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Overcoming Multiple Urban Crises:

Lessons from the Reconstruction of Hiroshima



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TDLC website

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Executive Summary

Today's world faces multiple crises, and cities are at the forefront of managing the consequences of those crises. Cities face increasingly complex challenges of urban destruction, forced displacement, financial and economic recession, food and energy insecurity, supply chain disruptions, and worsening health and safety conditions. As the primary responders to crisis and the main agents for rebuilding after crises, cities are tasked with the difficult mandates of providing housing, infrastructure, and basic services to citizens and planning for recovery and reconstruction. Considerations of inclusivity, resilience, and green development raise new questions of how to build back better in spite of the resource constraints that many cities inevitably face.

The city of Hiroshima, which emerged from total destruction nearly seven decades ago, provides valuable lessons of postcrisis reconstruction, long-term urban regeneration and development, and the coordination of policy, institutional arrangements, and wider citizen and private sector engagements. Fifty thousand to 80,000 people and about 90 percent of city-center functions and infrastructure were lost, and the initial stages of emergency response and restoration were extremely difficult. Wartime emergency response plans barely worked and alternative and spontaneous actions were necessary. In the medium-term recovery period of a few months to a few years, the national government created a budget for the restoration of infrastructure and basic services, focusing on key sectors first and expanding gradually. The long-term reconstruction planning was led by both the national government's policy setting and the local government's city planning in accordance with national principles. To overcome severe budget and resource constraints, Hiroshima successfully advocated for special budgetary treatment from the national government, pieced together various funding sources to develop segments of the city to manage and maintain civic life and industry, and took a staged approach by focusing on the most critical services first and then moved to a wider, more inclusive, and more resilient urban development.

At every stage of postwar recovery, Hiroshima was pressed to address the changing needs of its citizens within the constraints of available resources and to make changes to previously set plans. Key lessons from Hiroshima include the following: (1) the early restoration of critical infrastructure and services must occur in stages with a comprehensive assessment of damage; (2) effective prioritization of key issues to use the limited resources is critical, as temporary solutions devised with time and resource constraints often end up being permanent solutions; (3) financing reconstruction often poses a considerable challenge and funds should come from multiple sources; (4) early planning with a vision of future solutions is critical; (5) strong and persistent political will help navigate the long process of reconstruction; (6) reconstruction can be an opportunity to build a greener, more resilient, and more inclusive city; (7) the government is not the only actor in the rebuilding process—civilians and the private sector are also critical agents; and (8) urban regeneration is a long-term endeavor that requires sustained engagement to build a better city.

This paper is structured as follows: Part I briefly discusses the context of multiple crises that today's world faces. Part II presents a case study of Hiroshima's postwar urban recovery from short-term, medium-term, and long-term perspectives. In addition to the government-led reconstruction processes that focus on infrastructure recovery and city planning and designs, housing recovery is discussed in detail. The roles of citizens and the private sector in contributing to the city's recovery are summarized, and further urban regeneration and expansion after the city's rebuilding concluded is discussed. The paper concludes with a discussion of key lessons that Hiroshima's experience offers to other cities navigating multiple crises.

Part 1:

Navigating Multiple Urban Crises

The current world faces widespread complexities triggered by multiple crises. Since 2020, the COVID-19 pandemic has stressed countries through greater global poverty, wider income inequality, worsened preexisting fiscal and debt challenges, and disruptions in human capital accumulation and supply chains (World Bank 2022). The Russian Federation's invasion of Ukraine in February 2022 further heightened the global need for food, safety, and basic services by triggering food and energy shortages, a rising cost of living, and economic recession. Characterized as “the most complex, disparate and cross-cutting set of challenges” in several decades (Lynch 2022), the current crises are a combination of “old” and “new” risks—the “old” risks of inflation, fiscal instabilities, trade wars, social unrest, and a threat of nuclear warfare that the world has experienced before, complicated by the relatively “new” developments and levels of debt crises, low growth, deglobalization, human capital decline, and climate change impacts including drought, floods, storms, heat waves, and wildfires (World Economic Forum 2023). The world has seemingly entered an “Age of Crisis” (Bjerde 2023).

The novelty of the current crisis lies in the extent of the complexity in which multiple crises are happening at the same time and amplifying uncertainties. Conflicts and disasters together result in new internal displacements every year; the total number of internally displaced persons (IDPs) in the world reached the record high of 71.1 million at the end of 2022 (62.5 million people were displaced as a result of conflict and violence and 8.7 million as a result of disasters) (IDMC 2023). Combined with cross-border refugees from conflicts, violence, and human rights concerns, 108.4 million people were forcibly displaced worldwide at the end of 2022 (UNHCR 2023). Those who are forced to relocate lose their homes, jobs, access to food and health care, and community. Yet countries in fragility, conflict, and violence (FCV) settings have limited institutional capacities to manage the shocks and help mitigate the adverse consequences for the population (Van Bronkhorst and Bousquet 2021). Crisis response requires a tailored approach according to each country's context, but the disparate shocks of multiple crises interact with one another and result in even more overwhelming outcomes than the sum of the comprising crises (Tooze 2022)¹.

Compounding crises follow complex paths of cascading impacts via interdependent systems. While analyses of multiple crises that encompass both conflicts and disasters are still slim, the literature on multiple disasters has identified the different configurations of multiplicity.² Some sequences of disaster events follow direct, linear causal paths—either *compounding hazards* (where destructive sequences of events are triggered by an initial hazard event, such as a tsunami triggered by an earthquake), or *cascading hazards* (where multiple hazards occur in the spatial or temporal proximity as a result of both direct and indirect impact from an initial hazard event, such as technological emergencies triggered by natural hazards). However, *cascading disasters* happen on a nonlinear, complex path, with interconnected and interdependent systems between the hazard, critical infrastructure and service systems, and the preexisting vulnerabilities, thus increasing the impact well beyond the original temporal and spatial point (Cutter 2018; Pescaroli and Alexander 2018). When a disaster causes disruptions in energy or transport, the disruptions increase the reach and duration of the disaster impact to a wider population while triggering other events.³ When disasters intersect with armed conflicts or violence, the result is an increased complexity of paths of cascading effects that exacerbate one another's damage through a prolonged emergency situation. In contrast to a disaster event that is limited to a short period of time and thus restoration and rebuilding can start within a few weeks to months at most, response and reconstruction from a conflict need to happen across a timescale, often while the conflict situation is ongoing (Kruczkiewicz et al. 2021). In these cases, considerations of rebuilding must start while navigating emergencies and vulnerabilities.

¹ Various expressions describe the interaction of multiple crises at once: *polycrisis* (Tooze 2022), *megathreats* (Roubini 2022), and the “confluence of calamities” (Gergieva, Copinath, and Pazarbasoglu 2022) to name a few.

² Disasters, including natural hazard and anthropogenic events, are just one aspect of crises. In addition to disasters, crises can also include a conflict element (armed conflict and violence).

³ One such example was unusually cold weather experienced in Tajikistan in 2007–08 that triggered food insecurity and an energy crisis, affecting the population with reduced incomes and service disruptions in health, water, and education (Kelly 2009).

Cities Navigating Crises

Cities are at the forefront of navigating these increasingly complex crises as primary response organizers, as hosts to the displaced, and as agents of recovery and rebuilding. Conflicts create immediate demands of rehabilitating damaged critical infrastructure, restoring basic services, and rebuilding housing. Outside of the crisis epicenter, forced displacement gives rise to secondary challenges at both the origin and the destination, including depopulation from evacuation, (temporary or long-term) distortion of the labor market, new housing needs, and added demands for basic services, food, and energy⁴. For instance, there is evidence that the impact of crises on public health is greater under multiple disasters, suggesting that there is greater and more prolonged demand for both medical and mental health services and for targeted community services in these situations (Leppold et al. 2022; Sansom et al. 2022).

The forcibly displaced increasingly end up in major cities rather than camps in favor of access to jobs, housing, services, and institutions to provide them. Globally, 60–80 percent of IDPs and 60 percent of refugees live in urban areas (UNHCR 2020; UNHCR 2023). Cities with established provision of services, shelter, and livelihoods are attractive to the newly displaced (World Bank 2017). The host cities are pressured to manage the changing labor supply and to provide support given the mismatch in the labor market (AfDB et al. 2017). Yet the urban settings where the displaced live among the local residents make targeted interventions more difficult than in camp arrangements. There are also implications for the host cities, with displacement potentially overwhelming their existing services, housing, and public space with the inflow of new residents. Evidence suggests that the urban forced displacement influx can present equally extensive and protracted impacts for the local residents, leading to reduced income, loss of human capital accumulation, and worsened relations with their communities (Sultana 2023)⁵. Humanitarian organizations that provide support often face budget

constraints in the face of a sudden surge in demand, forced to choose between providing minimum necessities to sustain life and providing other amenities such as shelter and services for a more dignified living environment for refugees (Gigliarano and Verme 2017). With the increasing trend of forced displacement influx in urban areas, host cities also need support in scaling up the provision of services, shelter, and jobs, thereby mitigating economic and social tensions between host communities and the displaced (World Bank 2017).

Cities' efforts to manage crises are complicated by the evolving situations and the need to constantly adapt solutions with equity and inclusivity in the short, medium, and long term. In the short term, providing food, supplies, and shelter to the displaced is the most urgent. In the medium term, the displaced need jobs and may need to move to more settled housing arrangements. As crises disproportionately affect the vulnerable (including women, children, the elderly, and the handicapped) and marginalized groups, considerations of equity and social inclusion are critical in at least the medium term, if not from the onset of the crisis (Club de Madrid 2021). Meanwhile, food insecurity, energy instability, and a rising cost of living put pressure on both the citizens and the government. In the long term, in which cities devise plans for rebuilding, resettlement, and integration, the considerations become even more complex to accommodate for the new vision for their communities. Yet approaches to complex crises are often fragmented and result in inadequate responses. A new approach is needed to better manage the complexities, combining resource deployment strategies and policy responses, while maintaining flexibility in connecting them to both short- and long-term strategies and adapting to changing and emerging risk scenarios (Kruczkiewicz et al. 2021).

⁴ In Ukraine, housing, transport, and commerce and industry are the most affected, totaling US\$97 billion of direct damage and US\$252 billion of indirect economic losses in the first three months of the war. The country's gross domestic product (GDP) shrank by 15.1 percent in the first quarter of 2022 compared to the year before, with poverty (people living under US\$5.5 per person a day) expected to rise by 19 percent (World Bank, Government of Ukraine, and European Commission 2022).

⁵ The surge of evacuation from Ukraine into Poland in February to March 2022 increased Warsaw's population by 17 percent at its peak, overwhelming Warsaw's capacity to provide help (Wądołowska 2022). With over 1.5 million Ukrainians registered to receive social benefits and access public services one year after the conflict began (according to data as of April 10, 2023)(UNHCR-ODP 2023), the Polish job market, school systems, and social welfare systems have experienced rapidly changing demand.

Postcrisis Rebuilding

Conflicts and disasters often coincide, creating a destructive cycle that can be difficult to break out of. Conflicts can weaken a society's ability to prepare for, respond to, and rebuild from disasters (Vivekananda, Schilling, and Smith 2014). The effects of disasters, such as natural hazards, extreme weather events, or disease outbreaks, exacerbate preexisting tensions and may lead to or increase the risks of conflict (Peters 2021). Between 2004 and 2014, 58 percent of disaster deaths and 34 percent of people affected by disasters occurred in fragile states (Peters and Budimir 2016). Similarly, in a period of 50 years, from 1950 to 2000, disasters caused by natural hazards considerably raised the possibility of violent civil conflicts (Siddiqi 2018).

Reconstruction from conflicts and from disasters both aim to address the significant disruptions and damages caused by crises with substantial human and economic costs (ILO 2020). Both have an essential focus on rebuilding infrastructure, housing, and essential services, as well as addressing the needs of the vulnerable populations. Both involve multiple stakeholders carrying out relief and reconstruction, from local communities and national and local governments to international organizations (Harrowell and Özerdem 2019). However, there are certain elements unique to postconflict reconstruction, such as security, governance, transitional justice, and reconciliation.⁶ Activities that postconflict state building entails—such as disarmament, demobilization, and reintegration of ex-combatants; addressing landmines; and building trust in fragmented communities—add complexities to the process of reconstruction and require institutional capacity to be effective. Long-term reconstruction faces the challenges of a lack of funding, difficulty in coordinating multiple stakeholders, and, at times, political instability if the destruction is extensive (Hasic 2004).

Communities embarking on reconstruction are pressed to choose between a set of competing priorities, including finding a balance between the urgency of rebuilding quickly and having a deliberative and more inclusive approach. Although it is ideal for recovery decision-making to be both prompt and inclusive for local communities, that is often challenging. For instance, the speed of recovery from the 2011 Tohoku earthquake and tsunami in Japan was based on the government's decision to take a careful and deliberative approach that included residents in reconstruction planning, as was recommended by the national government (Harrowell and Özerdem 2019). In contrast, speed was prioritized in Türkiye after the 2011 Van earthquake, with a highly centralized national reurbanization plan that aimed to address earthquake-prone buildings by rapidly expanding the periphery of the cities (Platt and So 2014). While the consideration between approaches boils down to the approach that will best empower the local community being represented in the recovery decision-making process, a more deliberative process not only calls for more time and resources but also requires sound governance and bureaucratic capacity. Postcrisis situations often face limitations on resources and capacity, which has implications for the progress of recovery.⁷

These considerations also include the choice between building back what has been lost and “building back better.” While some cities resort to innovation to accommodate changing demographics and emerging needs, others prefer to build back as much as possible of what has been lost to their original states.⁸ During the post-World War II reconstruction of European cities, planners and architects interested in the relationship between urban structure and social welfare aimed to improve the urban environment to address prewar issues and to redesign urban spaces to better align with modern amenities, health, zoning, and convenience.

⁶ Transitional justice and reconciliation are concerned with the post conflict peacebuilding process of providing recognition to victims, addressing human rights violations through judicial redress, fostering trust toward state institutions, promoting the rule of law, and promoting social and cultural healing, all in the interest of reconciliation and the prevention of new violence.

⁷ In the former Yugoslavian city of Dubrovnik (in today's Croatia), initially disorganized and underfunded reconstruction projects later turned into incremental reconstruction with significant local input as local competence grew, allowing authorities to improve mechanisms for reconstruction, a trajectory that contrasted with highly conceptual and bureaucratic approaches in Coventry, UK (Calame 2005).

⁸ The postwar Polish cities of Kalisz, Gdańsk, Warsaw, and Wrocław rebuilt not only to restore urban structures but also to accommodate the people who were displaced or disinherited by creating new communities. The cities also decided to restore the appearance of historical buildings while enhancing their technical and environmental features (Jeleński 2018).

The reconstruction of Coventry from bombing damage highlighted sound planning for improved postwar living and became a model for recovery planning in other European cities with similar prewar conditions (Calame 2005; Mason and Tiratsoo 1990).⁹ In older cities, the choice between preservation and innovation is made carefully, given the social, economic, and cultural transformation that urban reconstruction brings.¹⁰ In more recent years, increasing emphasis on the *Building Back Better* principle has warranted key considerations including promoting resilience, investing in infrastructure upgrading and urban revitalization, and improving policies and institutions to better manage disasters (GFDRR 2020). Resilience to climate change and natural hazard events has become an increasingly pressing concern in the past decade; a 2018 study by the Global Facility for Disaster Reduction and Recovery suggests that global well-being losses due to natural hazards would be reduced by 12 percent if all countries “build back stronger” in the next 20 years (Hallegatte, Rentschler, and Walsh 2018). To minimize future vulnerability, considerations should include addressing the existing patterns of vulnerability and discrimination within societies, achieving effective coordination of multilateral agencies for the best possible recovery outcomes while also protecting the rights of affected populations (Hallegatte, Rentschler, and Walsh 2018), and integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems to reduce future hazards.

