires a high level of effort. In order to promulgate the new urban design vision of Yokohama, PCD staff proactively visited related bureaus and departments on a daily basis. PCD and related departments held frequent coordination meetings, sharing information on their everyday activities, so as to understand each other's opinions—from both a conceptual urban design perspective and an engineering or technical perspective. Outcomes of these separate meetings were then shared across PCD through “one-large-table discussions.” The PCD also strategically focused its early efforts on winning over the city's port and road bureaus, as they both had strong relations with the central government and were influential within the hierarchy of both local and central government. PCD also handled complex negotiations with key persons in central government ministries and bureaus on behalf of the city (**chapter 4**).

Lesson 4

Presenting tangible short-term impacts is important for sustainable long-term urban development.

Keywords: sustainable project management, trust building, cross-sectoral coordination

The example from Yokohama shows that innovative institutional frameworks are most effective when they create a tangible short-term impact. For PCD, tangible results early on helped win acceptance for the department and ensure its success as coordinator. Despite the organizational power given by the mayor, there was initially quite limited trust in PCD, which was a newly established department staffed by people recruited from outside the organization. Lobbying for a revision of a nationally recommended highway network plan to suit local needs was the first task undertaken by PCD, and its successful completion strengthened PCD's legitimacy as implementer of the Six Major Projects overall.

Short-term success as a building block of long-term trust

PCD's successful negotiation of a new highway network design was pivotal for PCD's acceptance within the city organization. The initial highway development plan, which was already agreed between the central government and the City of Yokohama before commencement of the Six Major Projects, entailed an elevated highway through the center of the city. Citing aesthetic reasons and working persistently to coordinate actors within the city and the central government, PCD convinced all concerned to change the plan from above-ground to underground, and created a pedestrian-friendly environment in the old quarter of the city. This tangible achievement made the vision and concept of the "City of Citizens" a reality (**chapter 4**). Described by the former leader of PCD as the department's "first and most challenging task,"¹² this achievement built trust in PCD within the city and among city stakeholders, including the public. While PCD found its high-impact moment organically, cities learning from Yokohama may wish to consciously identify and pursue short-term high-impact goals when establishing innovative institutional frameworks.

¹² Akira Tamura, *Creating the City of Yokohama* (Tokyo: Chuko-Shinsho, 1983), 26.

Lesson 5

Community-based movements and engaged stakeholders are essential factors in ongoing sustainable city development.

Keywords: participation, private sector engagement, community-based development

Yokohama implemented the Six Major Projects with a high degree of participation by citizens and the private sector. The city involved its citizens and businesses from the planning phase, effectively encouraging them to become the main actors in the city's development; this approach produced robust local communities as a driving force in sustainable regional development extending even beyond the completion of the Six Major Projects.

Participatory approaches employed in the Six Major Projects

Many participatory approaches were used in the Six Major Projects (**chapter 4**): selective land relocation, which empowered landowners; consultations with private sector developers in the formulation of PCD's non-legally binding guidelines, which were voluntarily followed; and public-private partnerships, which were pragmatically operated. To attract businesses to engage in such partnerships, the city showcased the business potential of areas being developed, accommodated businesses' need to pursue profits, communicated with "major player" firms from the initial phase of development, and invited them to take part in developing a shared long-term vision.

Creating a long-lasting relationship

The community of engaged citizens and businesses created by these participatory approaches helped bring the Six Major Projects to fruition, and this community is also supporting the next-phase urban development projects in Yokohama today (**chapter 5**). Post-PCD urban development projects—such as the G30 project and the Sustainable Housing Model project—build on the community engagement activities carried out over decades to create a "City of Citizens." Through its vision and its actions, Yokohama has shown that the city was simply providing opportunities for participation, and that the citizens and the private sector were the main actors.