Recovery from a crisis is a time-consuming task, and there is no one-size-fits-all solution against various political, economic, and social considerations. Cities have diverse histories, social and urban structures, and challenges that require a catered approach to the unique conditions of individual cases. Yet successful cases of reconstruction suggest the need to connect physical recovery and social reconciliation through

inclusive and participatory processes that address immediate needs and root causes of vulnerability. Investing in both the people and the physical environment plays a crucial role, with culture acting as the binding force for an integrated approach (Wahba, Das, and Chun 2022). It is essential to view the stages of response and recovery, from humanitarian relief to damage assessments, to early recovery, and to long-term reconstruction, as an ongoing endeavor that contributes to the development of resilience and the achievement of sustainable development goals. The timeline and framework of these stages are subject to the nature and magnitude of the crisis and the availability of recovery resources, including human, technical, and financial resources (GFDRR 2020). The World Bank recently presented a framework on the basis of its institutional strengths that aims to provide both immediate crisis response and long-term development support. This framework consists of four pillars: (1) responding to food insecurity, (2) protecting people and preserving jobs, (3) strengthening resilience, and (4) strengthening policies, institutions, and investments for rebuilding better (World Bank 2022). The World Bank intends to use these pillars to offer urgent support, mitigate the medium- to long-term impacts of crises, prepare for any future crises, and take advantage of the opportunities provided by crises to improve long-term development outcomes.

⁹ In Coventry, UK, reconstruction from the Luftwaffe raid that destroyed 90 percent of the urban core not only focused on confronting the extensive losses but also addressed the prewar problems, employing the principles of user-centered design and functionality (Calame 2005).

¹⁰ In the Venzone village in Italy after the 1976 Friuli earthquake, the guidance of a citizens' committee led to reconstruction of the historic town center in its original style, using over 10,000 stones from the demolished structures (Jeleński 2018).

Case Study: Hiroshima Emerging from Multiple Crises

Hiroshima, a city in western Japan that has recovered from war devastation and its aftereffects, offers valuable lessons to other cities grappling with crises. Although the total destruction of the urban core by atomic bombing was the main crisis, there were multiple aftereffects that presented prolonged challenges to Hiroshima’s communities, including health problems of war victims, food shortages, a volatile national and regional economy, financial constraints, and housing shortages. Despite the difficulties in accessing resources, several factors helped Hiroshima emerge from the effects of multiple crises: a clear framework for recovery set forth by the national government, strong political will and leadership that lasted through the long reconstruction period, and the engagement of citizens and the private sector that supported the rebuilding process.¹¹ The city led the reconstruction of infrastructure, basic services, and housing alongside the prefectural government and under the guidance of the national government, and advocated for greater resource allocation from the national government. As

the city rebuilt urban functions, its urban restoration efforts extended beyond simple physical rebuilding, incorporating equity and inclusion, and transforming the city as a symbol for peace and resilience.

Navigating through challenges, Hiroshima’s resurgence exceeded expectations. The extensive damage to critical infrastructure and basic services required quick thinking about how to restore and rehabilitate them amid limited resources. The housing shortage remained severe, while depopulation from the loss of lives and forced displacement strained the city’s revenue base, making the prospects of a future population return uncertain and stirring a debate about the blueprint of reconstruction. Yet the city’s population quadrupled in 25 years and continued its urban renewal and expansion for decades (figure 1.1). Nearly eight decades after the war, Hiroshima stands out as an example of urban regeneration and recovery in the wake of tremendous hardship, providing invaluable lessons for cities currently grappling with multiple crises.

¹¹ Personal communications with Norioki Ishimaru, February 2024.

Figure 1.1. Key Stages of Reconstruction and Priorities in Hiroshima



Source: Original figure for this publication.

Part 2:

Hiroshima's Story of Reconstruction

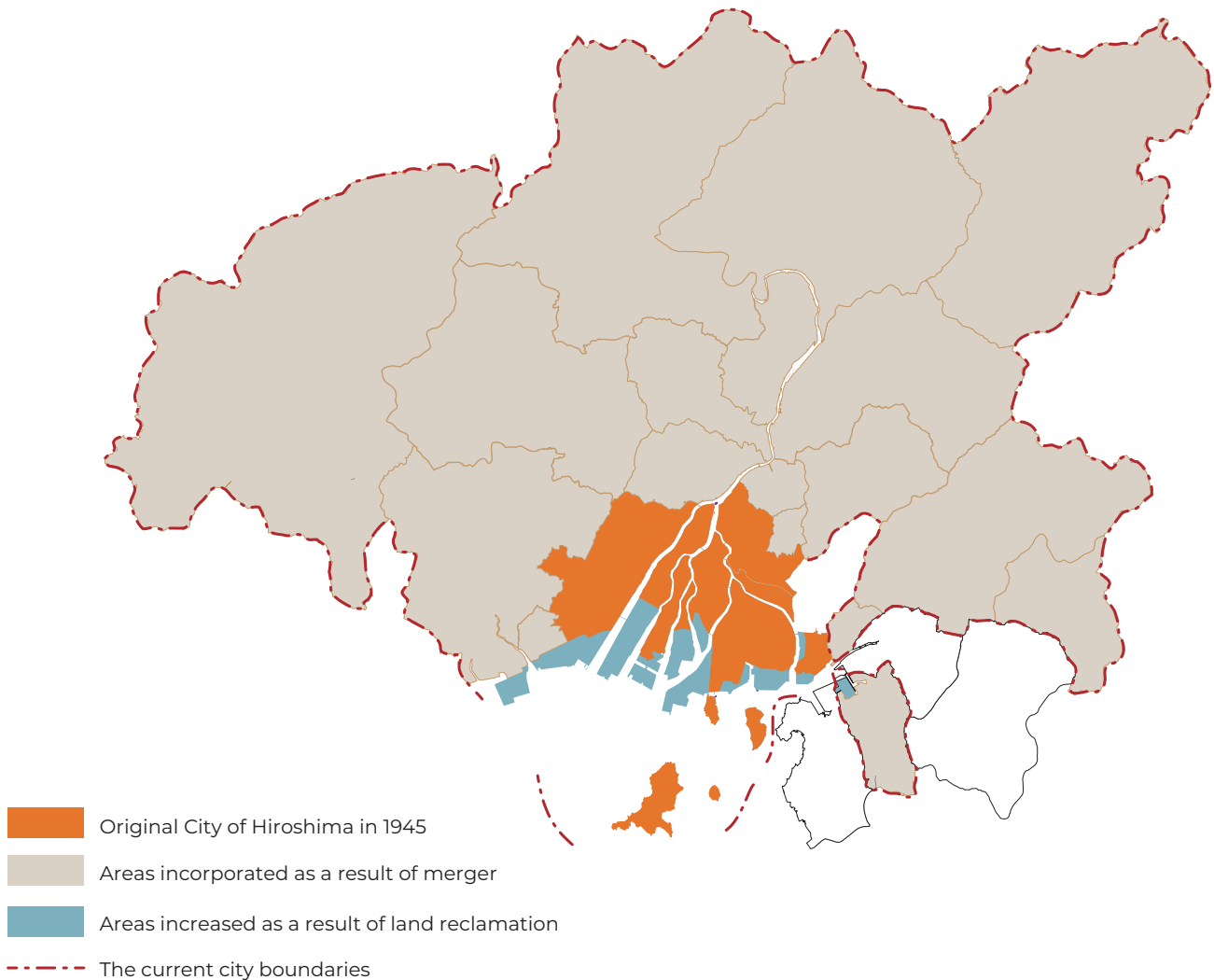
Background and Early History

Today, Hiroshima serves as the economic hub of Japan's Chugoku region and refers to itself as the City of Global Peace and Culture. Located in western Japan, about 700 kilometers from Tokyo and 300 kilometers from Osaka, facing the Seto Inland Sea, the city center is on the Ota River delta. More than half of

today's city area, which has grown tenfold since the war through administrative mergers, is mountainous terrain (figure 2.1).¹² This place of healing that offers lush nature, including the World Heritage site Miyajima Island, and learning about peace attracts visitors from across the world.

¹² As a result of mergers with surrounding towns, the city area has grown from about 70 km² in 1945, to 87 km² in 1970, to today's 742 km² (Hiroshima City 2014).

Figure 2.1 Hiroshima's Expansion from Administrative Mergers and Land Reclamation



Source: Hiroshima City 2019d.

Although known as a city of peace today, Hiroshima developed as a military city during Japan's modernization. Initially a castle town surrounding the Hiroshima Castle in the late 16th century, the city became the center of an administrative unit, Hiroshima han ("domain"), with its own military that later turned into the Hiroshima regional garrison of the Japanese Army, then the army's 5th Division, which was headquartered at the Hiroshima Castle in 1881.¹³ The administrative restructuring during Japan's modernization in the late 19th century established the Hiroshima Prefecture, forming the city of Hiroshima as one of 40 cities across Japan and as the prefectural capital.¹⁴ At the turn of the 20th century, Hiroshima's strategic importance increased as Japan engaged in wars with other countries, resulting in the expansion of the city's revenue scale and the facilitation of infrastructure development. Hiroshima's strategic importance was particularly bolstered by the presence of a railway and a port.¹⁵ The Sanyo Railway that connected Tokyo and Hiroshima enabled the transport of soldiers from across Japan; the Ujina port enabled their mobilization by sea to war fronts in Asia. Hiroshima even briefly became the de facto capital of Japan during the Sino-Japanese War (1894–95), when the Meiji emperor as commander-in-chief and the Army Division of the Imperial Headquarters relocated from Tokyo to Hiroshima. As a hub of military mobilization, Hiroshima

put related infrastructure in place, including roads, bridges, a water system, and an extension of the railway from the Hiroshima station to the Ujina port that was built in merely two weeks (Nunokawa and Nakagawa 2018).

The development of military functions provided a basis for a regional economy and industry. Through several wars in the late 19th and early 20th centuries, Hiroshima continued to serve as the main port for mobilization of soldiers, where local citizens supported war efforts by providing lodging, meals, military logistics, and entertainment to soldiers.¹⁶ Water and sewerage infrastructures and public health facilities were improved for better sanitation. In addition to having nearly 40,000 army personnel stationed in the city at various military functions, the military provided the foundation of the local industries through steel and machineries production, use of shipyards, manufacturing, and related services.¹⁷ Factories in and around Hiroshima supplied the army's Provisions Depot, Clothing Depot, Branch Ordinance Depot, and the nearby Navy Arsenal. Hiroshima was a "communications center, a storage point, and an assembly area for troops" (Manhattan Engineer District of the United States Army 1946, 7). These developments and the involvement of ordinary citizens in support of the military continued into World War II.

¹³ Hiroshima was among the six regional garrisons in Japan. Other garrisons were based in Sendai, Tokyo, Nagoya, Osaka, and Kumamoto. In contrast to the garrison that mainly served for domestic security enforcement, the divisions served mainly for overseas mobilization, which was essential for interstate war (JACAR, n.d., ref: C02030420000).

¹⁴ The city struggled financially in its early years owing to its repayment of the bonds used to purchase land in the previous decade. The city had issued a bond for JPY 80,000 (when the revenue of the city was about JPY 45,000) to buy up the land made available by the large-scale reclamation that created the Ujina port. The bond pressured the city to spend the bulk of its budget on redemption (Katsube 2018).

¹⁵ The local economic base was rather limited by its topographic features; limited flat land between mountains and the sea and a high salt content in the reclaimed land made the land inconducive to farming, forcing locals to rely on fishing and salt farms. Later, farmlands were lost with the construction of the Ujina port in the late 19th century. In nearby areas, most notably Kure, shipbuilding was one of the traditional industries, dating back to the 6th century (Katsube 2018).

¹⁶ During the Russo-Japanese War, 70 percent of the 950,000 Japanese soldiers were mobilized via Hiroshima. The railway alone transported over 605,000 soldiers to Hiroshima, when the city's population stood at 130,000 (Nunokawa and Nakagawa 2018).

¹⁷ During World War II, Hiroshima housed the Second General Army Headquarters at the Hiroshima Castle, the Chugoku Area Army Service Command, and the army's shipping unit located in Ujina. The Kure Naval District Headquarters and the Navy Arsenal were located in nearby Kure (Hiroshima for Global Peace 2014).

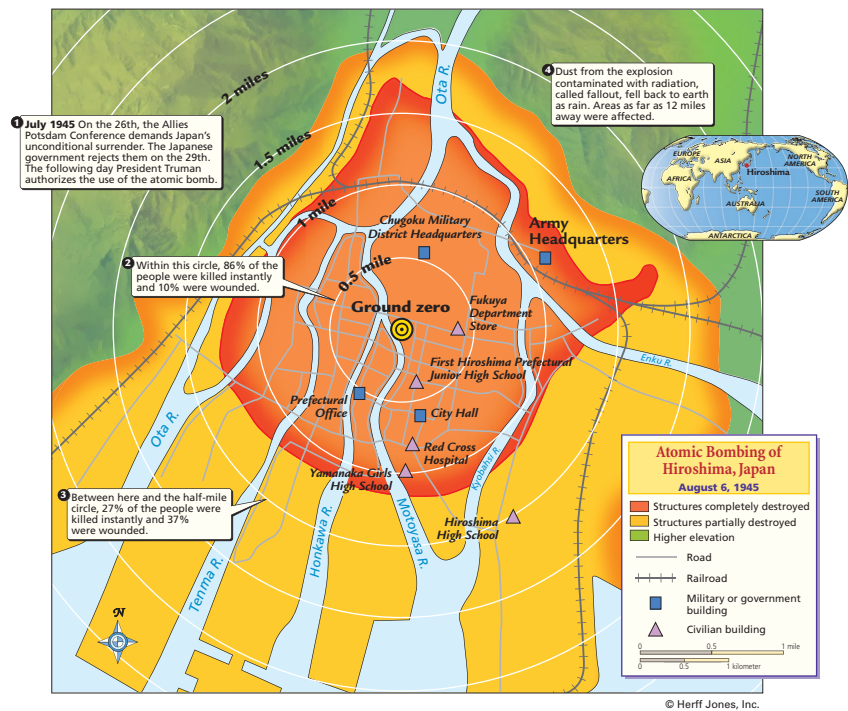
The Destruction of the War

Despite its strategic importance, Hiroshima survived with little physical damage for most of World War II until mid-1945. In 1942, the city's population was over 419,000 (Hiroshima City 2014). By the summer of 1945, the city's population was reduced to about 255,000 following the government-mandated systematic evacuation to minimize war casualties.¹⁸ Amid the worsening war situation and destruction of other major cities in Japan, Hiroshima undertook air defense measures along with selective building demolition to create firebreaks.¹⁹ Hiroshima's 101,600 houses and structures in 1941 had been reduced to 64,500 by the time of the bombing (Inami 1953). Yet while many major cities had experienced bombing, Hiroshima had been spared of much of the war damage prior to the summer of 1945.

On the morning of August 6, 1945, Hiroshima's city center was bombed in the world's first use of the atomic bomb, wiping out half of the city population and the majority of the city center (figure 2.2). More than 53,000 were instantly killed, and the death toll increased to 89,000 by the end of the year, according to one estimate; the city estimates about 140,000 died by the end of 1945 (Hiroshima for Global Peace 2014). Within a 2–3 kilometer radius of the hypocenter, physical destruction reached 90 percent.²⁰ As most houses were wooden structures, the city was highly susceptible to fire (Manhattan Engineer District of the United States Army 1946), which led to 85 percent of the structural damage, rather than the direct impact of the explosion (table 2.1). The estimates of property asset losses ranged from US\$46.3 million to US\$58.94 million in the 1945 value, worth the annual income of 850,000 Japanese people combined.²¹

Figure 2.2.
Map of the Destruction of Hiroshima and Key Locations in the City

Source: Nystrom Atlas n.d.



¹⁸ The national government ordered children in third grade and older to be evacuated from cities to the countryside. For example, in Hiroshima between April and July 1945, about 23,500 pupils evacuated to the mountainous northern part of the prefecture. Those who had relatives (about 15,000) lived with them, and those without (about 8,500) lived at temples and other locations together and attended nearby schools (Urabe 2016). These population figures come from the Manhattan Engineer District of the United States Army (1946, 7).

¹⁹ The selective demolition work began in Kure City in May 1944 and then in Hiroshima City a few months later, expanding on scale in February 1945 and mobilizing local school students. The day of the bombing, August 6, 1945, was when the sixth round of evacuation work was underway (Chugoku Shimbun 1982; Hiroshima for Global Peace 2014).

²⁰ Based on the estimate of the 1946 investigation by Hiroshima City, 70,147 out of 76,327 buildings were destroyed or damaged (Hiroshima City 2014). The rate of physical destruction significantly dropped outside of the five-kilometer radius, reaching 17.6 percent. Because the urban area was concentrated on the delta flatland, the entire urban area on the flatland was lost in fire. The destruction in Nagasaki was smaller because the surrounding mountains blocked the explosion impact, and the hypocenter was closer to the industrial areas (Inami 1953).

²¹ In Japanese currency, this converts to JPY 695–884.1 million. The 1946 edition of Hiroshima City's Municipal Handbook estimates the losses to be JPY 763.43 million, a 1949 report by the Economic Stabilization Board estimates physical asset losses at JPY 695 million, and the 1979 joint assessment by Hiroshima and Nagasaki estimates the total losses at JPY 884.1 million. The average annual per capita income was JPY 1,044 in 1944 (Hiroshima for Global Peace 2020). The exchange rates for Japanese yen to US dollars were 15-to-1 in 1945 after the war (the military exchange rate), 50-to-1 in 1946, and 360-to-1 in 1949.

Table 2.1. Percentage of Buildings Destroyed by Fire Versus the Explosion

Type of damage	Complete destruction	Partial destruction	Total
Fire	55,000	2,290	57,290 (84.4%)
Initial explosion	6,820	3,750	10,570 (15.6%)
	61,820 (91.1%)	6,040 (8.9%)	67,860 (100%)

Source: Ishimaru 2014a.

Note: The data come from the Municipal Handbook of the City of Hiroshima: 1946, based on the Hiroshima Prefectural Police official announcement as of November 1945.

Hiroshima's challenges for short-term restoration and long-term reconstruction included uncertainty about the degree of danger from the radiation, rebuilding the city core, and lingering effects of the war.

The population of Hiroshima plummeted by more than 45 percent, to below 140,000 (Hiroshima City 2014). Those who survived suffered health complications in the ensuing years. It was rumored that the radiation would make Hiroshima uninhabitable for seven decades.²² Between wartime censorship, the results of an investigation that concluded that little health effects from radiation were expected, and few alternatives, the people of Hiroshima set to rebuild their lives with no consideration of the remaining effects of radiation by cremating bodies, removing debris, demolishing destroyed buildings, clearing the land, and rebuilding houses.²³ Although the war ended, crises continued in Hiroshima. Typhoon Ida in mid-September and heavy rain in October complicated the restoration

of infrastructure and services with flooding that exacerbated infrastructure damage. The shortages of food and goods lasted for nearly three years, giving rise to black markets across Hiroshima (Nishimoto 2014).²⁴ Housing shortages persisted for years, leaving many orphans on the street. While dining and entertainment slowly started catering to the needs of the citizens,²⁵ the regional economy had a slow start, not turning upward until 1950 when the Korean War started generating military demand and stimulating Hiroshima's factories and regional economy.

²² Statement by Dr. Harold Jacobsen, an American scientist, as appeared in the Washington Post on August 8, 1945 (Burr 2022).

²³ The wartime censorship and the postwar press code by the US-led occupation forces suppressed the fear of the effects of a nuclear weapon (Nishimoto 2014). The joint investigation by the US, the Red Cross, and a doctor representing Japan concluded that the effects of radiation were short-lived and posed no danger for those living in the impact zone.

²⁴ In particular, the area in front of the Hiroshima railway station had the biggest concentration of black markets (Li and Ishimaru 2008).

²⁵ The number of diners and restaurants totaled 767 a year after the bombing, which was 1.5 times more than the prewar level. Movie theaters and a dance hall had also opened by then (Nishimoto 2014).

In the Early Days: Emergency Response and Restoration

Emergency Response

The earliest phase of emergency response and the restoration of infrastructure and services relied on a combination of the preexisting emergency plan and spontaneous organizing of respective sectors.

Before the bombing, Hiroshima had developed air defense plans, laying out emergency actions, government support functions, and related military support. However, the local governments and the military, all of which were located in the center of the city, were incapacitated during the coordination of response efforts immediately after the bombing.²⁶ The prefectural government office was destroyed, along with all five of the preselected backup locations for the prefectural government support functions according to the air defense plan. The same was true at the city level: the Hiroshima mayor was killed by the bombing and the city government office and its staff were engulfed in fire. Only the army's shipping unit at the Ujina port survived, which provided imperative support for the emergency response.²⁷ Most of the facilities and urban functions outside of the city center survived with little damage, yet the destruction in the city made it difficult to deliver resources and services to those who needed them in the impact area.

Surviving staff members and workers of each sector took immediate action to carry out parts of the emergency action plan where they could, and they improvised spontaneous actions where the air defense plan did not work. Naturally, priority was given to supporting survivors (for example, by providing first aid and treatment to the injured, obtaining and delivering food and supplies to survivors, and transporting survivors so they could reconnect with their families). The prefecture's response headquarters were established at a temple in the nearby Hiji mountain, and the director of the police department led immediate relief and rescue operations on behalf of the governor to mobilize what was left of the police force, the civil defense associations, and other relief personnel (Ando 2014). The prefectural headquarters requested the assistance of backup doctors, medicine, food, and other supplies from neighboring towns and the Ministry of the Interior in Tokyo.²⁸ At the city level, in the absence of a command structure, surviving officials devised new plans related to their normal duties. Some of their actions are outlined below.

²⁶ The army support functions at the Hiroshima Castle were devastated because of their proximity to the hypocenter. The commander-in-chief died and many senior officers were injured.

²⁷ Their support only lasted about a week, as the war concluded on August 15 and subsequently all military units were disbanded.

²⁸ Sourced from an article written by the former Chugoku Shimbun reporters 35 years later on the basis of their memory and notes (NHK Hiroshima 2020).

Food Provision

One of the surviving city officials, the director of rations for the City Air Defense Headquarters, led the provision of food for the survivors. Surviving the explosion at home, he learned from his injured colleagues that the city office was gone, and managed to reach the interim air defense headquarters. As previously agreed upon by the military for air defense, he borrowed a military truck from the army's Armored Division Training Center located in Ujina. He then went to the Provisions Authority in the neighboring town, loaded the truck with biscuits, and drove around the city to distribute food to survivors on the first day (Ishii 2018). He and the director of the prefectural response headquarters then devised a plan to keep feeding survivors by using resources from the nonimpact area. They requested neighboring towns to provide rice balls and have them delivered by vehicle or train, promising a deferred payment.

First Aid and Hospitals

The critical first aid and hospital services were done spontaneously, as most of the city's 50 preselected emergency medical and first-aid stations (including hospitals) were destroyed.²⁹ The two hospitals that survived with partial damage started caring for the injured immediately. Army field medics, doctors and nurses from surrounding cities, and able community members set up first-aid stations across the city where the injured people congregated. There were 99 first-aid stations and hospitals operating within the city on the day of the bombing and 241 locations operating outside the city (Tani 2009). Medical supplies were extremely scarce, however, and first-aid stations quickly had to serve simultaneously as morgues and crematories.

Interment

Because the bombing happened in the middle of the summer, bodies needed to be buried quickly to maintain sanitation. A government order was issued to complete the initial round of interment (either cremation or earth burials) within three days. The military, police, and civil defense association were mobilized to work on interment as soon as they could identify the bodies. Despite the quick initial round, only half of the bodies were interred in the first week and the remaining work continued on a smaller scale (Ando 2014). As the initial interments were not proper burials, the government-subsidized reburials were conducted in the following years.

Housing

While food, first aid, and quick burials required governmental and military action, those public actions did not extend to housing. In the first few months, survivors scraped together materials from the debris to put together tents and roofs, took shelter in the houses that survived the impact in the periphery of the city, or moved outside of the city if they had family and relatives beyond it (Hiroshima City 2018b, 260–69). With the majority of houses in Hiroshima being rented rather than owned prior to the bombing, the population immediately outside of the bomb impact area increased for the first six to nine months.³⁰ At that time, housing was seen as a private matter that required no government support,³¹ and people were largely left to find their own housing arrangements, with the exception of public temporary housing provided by the government a few years later.

²⁹ Hiroshima had designated 32 first-aid stations at mostly elementary schools and 18 stations at hospitals for first aid in case of air strike (Ando 2014).

³⁰ Eighty thousand survivors (about 38 percent of the survivors) remained in various parts of the city, while 133,000 (62 percent) went outside of the city immediately after the bombing. Over the next several months, the population increased in the areas more than 3 kilometers away from the hypocenter, while the population within 2.5 kilometers plummeted (Inami 1953).

³¹ Interview with Hiroshima city officials, February 2023.

Early Restoration of the Most Critical Infrastructure and Services

The restoration of critical infrastructure involved assessing damage quickly and repairing what could be fixed along the way. Workers needed to understand the level of damage and decide what was functional, what was lost, what could be repaired, and what resources were needed to repair them. The assessment and repair work happened simultaneously. In some sectors, infrastructure such as electricity, trains, and streetcars could resume service relatively quickly, in a staggered manner. In these sectors, sections of infrastructure that received less damage could be quickly repaired, and then additional repaired sections could be gradually added. Other services, such as piped water and gas, were more difficult to resume because their restoration required repair at the full network level, and the extensive destruction of the related facilities made repairs difficult. Despite the extreme conditions of the destruction from the war, the restoration of electricity, transportation, and alternative sources for the water supply helped restore basic functions and a minimal sense of normalcy in the city.

Electricity

The first phase of electricity restoration focused on the area that experienced little fire damage: near the Ujina port. A transformer station in that area was only minimally damaged because it was located behind a hill, enabling a quick repair to restore electricity access a day after the bombing (Chugoku Electric Power Company 1991). Power restoration was prioritized for key facilities, including military compounds, hospitals, hydropower plants, trains and streetcars, gas providers, the media, and several key factories. Within two weeks, 30 percent of electricity was restored in the vicinity of the impact zone, and the restoration reached 100 percent in three months.

Transportation

The railway connecting Hiroshima and other cities continued running with limited service despite the damaged tracks through the high-impact area. The collapsed roof of the Hiroshima train station was immediately cleared by operators and workers.³² Trains departed the same day so survivors could be transported back home or receive medical help.³³ This enabled injured survivors to receive care outside of the city.

The streetcar was the main mode of public transportation within the city center and was partially restored within three days despite heavy damage.³⁴ The bombing destroyed 108 out of 123 streetcars, the transformer station, and 393 power poles. The surviving staff systematically assessed the damage and immediately began restoring the system piece by piece with help from the army's shipping unit, which provided personnel and 300 ship masts to use as temporary power poles (Hiroshima Electric Railway 1992; RCC Broadcasting n.d.). As the main transformer station located in the adjacent city was too far to restore

³² This is according to the official records. The Sanyo Line resumed two days later and the Geibi Line resumed three days later (Hiroshima for Global Peace 2014, 80). However, later investigations that interviewed train conductors and workers reveal the train operated on the day of the bombing (NHK 2007).

³³ The mapping of first-aid stations that were set up on that day also depict stations stretching to the northern part of the prefecture along the Geibi Line, implying that the survivors were transported by train that day (Ishikawa 2021).

³⁴ The earliest restoration of streetcar service was in the 1.5-kilometer stretch between the Koi and Nishi-Temma stations.

stable connectivity in Hiroshima, the equipment of the transformer station closer to the city center was repaired. The restoration gradually extended outwards, reaching the Hiroshima railway station two months later, thus linking the intracity and intercity transportation (Hiroshima Electric Railway 1992). The streetcar service was also affected by Typhoon Ida in September, which destroyed a bridge that one of the streetcar lines ran on, delaying the full service's restoration until December 1948.

Water

The restoration of the water system required a network-level repair involving multiple facilities and pieces of equipment. The extensive damage to the water pipes and extreme weather events delayed the system's full restoration. The damage to the power equipment stopped water pumps, emptying the reservoir in a few hours. An emergency repair was conducted on the power equipment and water pumps in four days, yet the initial repairs proved to be ineffective, as damages to the water pipes caused 80 percent of the water to leak throughout the system (Hiroshima City 1995, 18). In the first few days, residents relied on river water, but it was contaminated with debris. They instead dug wells and relied on hand-pumped groundwater until the water pipes were fully restored. The service restoration extended into the medium-term recovery phase, along with that of the sewer systems.

Water service recovery was further complicated by extreme weather events. Typhoon Ida in September destroyed the water pipe bridges that connected the water reservoir and the city center. It took the City Water Division eight months to fully restore water services, requiring more than 18,000 repairs of water pipes and pipe bridges (Hiroshima City 1995, 19).

Gas

The gas provider in the region received consecutive and extensive damages. The Hiroshima Gas Company's Kure branch office and its infrastructure had already suffered partial damages in earlier air strikes the previous month. The Hiroshima headquarters office and the production facility located 2 kilometers away were both destroyed by the bombing and subsequent fire. In addition, 70 to 90 percent of gas pipes and 40 to 60 percent of gas tanks suffered damage (Hiroshima Gas 2010, 14). The typhoon in September and heavy rain in October flooded seven rivers and wiped out 30 bridges, taking away the main gas pipes and requiring the further clearing of sludge from the surviving pipes. The only remaining production facility in nearby Onomichi was repaired in December 1945, but the coal shortage limited gas provision to only two hours per day. With extensive repairs needed for the gas production and provision network, limited gas service to households did not resume until April 1946.

Medium-Term: Infrastructure Restoration and Rehabilitation

After the initial phase of recovery that focused on the most critical infrastructure and basic services, other services that had taken a backseat came into focus in the medium-term recovery phase to restore a sense of normalcy for those who remained and to start preparing for rebuilding.

The national government issued subsidies to local governments for rehabilitation works, and local governments coordinated their implementation. Starting about eight months after the bombing (with the new fiscal year), works in the following key areas

received funding under the War-Damaged Area Emergency Measures, covering 50 to 80 percent of the costs: (1) burial services for victims, (2) demolition of unstable structures, (3) debris removal and cleaning, (4) water and sewer infrastructure restoration, and (5) construction of temporary housing for displaced survivors (Hiroshima City 1995; Hiroshima for Global Peace 2020). Depending on the project, the plan was implemented over the course of three to five years (table 2.2).

Table 2.2. War-Damaged Area Emergency Measures

Project	Conducted (FY) ^a	Subsidy ratio (Percent)	Project descriptions
Burial services of the victims	1947–49	50	Conducted proper burials of bodies found from under the rubble and bones that were temporarily interred.
Debris removal and cleaning	1946–48	80	Transported and processed debris, ashes, and trash that residents cleaned out and left on the roadside. The eastern half was done by the city, the western half by the prefecture.
Metal collection	1946–48	80	Separated metals in the debris to make money for the Post-War Reconstruction Project. It generated JPY 679,000 (US\$13,580 in the 1946 exchange rate) in sales to be incorporated into the reconstruction budget.
Demolition of unstable structures	1947–48	75	Demolished partially damaged structures to prevent building collapse.
Restoration of water systems	1946–48	50	Repaired water pipes and piped bridges and rehabilitated water purification plants.
Restoration of sewer systems	1946–48	66	Restored vacuum pump stations, cleaned and repaired sewer pipes, and repaired manholes and outfall sewers.
Housing	1945–50	50	Built temporary housing and public affordable housing (more details are in the later section “Housing Recovery and Redevelopment”).

Source: Hiroshima City 1995, 15–22.

a. A note on the Japanese fiscal year: the Japanese fiscal year runs from April of a given year to the end of March of the following year. For example, FY 1945 is April 1945 to March 1946.

Sewer System

The restoration of the sewer system was partially funded by the War-Damage Restoration Project, which enabled repairs of 10 vacuum pump stations and 52 manholes and outfall sewers, and more than 3,500 meters of sewer pipe repair and cleaning.³⁵ The restoration work continued until early 1949.

Livelihood

To prepare for the coming winter, the city official who led food provision efforts for the survivors negotiated with the military to release its stock of clothing, blankets, and cotton textiles for civilians, an untapped surplus due to the conclusion of the war. He overcame multiple bureaucratic and logistical challenges—including a military officer who pulled out a gun to prevent the release of the stock despite an approval from the senior level—and helped citizens have warm clothing in the winter (Ishii 2018).