Conclusions

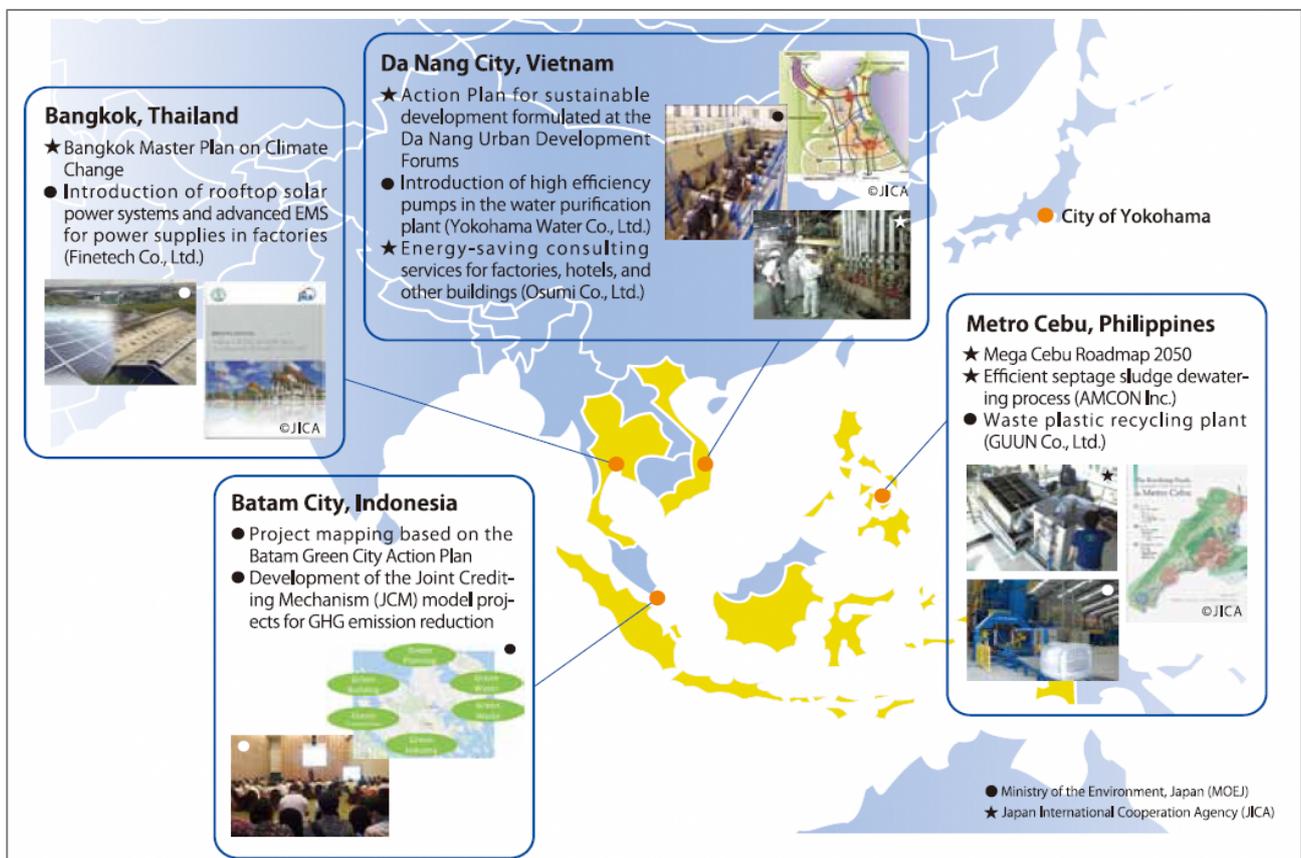
A sourcebook for all cities facing urban challenges

Yokohama is well known for its sustainable and integrated urban development involving citizens and the private sector, pursued under the rubric “Citizens make the future of Yokohama.” The approaches that characterize Yokohama’s urban development and city administration today, which include participatory approaches, public-private partnerships, coordination across sections and departments, and flexible and creative solutions to financial and issues, were developed in the 1960s by a cross-cutting Planning and Coordination Department (PCD). This set of approaches saw Yokohama’s Six Major Projects, a collection of large-scale long-term infrastructure and urban development projects, to successful completion. This sourcebook explored some of Yokohama’s atypical strategies and ideas that helped create one of the most successful cities in Japan: a thriving metropolis that continues to attract both residents and businesses, whose stylish, green, and spacious port serves as a hub of international trade.

The City of Yokohama faced and overcame urbanization challenges stemming from rapid economic growth and a sharp rise in population. Its urban development vision—“City of Citizens”—won out over more conventional industry-centered approaches. The city successfully dealt with organizational issues faced by many municipalities, including a shortage of resources and the need to implement projects under immature policy and funding frameworks at the central government level. The oft-heard arguments “we lack the resources” and “we lack power to implement such projects” were overcome by creative problem solving, persistence, and commitment to the greater good of the “City of Citizens.” The approaches that helped promote successful urban development are still in use in Yokohama, in projects that aim to further improve this sustainable and innovative city. Moreover, Yokohama is actively working with other cities to share its experience and expertise—both through resources like this sourcebook and partnerships like Y-PORT, described in the box below. Other cities around the world should take the example of Yokohama to heart as they seek to solve their own urban development challenges.

Box: Passing on urban development know-how

The City of Yokohama launched a new global partnership project called Y-PORT in 2011, with the objective of sharing its urban development knowledge with cities in other countries. Y-PORT works as a cooperative partnership between cities and aims to provide the information and technical assistance needed to address urban challenges. This partnership also collaboratively works with private firms in Yokohama that have developed innovative technologies for solving urban problems. Through the Y-PORT project, Yokohama has worked with several foreign cities—Cebu City, Philippines; Da Nang City, Vietnam; Bangkok, Thailand, and Batam City, Indonesia—on a wide range of urban issues, including waste management, water purification, energy saving, and integrated urban development planning (see figure below). As a knowledge hub for integrated urban development, the City of Yokohama continues to provide urban solutions and disseminate knowledge on urban development to other cities in the world.¹³



Source: City of Yokohama

Y-PORT partnership projects and locations

¹³ For further information on Y-PORT, see City of Yokohama, “Y-Port Center,” <http://www.city.yokohama.lg.jp/kokusai/yport/en/about/yportcenter.html>.



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