Banking

Although not considered a top priority, the banking sector resumed service thanks to the quick thinking of the Bank of Japan staff. The Hiroshima branch building of the Bank of Japan survived the explosion with only fire damage, despite being located only 380 meters from the hypocenter, and the building was one of the few concrete structures that did not collapse. Working on behalf of the injured branch manager, within two days the staff decided to offer the building as a temporary space for 10 local banks to resume service. The local banks and the Bank of Japan bent rules to accommodate customers to withdraw, deposit, receive fire insurance payments, and take out loans for rebuilding. This flexibility allowed local businesses and residents to swiftly start rebuilding their lives.³⁶

Education

The recovery of the education sector was led by a community effort. School instruction at public schools halted for a few months, as schools were either destroyed or used as first-aid stations and school fields turned into temporary burial fields. As school children who had evacuated to the countryside returned, they initially relied on schools far from where they lived for instruction.³⁷ Because of limited space, schools conducted classes in two shifts, in the morning and in the afternoon, in packed classrooms. To raise money for rebuilding schools that struggled from material and financial shortages, parents and local communities came together to support education recovery, organizing the Education Support Association. This organization of parents later turned into a PTA (Parent Teacher Association).³⁸ By March 1947, limited service for school lunch resumed.

³⁵ The sewer system lost 8 out of 13 vacuum pump stations, and damages in manholes and outfall sewers led to clogging of sewerage pipes (Hiroshima City 1995, 19).

³⁶ From a speech by a former branch manager, Kojiro Shinohara, who started working at the Hiroshima branch a few months after the bombing upon his return from the war front. He attributes the quick resumption of service to the flexibility and commitment of the branch manager and the fact that the vault remained intact, protecting the bank bills (Shinohara 2015).

³⁷ For instance, at Honkawa Elementary School, where almost all of the 400 students and teachers perished, returned students took classes at another elementary school 2.5 kilometers away. Eventually, three neighboring elementary schools (Honkawa, Hirose, and Kanzaki) were merged because of the depopulation of the city center, with only 200 students in April 1946 (Urabe 2016).

³⁸ Dr. Howard M. Bell from the Civil Information and Education Section of SCAP, who conducted a site visit of Honkawa Elementary School in January 1947, personally donated JPY 2,500 specifically for the repair of facilities and school supplies. He asked to remain anonymous until the rebuilding was completed (Urabe 2016).

Long-Term Reconstruction

Led by the national government's setup to engage in full-scale reconstruction, planning for long-term reconstruction started while the city was still navigating the emergency phase, though implementation would later require changes to bylaws as well as land readjustment. Planning for reconstruction included damage assessment, devising city plans, and financing. The national government set up the War Reconstruction Institute, and its quick development of national principles for the reconstruction of war-damaged cities, announced just over four months

after the end of the war, laid out basic principles for reconstruction, including (1) setting the reconstruction planning zone, (2) target setting for reconstruction planning, (3) principles for key infrastructure development, and (4) principles and techniques for land readjustment. These principles drove cities to set basic reconstruction plans without much consideration for financial viability, thus requiring the plans to be scaled down later, but the principles helped give clear directions on how to rebuild war-torn cities across Japan.³⁹

Planning for Reconstruction

Planning Capacities and Institutions

In planning and implementing reconstruction, the national, prefectural, and city governments played different roles. The national government made the framework for reconstruction, including policies and the institutional ground for the reconstruction of war-damaged cities across Japan. Hiroshima's prefectural government initially led the reconstruction planning on behalf of the city, but eventually ceded it to the city and joined the city's implementation efforts, dividing the reconstruction area between the city and the prefecture to expedite the process. The city government was responsible for land readjustment in the 579 hectares of the east side of the city, while the prefectural government was responsible for the 481 hectares of the west side (Hiroshima for Global Peace 2020, 27). In this sense, the city and prefecture shared the same level of authority in the implementation of the reconstruction process. Aside from certain prefectural-level infrastructure projects, such as ports and river management, the city government was the main planning body for the overall reconstruction plan. The city also was the primary actor in the advocacy for the Hiroshima Peace Memorial City Construction Law (henceforth referred to as the Peace City Law).

Initially, reconstruction planning of Hiroshima followed the national policy for other war-torn cities across Japan, though it quickly became apparent that rebuilding Hiroshima would require specialized policies and funding.

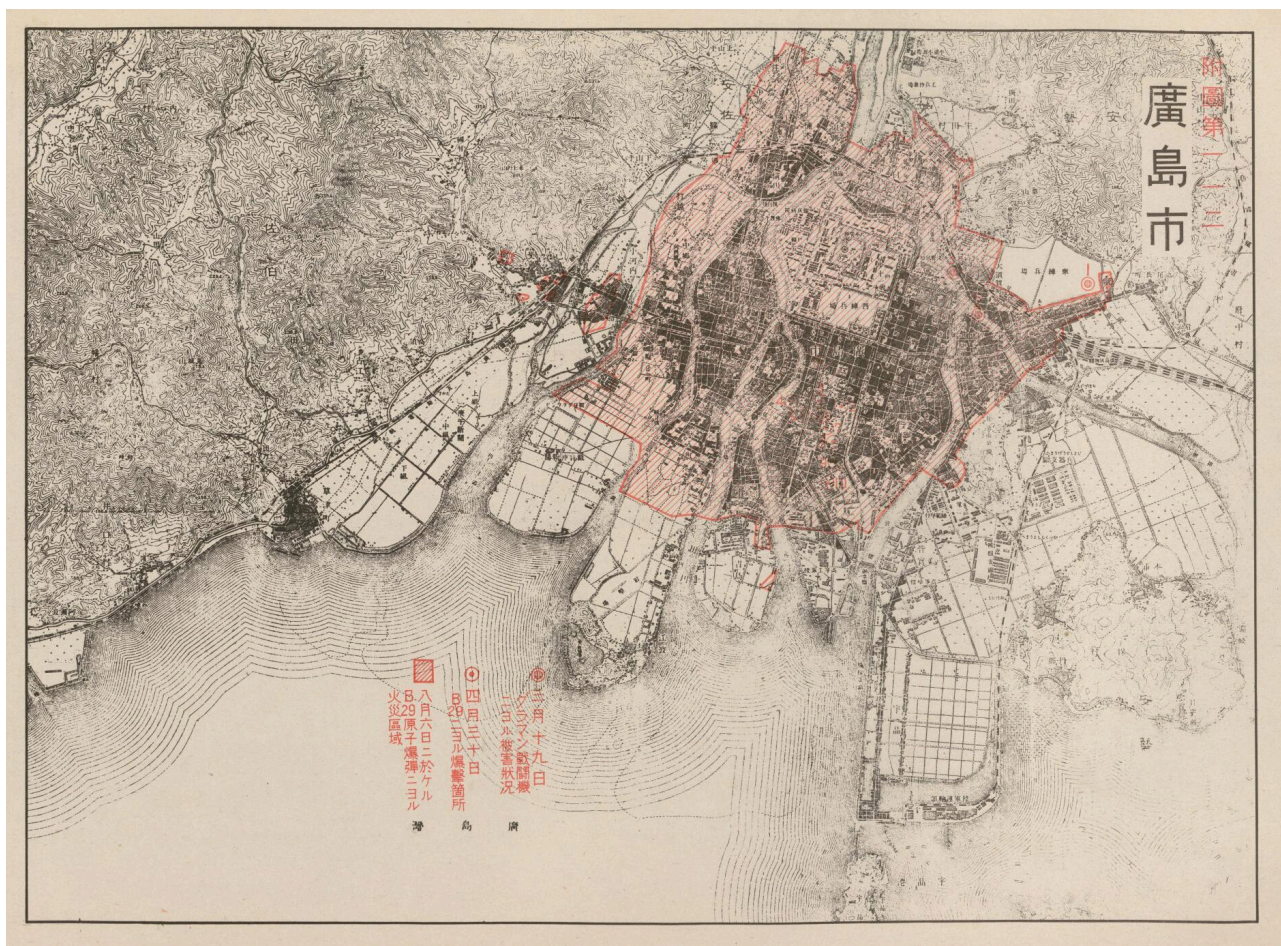
Damage assessment was led by the national government, which conducted war-damage assessments of 150 war-damaged cities and created maps of the war damage (figure 2.3).⁴⁰ At the conclusion of the war, institutional and policy setup was done quickly by the national government, thanks to the prior internal discussion for reconstruction in the Home Ministry during the war (Ishimaru 2014a, 26). The government established a national-level institution for planning postwar reconstruction, the War Damage Reconstruction Board, and a national policy for rebuilding 115 war-torn cities, the Basic Policy for the Reconstruction of War-Damaged Areas.⁴¹ With these institutional arrangements, the division of labor was in place: the 115 cities designated as war-damaged areas would be rebuilt under the War Damage Reconstruction Board, while other cities continued to be under the jurisdiction of the Home Ministry. The Basic Policy provided general guidelines for the reconstruction of the 115 cities and laid out reconstruction plans for (1) road transportation networks, (2) urban parks, and (3) land use (Hiroshima for Global Peace 2020, 27). To aid the reconstruction process, the Special City Planning Act was passed in September 1946, requiring each city to establish a city-level War Damage Restoration Plan by November 1946 (Hein 2005). As a general rule, each city would assume financial responsibility, with some additional funds from the national government to fill the financial gap, including during the medium-term restoration phase (as laid out in table 2.2) (Hiroshima City 1995, 24).

³⁹ Personal communication with Norioki Ishimaru, February 2024.

⁴⁰ The First Demobilization Ministry (the successor of the Ministry of the Army that dealt with matters related to the demobilization of soldiers) created maps of the areas that were damaged by air strikes to provide information to the demobilized soldiers, who wished to know the effect of the war when they returned from the war front. The map in figure 2.3 was published in December 1945. While other cities show different rounds of air strike damages, almost all of Hiroshima's war damage is from the atomic bombing.

⁴¹ Established by the Law of the War Damage Reconstruction Board in November 1945 (JACAR, n.d., ref: A04017772900).

Figure 2.3. Hiroshima City War Damage



Source: National Archives of Japan Digital Archive 1945.

After some delay, local-level planning for reconstruction started and official institutions and mechanisms of community engagement were established. Because of the loss and recuperation of council members, the city council took two months to resume and replace the deceased mayor. City council members formed the War Damage Restoration Commission in November 1945, and the city government established the Bureau of Reconstruction.⁴² At the community level, the representatives of neighborhood associations formed the Hiroshima City War Damage

Reconstruction Association in December 1945 (Hiroshima City 2019a; Ishimaru 2014a). To incorporate community engagement at the official level, the mayor's advisory board, the City Reconstruction Council, was organized in January 1946 with business leaders, industry experts, and community representatives to reflect a wide variety of options and visions in the reconstruction planning (Hiroshima City 2019a) (Box 2.1 describes some of the deliberated visions). The national guidelines for roads, parks, and land use offered a basis of discussion for the reconstruction planning

⁴² The reconstruction planning initially was done by both the prefecture and the city, but leadership over the planning gradually shifted to the city government, reflecting the process of postwar democratization and decentralization (Ishimaru 2014a).

Postwar planning in Hiroshima was primarily based on a prewar approach to urban planning, while also incorporating changes for improved city functions.

The most efficient planning approach was to use the preexisting system of planning and execution, which mainly relied on land readjustment.⁴³ Modern city planning in Japan started in the early 20th century with the introduction of the City Planning Act (1919) in response to industrialization and rapid urbanization in Japan.⁴⁴ Although the implementation of many urban development projects halted during the war, the city planning system remained relatively unchanged after the war. The city planning approach included improvements to the urban landscape such as increasing the number of roads and parks for better access and reducing fire hazards.

After deliberating various proposed plans, Hiroshima adopted a reconstruction plan based on the unexecuted prewar city plan, while making a major change to its arterial roads.

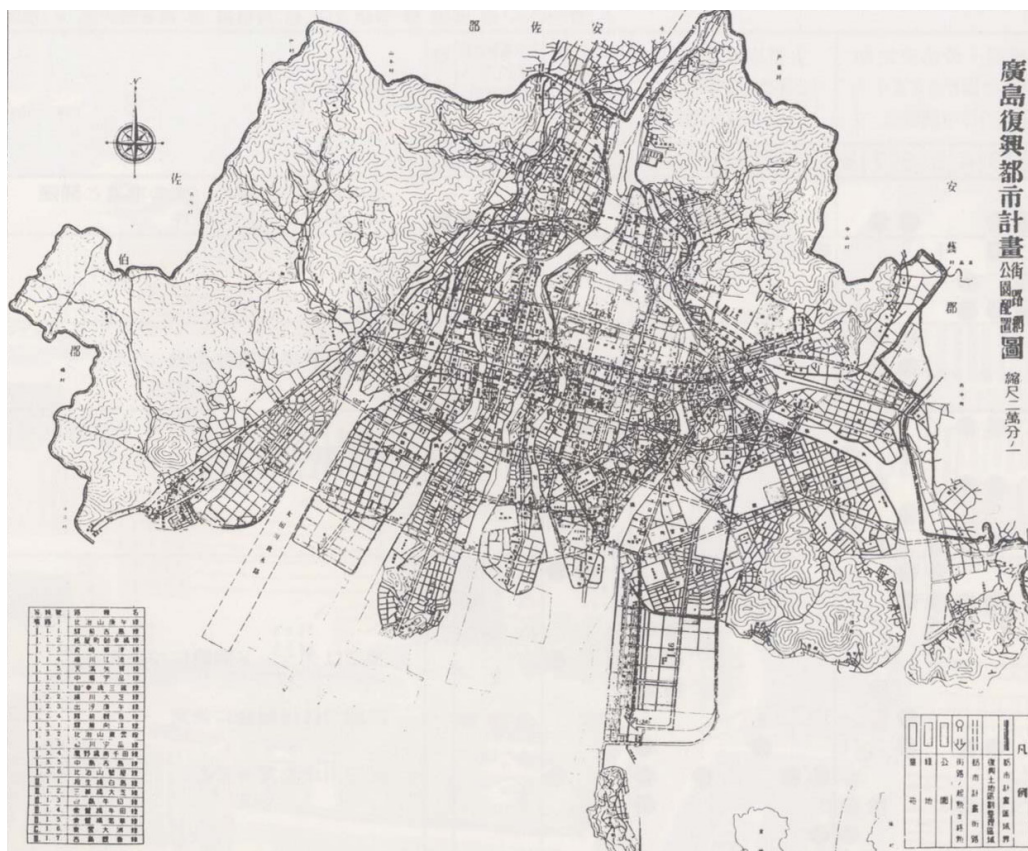
The prewar city plan—which had been partially implemented before it was halted because of the war—included improvements of urban infrastructure and flood control, such as increasing the number of roads, creating new urban parks, and extending the streetcar network.⁴⁵ This prewar plan was assessed against the city's new needs and revised into a new reconstruction plan, focusing mainly on public space and land use (Ishimaru 2014a). The first iteration of the new city plan, the Hiroshima City Plan for Reconstruction, was put together by November 1946 (figure 2.4), with specific plans on roads, parks, and land readjustment (table 2.3).

⁴³ Land readjustment is a tool of urban planning that determines the locations of public facilities and housing, readjusts land usage purposes and relevant land use permits, replots blocks, and has the necessary land for public purposes contributed by landowners. For details on Japan's land readjustment system, see World Bank 2019.

⁴⁴ Japan's initial city planning primarily targeted Tokyo but gradually expanded to other cities, and it took effect in Hiroshima in 1923. Accordingly, Hiroshima established urban boundaries in 1925, land use zoning in 1927, road plans in 1928, and urban park plans in 1941. The institutions for city planning also followed, including the prefecture-level City Planning Commission, which started in 1924 (sourced from an interview with Hiroshima city officials, February 2023).

⁴⁵ The national government implemented the City Planning Act in 1920 to control urbanization, and it came into effect for Hiroshima in 1923, enabling institutional arrangements for city planning within the city government (Hiroshima City 2019a).

Figure 2.4. Hiroshima City Plan for Reconstruction (November 1946)



Source: Hiroshima City 2019a

Table 2.3. Content of the First Hiroshima City Plan for Reconstruction (November 1946)

Category	Scale	Decision date
Roads	24 roads (82 kilometers)	October 1946
Parks	Total of 39 sites <ul style="list-style-type: none"> ● Parks: 35 sites (219.67 hectares total) ● Green spaces: 4 sites (62.02 hectares total) 	November 1946
Land readjustment	1,520 hectares ^a	October 1946
Total area for zoning	3,263 hectares <ul style="list-style-type: none"> ● Residential areas: 2,065 hectares ● Commercial areas: 387 hectares ● Industrial areas: 811 hectares 	May 1949
Total area of city planning	7,297 hectares	1925

Source: Hiroshima 2019b, 5.

a. Although the initial plan determined to conduct land readjustment on 1,520 hectares of the city area, it was reduced to 1,060 hectares in 1952.

Box 2.1 Alternative Plans

Besides the reconstruction plan adopted by Hiroshima, a number of alternative plans for rebuilding the city were considered. Different visions for how to rebuild the city included (a) relocating the urban functions for fear of radiation effects, (b) rebuilding Hiroshima as a smaller city because of depopulation, and (c) raising the elevation of land to minimize future flood risks (Ishii 2018; Ishimaru 2014a). Relocating the city, raising the levels of land, or rebuilding a more compact city would require drawing a new city plan, which would complicate and delay the process of land use planning and land readjustment. As land readjustment is a long process that involves negotiations with landowners, rebuilding with minimal land readjustment would be a quicker option. Financial, time, and other resource constraints indicated that the best choice was building back what was lost using the prewar city plan.

Although the overall vision settled on rebuilding the city close to what it was before, other plans that concerned parts of the city were presented, such as the greening of riverbeds and relocating the railway station closer to the city center (to the former military-use land).⁴⁶ A number of ideas for the commemoration of the bombing were contributed by international experts from the early stage of reconstruction planning, such as a memorial park and museum (by Miles Vaughn), the preservation of damaged buildings near the hypocenter as memorials, the preservation of documents related to atomic bombing in the museum (by John D. Montgomery), and a memorial tower for the deceased (by S. A. Jarvie, who also proposed an alternative land use plan in the Hakushima area) (Ishimaru 2008, 2009, 2011). Owing to the anticipated difficulties of implementation, most of these plans did not materialize, with the exception of riverbed afforestation and a monument commemorating the bombing that became part of the Peace Memorial Park. The preservation of the Atomic Bomb Dome as a monument remained an idea at the planning stage; thus, the structure remained untouched until the 1960s.

⁴⁶ The financial cost to relocate the station was too high (Kato 2014).

Reconstruction planning in Hiroshima followed a pattern of creating a vision without much funding considerations and later scaling down to adjust to the fiscal and resource realities. The initial reconstruction plan was beyond the normal financial resources for the city, which was already devastated by the war and further affected by Japan's economic volatility. Japan was facing a worsening financial crisis after the war, and the national government announced a scaling back of the previously

approved reconstruction projects because of new fiscal austerity measures. This was compounded by significantly lower tax revenues in the city due to depopulation and a reduction in buildings that would generate income and property taxes (Hiroshima City 2019c). In FY 1948, the annual budget for war-damage restoration allocated by the national government to Hiroshima was JPY 50 million, far below the estimated JPY 30 billion needed to rebuild Hiroshima (Hamai 1967).

A Special Law to Finance Hiroshima's Reconstruction (Peace City Law)

To obtain additional funding for reconstruction, the city appealed to the national government. The city's advocacy resulted in the enactment of a special national law in 1949 targeting Hiroshima's reconstruction. Given the reduced reconstruction budget for rebuilding war-torn cities across Japan, the city of Hiroshima negotiated with the national government, stating that Hiroshima needed additional financial resources. After several years of negotiations and advocacy, the Hiroshima Peace Memorial City Construction Law (henceforth the Peace City Law) was enacted, enabling (1) increased subsidies from the national government for reconstruction-specific projects, and (2) the free transfer of former military-use land to the city (Hiroshima City 1949).

The Peace City Law was the fruit of multiple negotiations to obtain special financial measures. The city council approached the national government as early as November 1945 for a higher rate of financial support, with multiple attempts that followed (table 2.4) (Ishimaru 2014a). After the Hiroshima mayor convinced

the minister of finance to change the existing legal framework for Hiroshima in 1946, both the mayor and the minister were ousted in a targeted purge of conservative ideology led by the Supreme Commander for the Allied Powers (SCAP).⁴⁷ Desperate for additional funding, the city council passed a formal petition ("the Petition regarding Hiroshima's Comprehensive Reconstruction Measures from Atomic Bomb Damage") stating that Hiroshima's reconstruction should be funded as a national project, rather than that of the local government, but this petition lacked support from national policy makers given the country's fiscal conditions and the reluctance to treat Hiroshima differently from other war-damaged cities. However, the situation was resolved in February 1949 by pursuing new legislation. This new legislation was a framework that would allow Hiroshima to receive special treatment from the national government if it were rebuilt as a Peace Memorial City. This framework was conceived with the cooperation of Tadashi Teramitsu and other legal experts.

⁴⁷ The purge targeted those who had supported the war. Following the purge, the first mayoral election was held to elect the mayor by popular vote (as opposed to the mayor being elected by the city council) in 1947, in which Shinzo Hamai was elected (Ishii 2018, 109–112).

Table 2.4. The Advocacy and Policy-making Process for the Peace City Law

Date	Steps to Enactment	Steps to Enactment
November 1945	Mayor Kihara requests special financial assistance from the national government.	Requesting special measures from the national government: the transfer of national property and special financial measures
January 1946	Mayor Kihara requests the (free) transfer of former military-use land.	
November 1946	The Hiroshima City Plan for Reconstruction (based on the Basic Policy) is adopted.	
November 1948	The petition for the nationalization of the city's reconstruction is passed by the city council.	Advocacy for the nationalization of Hiroshima's reconstruction
February 11, 1949	The petition is distributed to Diet members.	
February 13, 1949	Discussion of the written petition takes place in Tokyo with Teramitsu; the first idea of requesting for a special law comes forth.	Advocacy for the Peace City Law
February 14, 1949	The first draft of the law is completed.	
February 25, 1949	Nagasaki shows interest in collaborative participation in the legislation.	
May 4, 1949	The SCAP ^a approves the law draft.	
May 10, 1949	The law is passed in the lower house.	
May 11, 1949	The law is passed in the upper house.	The law goes into effect.
June 1949	Announcement of the scaling down of reconstruction projects	
July 7, 1949	Referendum: majority approval	
August 6, 1949	The law goes into effect.	
March 31, 1952	The construction plan is finalized.	

Source: Hiroshima City 2019c.

a. SCAP = the Supreme Commander for the Allied Powers. In Japan, the SCAP was called GHQ, referring to the General Headquarters of the Supreme Commander for the Allied Powers.

Hiroshima overcame these political obstacles by framing its identity as a city of peace and by gaining support from Hiroshima-native policy makers for a new national legislation. In the course of drafting a petition, the identity of Hiroshima as a “Peace Memorial City” was introduced to emphasize the importance of rebuilding Hiroshima as a national symbol for international peace and thus justify access to additional financial resources from the national government (Semba 2016). The key support for national legislation came from, among others, a Hiroshima-native senior leader in the national parliament, who rewrote the petition into a draft special law.⁴⁸ Along with revising the draft law text multiple times, Hiroshima’s representatives successfully gained approval from the SCAP⁴⁹ and averted other potential obstacles.⁵⁰ With sufficient political support at the national level, the special law passed the national parliament in May 1949 and gained popular support in a city referendum.⁵¹ The fear of losing financial support—because of a new national fiscal austerity measure that announced the scaling back of previously approved reconstruction projects—created momentum for the city to finalize the law; hence, a public campaign was set up.⁵² With 90 percent approval from the citizens, the act came into effect on the fourth anniversary of the bombing, as the first instance of a special act under the new Japanese Constitution; since then, 15 such special acts have been enacted.⁵³

The Peace City Law laid out a set of commitments from the national government, as well as responsibilities for Hiroshima City and its mayor.⁵⁴

Most importantly, the law laid out the national government’s responsibility to provide the financial assistance needed for the reconstruction of Hiroshima. The law itself did not specify the extent of additional funding, leaving the specific budgeting to the bureaucratic procedure by the national government (Hiroshima City 1995, 61). The law also enabled the transfer of nationally owned assets (public land assets) as necessitated by Hiroshima’s reconstruction plan.⁵⁵ In return, the responsibilities for the mayor and the citizens of Hiroshima were laid out as follows: (1) the Hiroshima Peace Memorial City should be constructed as a symbol of peace, (2) the city should develop cultural facilities appropriate for a peace memorial city, and (3) the mayor and the citizens of Hiroshima should be committed to building a peace city (Hiroshima City 2019b). Although the financial aspect of the Peace City Law ended in the mid-1950s—the national government’s subsidizing of reconstruction projects concluded in 1955—the city of Hiroshima is still required to report to the Diet twice a year on Hiroshima’s development as a part of obligations set by the law.⁵⁶

⁴⁸ Tadashi Teramitsu, the director of the Proceedings Department of the House of Councilors, advised Hiroshima’s political representatives to use the special law framework (available under the new Japanese Constitution set in 1947) and personally drafted the law. The draft went through four revisions in three months before it was submitted to the Diet (Hiroshima City 2019a).

⁴⁹ As a prior approval from the SCAP was required to enact a law during the Allied Occupation, an English translation of the draft law was submitted for approval. Contrary to the worry of the policy makers, the SCAP expressed support because the law did not ask for any financial resources from the Allied Forces. The framing of Hiroshima as a city of peace was also considered in line with the intention of the SCAP to demilitarize and democratize Japan (Ishimaru 2018).

⁵⁰ The city of Nagasaki requested to join and be incorporated into the law, which would delay the law-making process. The request was declined but it was suggested that Nagasaki draft a separate special law on its own, which later became the Nagasaki International Culture City Construction Law.

⁵¹ The law was deliberated at the national parliament and passed with unanimous approval in both the upper and lower houses. Article 95 of the Japanese Constitution requires a referendum for a special law targeted at a specific public entity. The city set up a special office for the promotion of the law and launched a public campaign to get voters out to the referendum.

⁵² This fiscal austerity measure was announced in the Basic Policy for the Reconsideration of Reconstruction Planning (June 1949), based on the so-called Dodge Line, a fiscal contraction policy for Japan drafted by the SCAP economic adviser Joseph Dodge (Hein 2005). The Basic Policy also specified the project duration for the War-Damage Reconstruction Projects: they would be concluded by the end of FY 1955. The Ministry of Construction established the Council for the War-Damage Restoration Measures to ensure the implementation of the policy, and the mayors of Hiroshima and Nagasaki were invited to the council together with other major cities such as Tokyo and Osaka (Hiroshima City 2019a; Nakagawa 2019). Although this indicated national commitment, it was still worrisome to Hiroshima’s financial future.

⁵³ A series of special acts were enacted between 1949 and 1951 by other cities trying to follow suit on Hiroshima’s action. The other special acts include the Nagasaki International Culture City Construction Law, which served a similar purpose as Hiroshima’s; the construction of the capital (Tokyo) and the reuse of military ports, which deals with the aftermath of the war; and others, which were concerned with developing tourist industries for the economic revival of cities (Hiroshima City 2019c).

⁵⁴ Interview with Hiroshima city officials, February 2023.

⁵⁵ This is an extraordinary measure to Article 28 of the National Property Law. Overall, 345,530 square meters of former military land have been transferred from the national government to Hiroshima City under the Peace City Law.

⁵⁶ Interview with Hiroshima city officials, February 2023.

Finalizing the Reconstruction Plan

Even after the new law for additional financing, Hiroshima's reconstruction plan underwent changes and was forced to be scaled down given the national government's fiscal austerity policy. After the Peace City Law passed, the city prepared a revised plan totaling JPY 27.6 billion (about US\$77 million in the 1949 exchange rate), but eventually only one-tenth of that amount was approved by the national government. In this revised plan (the Hiroshima Peace Memorial City Construction Draft Comprehensive Plan, October 1949), the city placed a variety of projects under the Peace City Construction Projects in an attempt to receive a higher national subsidy rate (Nakagawa 2019). The national government, however, pushed back. After negotiations, the approved financing in

1950 focused on five fundamental categories (war-damage reconstruction, peace memorial facilities, sewerage facilities, arterial roads, and urban public facilities) with a total project budget of JPY 2.95 billion (about US\$8.2 million), and the total budget was further shrunk to JPY 2.70 billion (US\$7.5 million) in the following year. Many of the projects proposed in the draft comprehensive plan were not approved for higher subsidy rates (figure 2.5). These projects either received the same subsidy rate as other cities as part of the existing routine mechanisms (including public housing, urban parks, and infrastructures) or were canceled unless other funding sources were found. On the basis of the approved projects, the Hiroshima Peace Memorial City Construction Plan was finalized in 1952 (table 2.5).

Figure 2.5. Comparison of the Reconstruction Plans across Revisions



Source: Based on Ishii 2018 and Nakagawa 2019.

Table 2.5. Hiroshima Peace Memorial City Construction Plan (Revised Plan, March 1952)

Category	Scale	Content
Peace memorial facilities	1 site (12.21 hectares)	Peace Memorial Park, Peace Boulevard
Roads	27 roads (63 kilometers)	Including the Peace Boulevard
Parks	Total of 88 sites Parks: 78 sites (219.67 hectares total) Green spaces: 8 sites (398.34 hectares total), 2 riverbank green spaces (21.32 hectares)	For example, Chuo Park
Land readjustment	Total 1,520 hectares	East and West Land Readjustment Projects for Reconstruction
Sewerage	Covering a 1,172-hectare area	
Total area for zoning	3,644 hectares Residential: 2,169 hectares Commercial: 527 hectares Semi-industrial: 250 hectares Industrial: 698 hectares	
Total area of urban planning	7,297 hectares	Unchanged from 1925 City Law

Source: Hiroshima City 2019b, 8.

The two key components of the finalized Hiroshima Peace Memorial City Construction Plan were the main picturesque road (the Peace Boulevard) and the memorial park in the city center (the Peace Memorial Park).⁵⁷ The city placed these projects under the Peace Memorial City Construction Projects to facilitate the financing, thus adding “peace” in their names.⁵⁸ The Peace Boulevard is a 100-meter-wide road that runs through the city center from east to west, and the Peace Memorial Park is in the center of the city in place of the cluttered neighborhoods that existed before the war. Combined, these urban functions defined what the new city center would look like, symbolizing a peace city.

Allocating the land for the Peace Boulevard was achieved by the wartime selective demolition of buildings for fire prevention. In postwar Japan, other cities also planned to build 100-meter-wide roads as part of their reconstruction plans, but many of these roads did not materialize because of fiscal constraints and the challenge of procuring land.⁵⁹ In Hiroshima, the wartime firebreak created by selective demolition of houses provided both the idea and space for the

100-meter-wide road (figure 2.6).⁶⁰ In addition to maintaining its role as a firebreak, the road was also an improvement to the urban landscape, with trees planted along it, and it was given a new importance in the name of “peace,” with the contextual necessity to qualify the road construction for the higher national subsidy rate under the Peace City Law (AI-Kazei 2019).

The Peace Memorial Park was planned both to improve the urban space of the city center and to provide a space for reconciliation and healing from the experience of war devastation. Although creating a large urban park was seemingly a low priority compared with other critical projects such as key infrastructures, housing, and administrative functions, it was seen as an important venue to symbolize a city of peace (Ishimaru 2014a). The two large parks included in the original reconstruction plan—the Nakajima Park, across the river from the hypocenter, and the Chuo Park, to be sited on the former military-use land by the Hiroshima Castle—were combined to become the 19-hectare Peace Memorial Park, which includes a museum, civic hall, and memorials.⁶¹

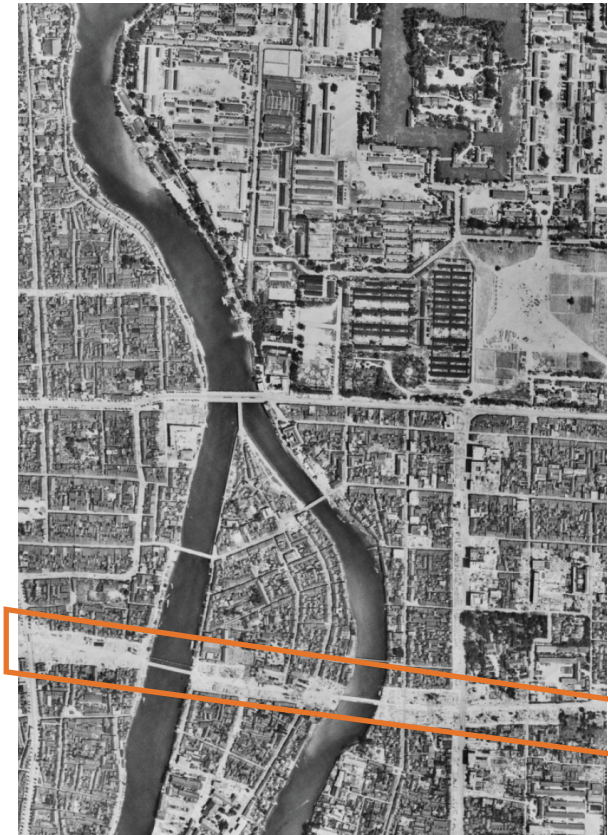
⁵⁷ Interview with Hiroshima city officials, February 2023.

⁵⁸ In the Peace Memorial City Construction Plan, the road was officially called “Peace memorial 100-meter-wide road” (Ishimaru 2014b).

⁵⁹ For instance, in Tokyo, where originally 13 such roads were included in the reconstruction plan, none of the 100-meter-wide roads materialized (Hein 2005). Hiroshima’s original reconstruction plan included an additional 100-meter-wide road 2 kilometers south of the Peace Boulevard, which did not materialize owing to the scaling down of the plan.

⁶⁰ By creating an east-west division with an open space, combined with the many rivers that run north to south, the city would be divided into 12 blocks and able to contain fire more easily.

⁶¹ The Nakajima Park (12.2 hectares) and a part of the Chuo Park (6.6 hectares) were combined into a memorial park. Only a part of the originally planned Chuo Park was incorporated, as the other part was repurposed into housing.

Figure 2.6. Location of Selective Demolition (left) and the Peace Boulevard (right)**a. Selective Demolition (July 1945)****b. Location of the Peace Boulevard (October 1966)**

Source: Geospatial Information Authority of Japan. Left image taken July 25, 1945, by US Military GSI Maps; right image taken October 23, 1966, by Geospatial Information Authority of Japan, GSI Maps.

The Tange Plan for the Peace Memorial Park

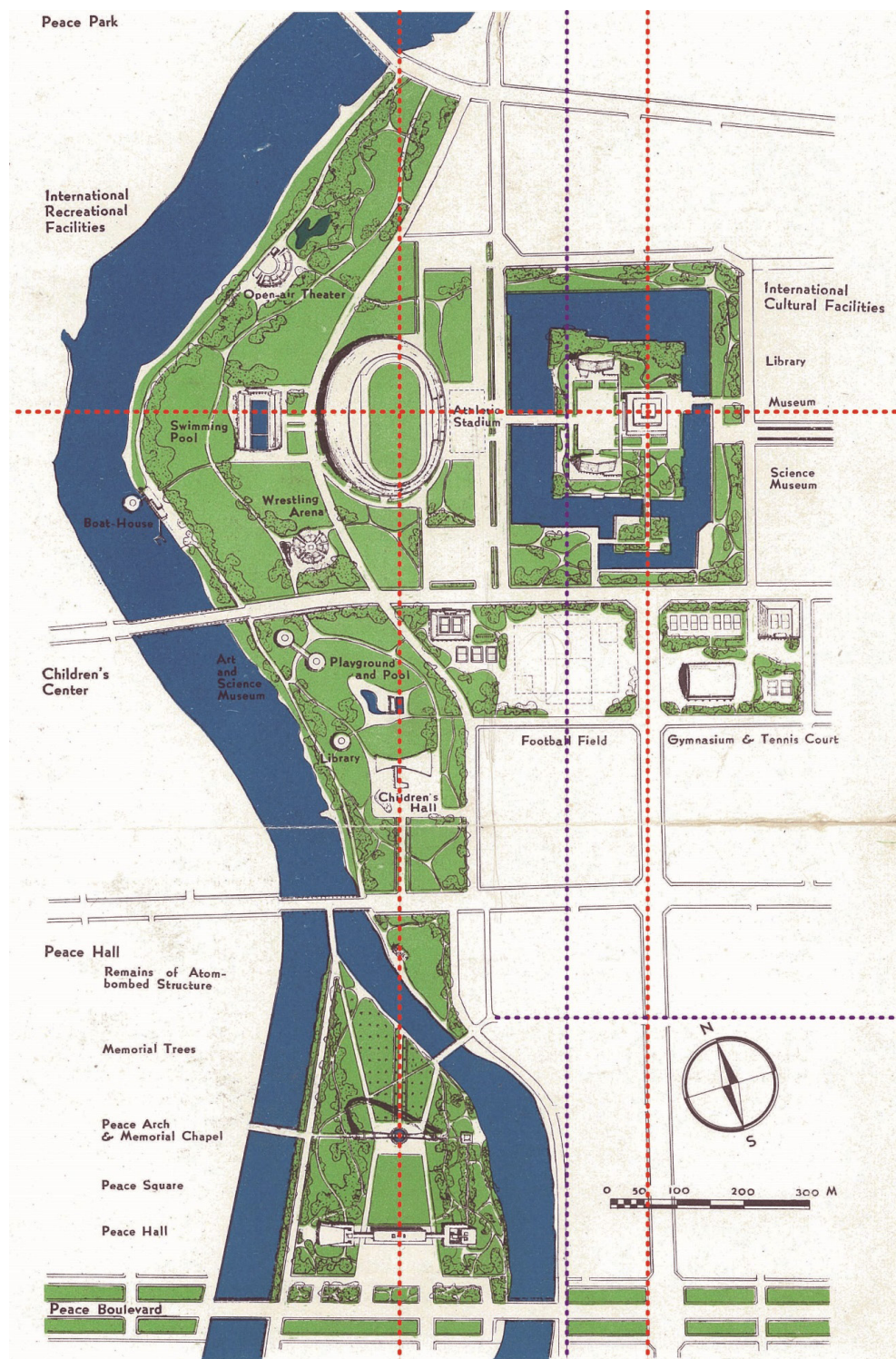
The design plan of the Peace Memorial Park was proposed by architect Kenzo Tange through a design competition, in which Tange successfully incorporated symbolism of peace in an integrated plan of various buildings. The city called for design proposals for what would become the Peace Memorial Park so it could decide the design plan of the peace memorial facilities—around when the Peace City Law was being finalized.⁶² With his prior connections to Hiroshima and having engaged in Hiroshima's reconstruction in the early days, Tange was personally committed to Hiroshima's reconstruction.⁶³ Although an architect, he was interested not only in designing individual buildings, but also in the composition and design of urban spaces, which distinguished his approach to the memorial park from other ideas in the competition. His park plan included a north-south corridor in the center of the park, with the

A-bomb Dome as the focal point at the northern end. Although the preservation of the Atomic Bomb Dome had not been determined at that time, the city had requested in the call for proposals that the building be included in the park. Other competition proposals for the park did not integrate the half-destroyed remains of the Hiroshima Prefectural Industrial Promotion Hall (Ishimaru 2014a). Between the main building of the Peace Memorial Museum to the south and the Atomic Bomb Dome to the north is an open-space corridor with a memorial for the victims of the bombing. The visitors of the memorial park would be able to learn about Hiroshima's experience of the atomic bombing, commemorate the deceased, and renew a vow for peace, and the Tange plan offered an ideal space for memorials and self-reflection (figure 2.7).

⁶² The call for proposals was circulated in May 1949, the same month the Peace City Law passed in the Diet. The proposals were due in July, and the selection was announced on August 6 (the anniversary of the bombing) of that year.

⁶³ He had attended Hiroshima Higher School (a higher school is a higher education institution to prepare for imperial universities) and had already worked on the pilot survey for the city when he was invited to serve on the War Damage Reconstruction Board shortly after the war. He submitted a city reconstruction plan in February 1947, but it did not get selected as the city had already agreed on a basic plan for reconstruction (approved by the Reconstruction Board in July 1946). His submission to the design competition of the Memorial Cathedral for World Peace (a Catholic cathedral in Hiroshima) in 1948 also was not selected. The memorial park design competition was his third try.

Figure 2.7. Kenzo Tange's Design Plan for the Peace Memorial Park, 1949



Source: Hiroshima City 2018b

This plan also faced financial challenges, and the implementation required adapting the plan according to fiscal reality. On the basis of Tange's park design, a supplementary budget was allocated in FY 1949, launching the construction of the Peace Memorial Park. Yet financial difficulties significantly delayed the construction of some memorial park facilities, including the main building of the museum.

Because the increased national funding support would conclude in early 1956,⁶⁴ the city started construction of these facilities without a clear plan for completion (Ishii 2018, 130–32). Eventually, in light of improved revenue conditions for the city, the facilities were completed through self-financing by the city (Ishii 2018, 243–44).

⁶⁴ After March 1956, the level of national subsidy for the Peace Memorial Facilities Project would be reduced from 66 percent to 50 percent, the same level as equivalent projects in other cities.

Financing for Reconstruction

The financing for Hiroshima's reconstruction was drawn from multiple sources, but much of it came from the national government. The financial challenges for the reconstruction included postwar inflation, the scaling down of reconstruction plans because of fiscal austerity, the lack of revenue, and the sheer scale of the reconstruction (Hiroshima City 2019a). Between 1949 and 1955, the Peace City Law enabled additional financial support for reconstruction. Hiroshima's financial situation somewhat improved along with Japan's high economic growth in the late 1950s, by which time the city's revenue had increased five times over 10 years (Ishii 2018, 244). By the end of the additional national financial scheme in spring 1956, the city could afford urban development with its own budget.

National Funding

Most importantly, the Peace City Law increased the amount of funding from the national government. It was determined that the national government would allocate an additional subsidy to Hiroshima, which increased by JPY 31 million in FY 1949 and JPY 180 million in FY 1950 (in addition to the standard subsidy level for other war-damaged cities under the War-Damage Reconstruction Projects).⁶⁵ However, this extraordinary financial measure of a two-thirds subsidy, specific to Hiroshima, was met by resistance

from other war-damaged cities, forcing the national government to scale back the subsidy level for some projects.⁶⁶ But the Peace Memorial Facility Project, which included the development of the Peace Memorial Park, would continue to receive 66 percent financial assistance from the national government, compared to the standard 50 percent for urban development projects in other war-damaged cities.⁶⁷ The Peace City Law also enabled the gratuitous transfer of nationally owned land and property, substantially cutting down on the cost for Hiroshima. In Japan, the cost for purchasing land accounts for the bulk of a public facility project's cost.⁶⁸ Therefore, having the land transferred at no cost from the national government would ease the financial burden for the city and facilitate reconstruction. The target site was the public land stretching to the south and southwest of Hiroshima Castle, where the military facilities existed during the war and which became national property at the conclusion of the war. The land's proximity to the city center made it a key site to rebuild Hiroshima's urban functions. The prefectural government office, the city hospital, and other local government buildings were placed on this site, and the rest of the area was used to establish cultural facilities. Combined with some other properties, a total of 345,530 square meters of land were transferred to Hiroshima City, and the national government required Hiroshima to limit the land's use to public infrastructure or public spaces.⁶⁹

⁶⁵ These additional subsidies were provided in the form of a supplementary budget. For FY 1950, the national government set aside JPY 270 million specifically for Hiroshima and Nagasaki, and two thirds of that amount was allocated to Hiroshima.

⁶⁶ Specifically, beginning in FY 1951, the subsidy level of the urban development projects was returned to 50 percent; the subsidy level for the Peace Memorial Facility Projects was kept at 66 percent but would end in FY 1955 (Hiroshima City 1995, 61).

⁶⁷ Specifically, the two-thirds subsidy was applied to the Peace Memorial Facilities Projects between FY 1950 and FY 1955, but it was only applied to the Reconstruction Projects for FY 1950.

⁶⁸ Interview with Hiroshima city officials, February 2023.

⁶⁹ The breakdown of the uses for the land is as follows: educational facilities (146,888 square meters), water and sewerage facilities (171,153 square meters), parks and a crematory (1,513 square meters), and public health and sanitation facilities (25,975 square meters) (Hiroshima City 2018a). The use of the land was limited specifically to parks, green spaces, public spaces, athletic fields, railways, water and sewerage facilities, canals, rivers, waste management, public cemeteries, libraries, and public schools. At first, educational facilities were not included in the criteria, but they were later added after negotiations with the Ministry of Finance (Hiroshima City 1995, 61–62).

Piecing together Funding Sources

Alternative funding sources to complement insufficient funds were sought to achieve some elements of urban development. This included donations from the local private sector that funded the public hall, donations from Hiroshima-native expatriates that funded the construction of a children's library among other projects, and nationwide private donations from citizens and companies that enabled the preservation of the Atomic Bomb Dome.

- International aid assistance, specifically from the United States (through the Economic Rehabilitation in Occupied Area [EROA] Fund), was used for the construction of two bridges along Peace Boulevard: the Peace Bridge and the West Peace Bridge.⁷⁰
- The city considered public gambling as an option for financing reconstruction, which materialized in the city-operated bike racetrack in 1952.⁷¹
- Donations from the local private sector enabled the construction of the public meeting hall in the Peace Memorial Park, one of the three facilities in the park. The donation from the private sector also contributed to other key urban functions, including the Hiroshima bus terminal, the Hiroshima prefectural government office, a golf course, and a railway station building (Shinohara 2015) (See Box 2.2. for various donations that supported reconstruction).
- Groups of Hiroshima natives living overseas conducted a fundraising campaign and helped fund the construction of a children's library as well as health and social welfare facilities (including orphanages, childcare centers, a maternity center, a senior living facility, and single-mother residences) and provided relief supplies.
- The preservation of the Atomic Bomb Dome was made possible by private sector and personal donations. To fund the estimated JPY 40 million for preservation works, the city launched a public donation campaign. The local business circle again contributed, as well as many citizens throughout the country.
- In 1955–56, a tree donation campaign was launched to collect the trees that would be planted along Peace Boulevard and in the Peace Memorial Park. This initiative was considered a symbolic support rather than a financial one, as planting trees from across Japan would symbolize the collective wish for peace of the Japanese people.

⁷⁰ The EROA Fund was part of the US postwar aid program, which approved the use of its Budget Appropriate Funds for public works in FY 1950 (Nakagawa 2019). The national government used this money to fund the construction of two bridges in Hiroshima (Hiroshima City 1995, 61). The bridges were designed by Japanese-American sculptor Isamu Noguchi as a sign of reconciliation.

⁷¹ The Draft Comprehensive Plan (October 1949) included a bike racetrack and a horse racing field as options to generate revenue for the city. After the bike racetrack was approved in November 1949, other gambling facilities were dropped in the final reconstruction plan (Nakagawa 2019).

Box 2.2 Stories of Donations and Public Support

A public meeting hall with the capacity of 2,000 people was planned as part of the Peace City Construction Plan, but it did not qualify for the increased subsidy from the national government as it was not considered a unique facility to be part of the Peace Memorial Facilities (Ishimaru 2014a). Despite a public hall being planned as one of the facilities in the Peace Memorial Park, only the adjacent exhibit hall and the Peace Memorial Museum started construction, and no viable plan for building a public meeting hall existed as of 1951. The CEO of a local business, Koichi Tanaka, lamented the lack of a large gathering place and started promoting the idea of funding one so Hiroshima would be able to host a large gathering in 1953 (Shinohara 2015). Being an influential leader in the local business circle called the Futaba-Kai, he used this network to convince local businesses and launched a fundraising campaign. The Hiroshima Public Hall, with hotel accommodation facilities, was completed in March 1955 in the planned site for the civic hall, where today's Hiroshima International Conference Center stands.^a The hall's construction started later than the museum buildings', in November 1953. However, since the museum buildings halted construction because of financial challenges, the public hall was completed first.

Personal donations from Hiroshima expatriates overseas enabled the construction of the Hiroshima **Children's Library** and supported the lives of many survivors through monetary and relief supplies. Hiroshima had been a top source of Japanese emigrants since the government-promoted emigration started in the late 19th century. Hawaii and the mainland United States were top destinations of Hiroshima emigrants, who formed Hiroshima-native groups in Hawaii and Los Angeles.^b Learning sporadically about the devastation of their hometown, the Japanese community's wish to contribute to rebuilding grew. The governor and mayor of Hiroshima personally requested support from the Japanese communities overseas when some expatriates visited Hiroshima. A trader based in Los Angeles, who met with the governor during his product-purchasing visit to Hiroshima, organized a donation campaign through the Southern California Hiroshima Prefectural Association, raising US\$12,000 in six months (Hasegawa 2010). The first batch of the money was turned into physical relief supplies and shipped to support welfare facilities. The second batch was wired to the city directly to fund the children's library as a more effective and ongoing method.^c Combining the JPY 4 million wired from Los Angeles and the JPY 1.25 million from individual donations by other Japanese living in the US, Hiroshima opened the children's library in December 1952 (Hasegawa 2010). Similarly, a Hiroshima native in Hawaii, whose brother served as the chairman of the Hiroshima city council, led a donation campaign among the Japanese community, collecting over US\$48,000 in five months and eventually raising a total of US\$113,000.^d The first batch of US\$75,000 was sent to the Hiroshima prefecture to be used for relief supplies to support more than 21,000 families. The second batch of US\$112,000 was wired to both the prefecture and the city, and it funded various health and social welfare facilities, including single-mother dormitories, a senior living facility, a maternity center and a newborn center, 35 childcare centers, and 8 facilities for children and the handicapped (Hasegawa 2010). The Japanese population from other countries—including Argentina, Brazil, and Peru—also contributed.

The **preservation of the Atomic Bomb Dome** as a memorial was undecided for years, as some citizens wished not to perpetuate the memory of the bombing.^e It was not until 1965 that the city conducted a survey to get a cost estimate for preservation in response to the growing public opinion in favor of preservation.^f After a five-month public donation campaign led by the mayor, the donation reached JPY 18 million.^g Encouraged by the prospect, the city allocated JPY 30 million for the first round of preservation works, which was conducted in 1967. The donation eventually totaled JPY 66 million (Hiroshima City 1995, 182). Public donation was not merely a means of financing but was also seen as a way for the public to support the building of the Peace City. Some of the projects supported by public donation campaigns, such as the preservation of the Atomic Bomb Dome, could have been funded solely by the government, as the city's revenue scale had grown. The impetus for a donation campaign may have been symbolic rather than financial, as the donation would perpetuate public support and symbolize the people's wish for peace.^h

Similarly, tree donation campaigns were organized by the city government to collect trees to line the Peace Boulevard and the Peace Memorial Park, and over 3,000 trees were planted along the Peace Boulevard.ⁱ While buying trees according to the park plan may have been financially possible, the tree donation was a powerful way to show solidarity with various cities in Japan, thus perpetuating the spirit of a peace city.^j

- a. The public hall was different from what was envisioned in the Tange Plan, stirring some debate (Ishimaru 2014b).
- b. Between 1898 and 1937, Hawaii received 40 percent of Hiroshima emigrants, and an additional 31 percent lived in the mainland United States, including California, Utah, and Washington (Hasegawa 2010).
- c. The Japanese community learned that the material supplies did not properly reach the intended recipients, and thus the director of the association contacted the mayor for ideas for more effective assistance. The mayor suggested the children's library, which was part of the Tange Plan but remained unfunded.
- d. In Hawaii, not only Hiroshima natives but also the Japanese from other parts of Japan also contributed (Hasegawa 2010).
- e. The Hiroshima prefecture had been allocated funding from the national government to demolish the building as an unstable structure but returned the money given the ongoing debate (Hiroshima City 1995, 179–80). The building was transferred from the prefecture to the city in 1953 to be part of the memorial facilities, without a decision on its preservation or demolition.
- f. A petition was organized by academics and politicians, including Nobel laureate Hideki Yukawa and the architect Kenzo Tange (Hiroshima City 1995, 182). The following year, the city passed a resolution to preserve the Atomic Bomb Dome.
- g. Koichi Tanaka, a local business owner, was at first hesitant about the building's preservation as his company had an office in the Industrial Promotion Hall that became the Atomic Bomb Dome and many of his employees were killed there. However, upon visiting the Kaiser Wilhelm Memorial Church in Germany that had been bombed and was preserved as a memory of the war, he became an advocate of preserving the building and encouraged local businesses through the Futaba-kai to contribute (Tanaka 1967).
- h. Interview with a Hiroshima city official, February 2023.
- i. The first campaign was conducted in 1954, calling for trees and seeds from across Japan. As the survival rate of the initial round of planting was about 55 percent due to site conditions and the adaptability of transplanting, a second campaign was organized in 1957, appealing to neighboring towns for tall trees that could survive transportation. As the trees donated to the city were a wide variety of species and different from those specified in the plans for the Peace Memorial Park and the Peace Boulevard, surviving trees were later replaced with the originally intended species as they became available (McBride et al. 2021).
- j. Communication with a Hiroshima city official, March 2023.

The official completion of Hiroshima's reconstruction projects in 1958 was marked by the Hiroshima Reconstruction Expo. The increased financial support from the national government officially ended in FY 1955, with some projects funded for an additional couple of years.⁷² The Expo held in the spring of 1958 showcased the completion of more than a decade of rebuilding in Hiroshima. Thirty exhibition halls were erected in the Peace Memorial Park and the Peace Boulevard. The Expo welcomed a total of 870,000 visitors (Hiroshima City 2019a). However, some aspects of recovery, especially those related to housing, remained a challenge for a few more decades.

⁷² The completion of reconstruction projects (namely the War-Damage Restoration Projects) had been determined by the national government in 1949 for all the war-damaged cities.

Housing Recovery and Redevelopment

Providing housing for citizens was among the most pressing issues in the medium- and long-term reconstruction process. As houses within a 2-kilometer radius of the hypocenter completely burned down, citizens migrated to overcrowded conditions in the city's periphery or outside the city. The local government was pressured to provide housing for both the survivors and the increasing returnee population in the medium term, as well as the migrant population in the long term. Three solutions to housing shortages were devised by reassessing changing and emerging demands: (1) a temporary housing site was allocated for urgent needs, (2) in the medium term, changes to the city plan were made to address persistent housing shortages, and (3) urban upgrading projects were implemented in the long term.

Although the city took a demand-driven approach of adapting to emerging needs, the housing shortage persisted for decades. Compared with infrastructure recovery, housing was not placed as a high priority for reconstruction back then.⁷³ While the city government, in its Draft Comprehensive Plan, requested increased funding from the national government to provide public housing, the housing did not qualify as part of the Peace Memorial City Construction Facilities, which was intended to distinguish Hiroshima from other cities as a Peace Memorial City. Housing was not seen as a distinct feature of such; thus, the same funding level given to other cities applied. Although the city and prefectural governments used multiple schemes to provide interim housing measures, housing demand far exceeded the supply for many years, leading to the construction of informal housing across the city, which needed to be addressed in the long term.

Temporary Housing for the Displaced

In the early reconstruction years, a temporary site was allocated for housing to address the most urgent needs, but this temporary measure persisted as a permanent one for years. With 90 percent of houses (5,800 houses) in the city center lost, the housing provision rate of the city dropped from 79.8 percent before the bombing to 18.8 percent after (Inami 1953). The survivors mostly evacuated to unharmed areas of Hiroshima and neighboring towns, and close to 140,000 people lived in the unburned areas of the city as of November 1945 (Nishimoto 2014).⁷⁴ Those who remained in the city center lived in air-raid shelters or in repaired partially destroyed houses. As demobilized soldiers and residents of former Japanese colonies returned to Japan, the housing shortage in Hiroshima

grew. The national government's funding for temporary houses subsidized 50 percent of the construction of temporary houses in war-damaged cities.⁷⁵ To quickly secure space, a section of nationally owned former military-use land in Motomachi was used as a temporary housing site, despite the plans to develop the area into a park (figure 2.8).⁷⁶ In Motomachi, 1,815 temporary houses were built by the government, which prioritized speed over quality.⁷⁷ When the houses were completed, the competition for government-provided housing was very high, with only about 1 in 20 applicants able to move in—in some cases the odds were as high as 1 out of 76 (Ishimaru et al. 2021, 54–55). In addition, 180 private homes were built there with a temporary land use approval.⁷⁸

⁷³ Comment by a former Hiroshima official, March 2023.

⁷⁴ Quoting Hiroshima City Municipal Handbook FY 1977.

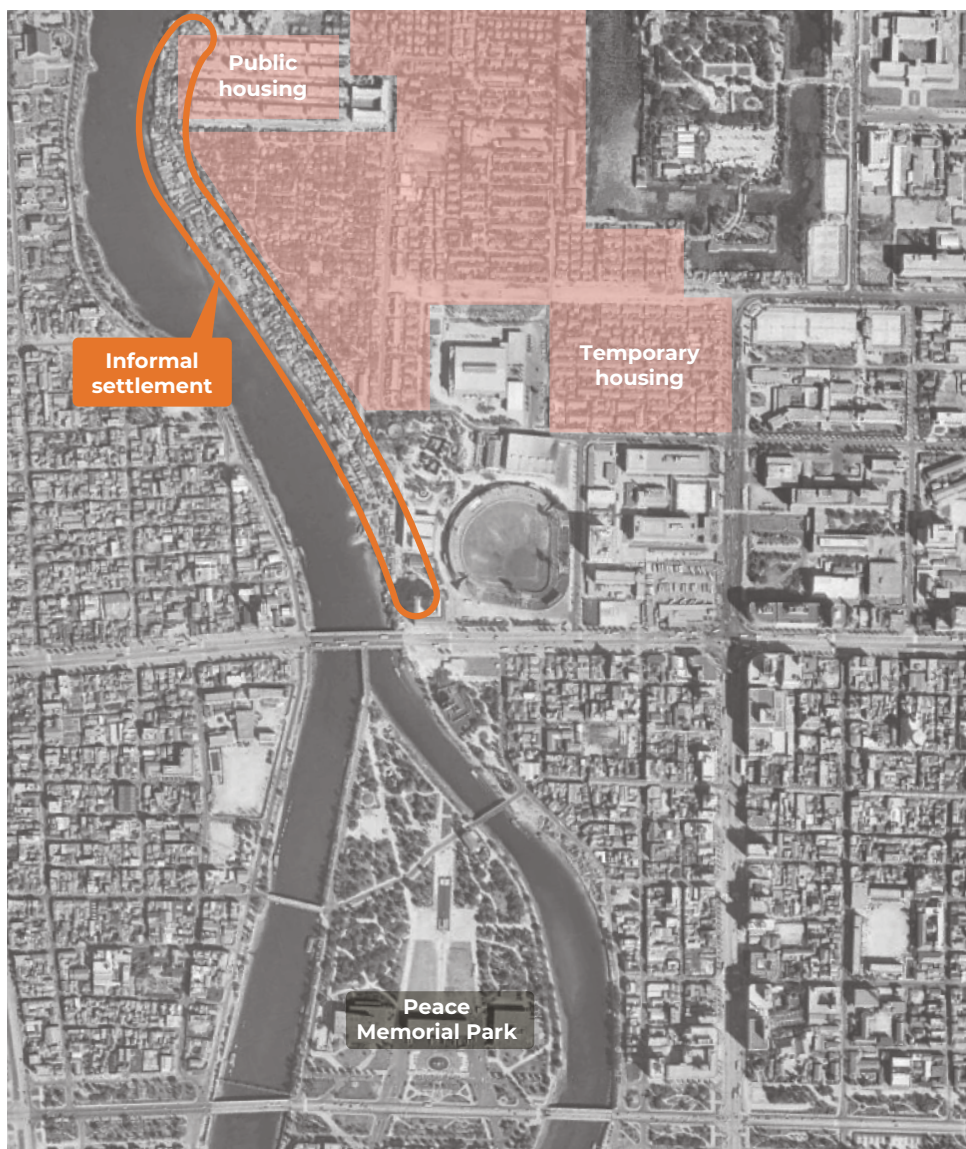
⁷⁵ As determined in the Guidelines for the Construction of Temporary Houses in the War Damaged Cities, September 1945.

⁷⁶ This area, the western section of the planned Chuo Park (70.48 hectares), was first borrowed from the national government and was used to grow vegetables to serve the immediate need of feeding people, as an interim measure until the park construction would begin (Ishimaru 2014c, 2018). But repurposing a future park site was a less complicated and quicker solution than to find another plot to build houses.

⁷⁷ Across the city, 3,000 public houses were built with state aid, including 2,574 units by the city in 1946–50 and 355 units by the prefecture in 1948–50). The national government allocated the number of houses to be built (Hiroshima City 1995, 21). The city and the Housing Corporation, a quasi-government housing foundation under the Home Ministry, also built 1,800 affordable houses for sale, selling each for JPY 3,500.

⁷⁸ Before the war, rental houses comprised 70 percent of all housing (Hiroshima City 1995). In the postwar years, home ownership was encouraged nationally, and the Japan Housing Loan Corporation was established (Ishimaru et al. 2021).

Figure 2.8. Location of Motomachi Housing, 1966



Source: Geospatial Information Authority of Japan (maps.gsi.go.jp/), aerial photo taken October 23, 1966, by US Military GSI Maps.

What was intended to be temporary housing remained permanent, and its upgrading needed to be addressed decades later. The Motomachi area had the largest concentration of temporary housing, with about 60 percent of the 3,000 public houses built by 1950 (Ishimaru et al. 2021). With the lack of a set ending date for temporary housing and no alternative housing sites, this housing area persisted, hampering the park development plan. Hastily built temporary

wooden housing deteriorated quickly, necessitating upgrading within a decade. In addition, the nearby riverbed area came to be filled with informal housing, which made it difficult for the city to proceed with the park's development and increased the fire hazard of the area. Urban upgrading became a precarious issue that the city needed to address in the 1960s and 1970s, beyond the postwar reconstruction phase of Hiroshima.

Changes to City Planning for Housing Needs

In the medium term, the city made changes to city planning to accommodate the continued housing shortage. After a decade of reconstruction, the housing shortage became a political issue, in which the mayoral contestant beat the incumbent by promising to curtail some of the city's reconstruction plans and to give priority to housing construction.⁷⁹ While the proposed idea of using some of the land for the Peace Boulevard for housing was unrealistic, the new mayor needed to build additional housing as he promised. The solution was making the prolonged temporary solution officially permanent. The original plan for the park in Motomachi was scaled down in 1956, reallocating 14 hectares to public housing (Ishimaru et al. 2021, 43). This zoning change enabled the city and prefecture governments to redevelop a section of the Motomachi temporary housing area into 930 units of medium-rise apartment buildings between 1956 and 1968, as the first phase of the housing redevelopment.⁸⁰

The government's effort to provide public housing still did not keep up with the housing needs, and informal housing existed throughout the city. The persistent housing shortage led to about 6,000 informal houses across the city, mostly in the riverbed areas and near the railway station (Ishimaru et al. 2021). Unable to win highly competitive public housing

units, people found open spaces to build informal shacks.⁸¹ For instance, informal housing remained in the Peace Memorial Park construction site in the early 1950s, forcing the city to conduct annual memorial ceremonies with a backcloth behind the stage to hide these houses from public view (Ishimaru 2014b). As urban development implementation continued in the city in the 1950s, eviction of informal housing forced settlers to relocate elsewhere,⁸² eventually congregating in the 1.5-kilometer stretch of the river shore adjacent to the Motomachi public housing area (figure 2.8).⁸³ The proximity of Motomachi to the center city was attractive for many informal workers who relied on unstable job opportunities that were only available in the city center (Ishimaru et al. 2021, 58). The high economic growth and urbanization experienced in the 1950s increased the number of such workers in Hiroshima, further growing the need for housing. Despite the house ownership policy that the national government now encouraged, appreciated land values as a result of land readjustment made home ownership even more difficult by the early 1960s (Ishimaru et al. 2021, 55). As the city's reconstruction was officially completed and the rest of Hiroshima revived by 1960, the riverside informal settlement in Motomachi with nearly 1,000 informal houses was increasingly perceived as the sole legacy of the war that needed to be addressed.⁸⁴

⁷⁹ In the 1955 mayoral election, the incumbent Mayor Hamai, who had been leading reconstruction planning and implementation in his two terms, lost by only about 1,600 votes to contender Tadao Watanabe (Watanabe gained 57,335 votes, whereas Hamai gained 55,758 votes) (Ishii 2018, 170). Watanabe criticized Hamai for his inadequacy in implementing reconstruction and promised that he would curtail the 100-meter-wide road plan to secure land for additional housing (Ishimaru et al. 2021).

⁸⁰ The 930 units included 630 units of city-owned housing and 300 units of prefecture-owned housing (according to data provided by Hiroshima City).

⁸¹ At first, a demobilized soldier found the former military-use land an ideal location to restart his life, building a hut in the spring of 1946 with a few other returnees and starting to farm there. The ability to farm attracted other residents. The settlement grew to 20 houses by 1947, then to 64 by 1950. The majority of the early settlers (between 1946 and 1955) were survivors of the atomic bombing and returnees. However, in the later years, the early arrivers only consisted of 27 percent of the long-term residents of the Aioi Street area, with the majority (66 percent) arriving after 1956 and not having experienced the bombing (Semba 2016).

⁸² The process of land readjustment had a slow start but was well underway by the late 1950s; only 25 percent of the land readjustment had been completed by 1949, but the completion rate reached 90 percent by 1958 (Ishimaru et al. 2021).

⁸³ The area came to be known as the Aioi Street by the locals, which derives its name from the nearby Aioi bridge from where the area stretched north (Ishimaru et al. 2021).

⁸⁴ The informal settlement in Motomachi was dubbed as a "genbaku (A-bomb) slum" by the local media in the mid-1960s to highlight the remaining issue of postwar reconstruction (Semba 2016). Yet some argue that the characterization of the area as a "slum" is not appropriate, as it is not only discriminating but also takes out the social, historical, and political context that is unique to the area (Ishimaru et al. 2021).

Urban Upgrading in the 1960s and 1970s

As the last remaining issue of postwar reconstruction, the city embarked on urban upgrading projects to address informal housing starting in the 1960s. By 1960, the reconstruction work on infrastructure and land readjustment of the city plan had been completed, as well as the river management work for flood control in western Hiroshima that was originally proposed before the war.⁸⁵ The riverbed afforestation was the only remaining project, which had been delayed because of the presence of the informal settlement. The highly concentrated informal housing community faced severe fire hazards because of the overcrowded and hastily constructed wooden structures.⁸⁶ Between 1959 and 1976, 16 major fires occurred in the Motomachi informal settlement,⁸⁷ burning a total of 15,000 square meters and affecting 1,800 residents (Ishimaru et al. 2021, 65–66). The lack of public infrastructure, such as water lines and sewerage systems, also posed sanitation problems. By the late 1960s, the local government recognized Motomachi's informal housing settlement as the last major issue to be resolved, and “the postwar era of Hiroshima will not end without the improvement of this area” became a common saying in the government's urban development units.⁸⁸ As the afforestation project started in 1966 and prompted the clearing of the area, the local government initiated an urban upgrading project (the Motomachi Redevelopment Project) in 1968 to provide 3,000 affordable housing units.⁸⁹ The completion of these high-rise apartments in 1978 marked the real end of postwar reconstruction (Semba 2016).

The local government used a combination of incentives and potential punishment to convince informal settlers to move to the public housing. As a first step, before the start of the redevelopment project in 1963, the city government pressured informal residents with possible punishment by issuing fine notices for illegal occupation of land. Rather than using the notices to collect fines, which most residents did not pay, the government intended to make residents aware that their living arrangements were illegal, to ease the process of eviction later (Ishimaru et al. 2021, 145). In the following years, when a major fire occurred, displaced residents were prohibited from moving back or rebuilding their shacks and instead they were offered relief supplies from the government and housed in the government-

provided temporary houses (Ishimaru et al. 2021, 68). This slowly relocated residents out of the informal housing community and thinned community ties. After the redevelopment project launched in 1968, these informal residents were made eligible to move into the newly constructed public housing. The Motomachi district was officially designated as a residential upgrading district in March 1969, and those who lived in the area before the date were entitled to move into the public housing, even if they had lived in informal housing without authorization (Ishimaru et al. 2021, 77). Although the eligibility criteria required people to prove when they started living there, the evidence of their residence, and the household registration, the local government took a flexible approach to those who did not have proper household registration. Later, the government again bent rules to accommodate those who remained in the informal settlement because of their ineligibility to move into the public housing (Ishimaru et al. 2021, 146–49). Eventually, 65 percent of the informal settlement residents moved into various affordable public housing built near their former residence.⁹⁰

Today, the Motomachi housing area continues to undergo additional upgrading and revival to encourage new residents. At its peak, the Motomachi housing complex housed about 9,000 people, which has dropped to about 4,000 today, with an increase in senior and single-member households (Hartt 2019). The vacant units were considered too small for the current child-rearing households, and the city upgraded them by converting two units into one larger unit to accommodate younger households (Ishimaru et al. 2021, 152–53). In 2013, the city launched the Motomachi Revitalization Plan in cooperation with a local university. To encourage young people to move in, the city made it possible for young households with incomes above a certain level and single students who would not normally be eligible for municipal housing to move in on the condition that they agreed to lead community activities involving multiple generations (Hiroshima City 2020). Vacant commercial tenant spaces located on the first floor of buildings have been converted to an art space, a community resource center, and a workspace for the community supporters in an attempt to revive the housing community.

⁸⁵ The river management, including the reclaiming of the Fukushima River, had been planned before the war but halted during the war. The work resumed in 1951 to reduce the flooding risks in the western part of the city (Semba 2016).

⁸⁶ The estimated population density of this area was more than double the standard (Ishimaru et al. 2021).

⁸⁷ The number of fires is based on a statement by a Hiroshima city official, February 2023.

⁸⁸ The same phrase was written on the monument built in October 1978 to commemorate the end of the redevelopment project.

⁸⁹ The architect Masaya Fujimoto, a Hiroshima native, designed the high-rise apartments with considerations for low-cost construction. He also staggered the height of the apartments, ranging from 8 to 20 stories high, so the apartments would get sunlight and would not tower over the Hiroshima Castle nearby (Hayashi 2010).

⁹⁰ Eleven percent of Aioi Street residents moved into the Motomachi public housing; the majority (47 percent) moved into the Chojuen Housing Complex (built by the prefecture) and an additional 7 percent moved to other public housing (Ishimaru et al. 2021, 142–43).

Economic Recovery and Citizen Engagement

Local Economic and Industrial Recovery

Local economic recovery was supported by a combination of exogenous factors and a push from the local industry.

In the first few years after the war, Japan's economy struggled to recover from the extensive war damage, fluctuating between hyperinflation and hyperdeflation. The people experienced a severe scarcity of food and goods, and the needs of daily survival were supported by the black markets that sprouted near the Hiroshima station (Ishimaru 2014b).⁹¹ In a local economic policy, the city of Hiroshima drafted a five-year reconstruction plan for the industry (1949) with the goal of increasing industrial production by 3.3 times from its 1948 level by 1953 (Hiroshima for Global Peace 2020, 30). However, the revival of the private sector was largely left to the efforts of each company at that time. While economic policy did not succeed in producing substantial results, the long-term reconstruction of Hiroshima coincided with a momentary economic turn toward increased industrial production demands that created jobs and stimulated local industries.⁹² The start of the Korean War in 1950 created special demands for war supplies and food, stimulating demand in the manufacturing sectors (Ito 2014). Hiroshima particularly benefited from this demand boom because of its concentration of former military-related industries, which had been privatized and turned into various types of manufacturing. A few observations on economic recovery in Hiroshima are outlined here (adopted from Shinohara 2015).

Exogenous factors:

- The war damage was focused in the city center, where only small factories were located. Larger factories were located outside of the devastated area (Hiroshima for Global Peace 2020, 30). Once critical infrastructure was restored and material supply resumed, these factories could recommence production. The quick infrastructure restoration process contributed to the rehabilitation of economic and industrial activities.
- Labor shortages did not occur in postwar Hiroshima despite the depopulation in the city center. The population outside the devastated area did not change drastically, and labor inflow continued after the war owing to the large returnee population. The increased industrial demands absorbed this workforce into production.
- The Peace City Law contributed indirectly to economic recovery through national funding that supported infrastructure redevelopment as well as the national government's transfer of military-use land to the city, which eased the financial burden on the city.
- Heavy industries that had supported wartime military production aligned particularly well with Japan's postwar industrial policy. The postwar energy shift from coal to oil also benefited the waterfront industrial areas by the Seto Inland Sea.

⁹¹ In Hiroshima, black markets are observed near the Hiroshima station as early as the end of August (Li and Ishimaru 2008).

⁹² Personal communication with Norioki Ishimaru, January 2024.

Endogenous factors:

- Military-related industries, the prewar economic basis of the region, were transformed after the war by shifting into the private sector, enabling a large-scale skills transfer. Factories that manufactured for the military, such as textile, canning, rubber, steel, and shipbuilding factories, restarted production following a temporary halt after the war and supported the recovery of the local economy.
- Hiroshima had a high level of human capital because of local universities, including the Hiroshima University of Arts and Sciences and the Hiroshima Teachers College (predecessors to today's Hiroshima University) that existed from before the war. The presence of an educated labor force contributed to local economic development.
- Hiroshima's local private sector had strong ties; 10 major local businesses formed a group called Futaba-kai, which included Toyo Kogyo Co. Ltd, (today's Mazda), the Chugoku Electric Power Company, and the Bank of Hiroshima. These businesses had a significant influence on the local economy, but also have fostered a tradition of financially supporting public projects that benefit Hiroshima (Sankei Shimbun 2015). Their connections contributed to corporate donations for the construction of the Hiroshima Public Hall, the city baseball field, and the preservation of the Atomic Bomb Dome, among other projects.

One example of the local industry supporting local economic recovery was Toyo Kogyo Co. Ltd, the predecessor of today's Mazda Motors. Originally established as a cork manufacturing company, it had shifted during the war to machinery productions, and it produced rifles, airplane parts, and other machineries mainly for the navy and it provided jobs to almost 7,000 workers. Following the war, the company shifted to automobile production to support the transportation needs of postwar reconstruction (Anzai 2022).

Citizen Engagement and Outreach

In addition to reviving the local economy, citizens have also played an important role in fostering a social fabric conducive to peace and development.

Despite the possibility that Hiroshima's identity would be perpetuated only as a bombed city, the people of Hiroshima turned Hiroshima into the city that advocates for peace. Building a city of global peace and culture was Hiroshima's promise to the national government in exchange for its financial and institutional support under the Peace City Law. With this mandate, the city and citizen groups continue to promote peace tourism and education, grassroots movements for peace, and external partnership that includes overseas exchanges.⁹³ The Peace City Law helped create the image of Hiroshima that exists today, but it would not have been possible without the efforts of local government and citizens to reshape the identity of Hiroshima, from a city of devastation to a city of peace. The development of a peace city is a product of collaborative initiatives between the government (both city and prefectural) and community.

At the government level, both the prefecture and the city have created programs to foster citizens' engagement and to promote Hiroshima externally as a city of peace. The initiatives go beyond politics and education to encompass the arts, music, and sports. Below are a few examples of government-supported initiatives:

- Storytellers and peace volunteers are raised to continue telling accurate stories and experiences of the bombing and to pass on the spirit of peace. The survivors of the bombing have served as storytellers to offer firsthand accounts of war experience to the visitors of the Peace Memorial Museum. As the number of survivors decreases, the city is fostering the next generation of storytellers and museum volunteer staff by offering training and a certificate program (Hiroshima City 2023).⁹⁴
- The city not only brings in visitors to Hiroshima, but also engages actively in public outreach and partnership, leading an international mayoral network, the Mayors for Peace⁹⁵, since 1982 in collaboration with Nagasaki. The Mayors for Peace aims to maintain a network of global cities that support the abolishment of nuclear weapons, and it is a registered nongovernmental organization with special consultative status with the UN Economic and Social Council (ECOSOC). More than 99 percent of Japan's municipalities (1,737 cities and towns) are members, and over 8,200 cities throughout the world participate in the network.
- In 2012, to renew commitment to peace for the future, the Hiroshima prefecture developed the "Hiroshima for Global Peace" Plan⁹⁶ that promotes research, dialogue, and education for peace. Its key research project, the Hiroshima Reconstruction and Peacebuilding Research Project, has published reports and educational materials, such as *Hiroshima's Path to Reconstruction*⁹⁷ and *Learning from Hiroshima's Reconstruction Experience: Reborn from the Ashes*, which are available in English.⁹⁸
- Since 2021, Hiroshima has made every November the Culture of Peace month, and it organizes various lectures, forums, and cultural activities to engage civil society. In these activities, the role of music, arts, and sports is emphasized in incubating an environment conducive to peace. Hiroshima is one of the few cities in Japan that houses a professional orchestra (Hiroshima Symphony Orchestra 2020).

⁹³ Interview with Hiroshima city and prefecture officials, February 2023.

⁹⁴ Interview with Hiroshima city officials, February 2023.

⁹⁵ "Mayors of Peace," Hiroshima Peace Culture Foundation, n.d., <https://www.mayorsforpeace.org/en/>

⁹⁶ "Hiroshima for Global Peace Plan," Hiroshima for Global Peace, 2019., <https://hiroshimaforpeace.com/en/peace/>

⁹⁷ "Hiroshima's Path to Reconstruction," Hiroshima for Global Peace, 2020., <https://hiroshimaforpeace.com/reconstruction/>

⁹⁸ "Learning from Hiroshima's Reconstruction Experience: Reborn from the Ashes," Hiroshima for Global Peace, 2014., <https://hiroshimaforpeace.com/en/fukkoheiwakenkyu/>

Beyond government-led initiatives, the people have also inspired action. Schoolchildren-led movements for peace have inspired people across Japan and have led government officials to take action through policy. The local government has also been responsive to the actions of the people. Hence, the people of Hiroshima and the government are in a mutually reinforcing relationship to cultivate a culture of peace.

- Local schoolchildren initiated a movement for peace in the mid-1950s that led to the commemoration of children who suffered from radiation-related illness with a movie, a monument, and a paper crane–folding campaign to symbolize peace (Hiroshima City, n.d.). The Children's Peace Monument, where paper cranes sent from all over Japan and the world are displayed, is an integral part of the Peace Memorial Park today.
- The same children's movement in the early 1960s advocated for the preservation of today's Atomic Bomb Dome, which convinced the mayor to conduct a pilot study for the preservation of the structural remains that were left uncared for (Ishii 2018). This led to a larger movement across generations and throughout the country, which garnered support for the public donation campaign for the building's preservation.
- The Hiroshima Carp baseball team, established in 1949, has united citizens and contributed to Hiroshima's revival. Unlike other professional baseball teams in Japan that are created by corporate ownership, the Carp was established without corporate ownership. To create a citizens' baseball team that would become a uniting force, the team was originally funded by the prefecture, Hiroshima City, and its neighboring cities, along with personal contributions from citizens.⁹⁹ The team's original baseball field was built using the donations from the private sector and was located just south of the housing area in Motomachi (Sankei Shimbun 2015). Local people took pride in supporting a baseball team that was established soon after the war, donating

money to supplement the team's weak financial base in its early years. Therefore, when the team won its first championship in the Central League in 1975, the victory was celebrated as a symbol of Hiroshima's recovery from war devastation, and baseball continues to play a role in uniting Hiroshima's people (Hiroshima for Global Peace, n.d.; Nagai 2014).

Almost eight decades after the war, with the majority of survivors no longer alive, the spirit of peace lives on among Hiroshima's citizens. By organizing a range of citizen and education initiatives, Hiroshima planted seeds for fostering a culture of peace. While such initiatives tend to scale down with the passage of time, Hiroshima's push for a peaceful world did not end with the completion of postwar reconstruction (Hein 2005). Although the national government's responsibilities under the Peace City Law have concluded, the people of Hiroshima continue to internalize the responsibilities set forth in the law to build a city of peace.¹⁰⁰

⁹⁹ The city and prefectural governments funded the baseball team as part of the narrative to bring hope to the war-devastated Hiroshima.

¹⁰⁰ Interview with Hiroshima city officials, February 2023.

Post-reconstruction Urban Expansion and Development

With further population growth, Hiroshima continued its long-term urban development on the basis of data-informed planning. After postwar rebuilding, Hiroshima's population boomed beyond the city's anticipation and exceeded the early-wartime population faster than initially expected. By 1970, Hiroshima's population bounced back to 542,000, having grown four times from the population after the bombing (Hiroshima City 2014). With administrative mergers in the 1970s and suburban development in the 1980s, the city's urban area and population continued to grow. Hiroshima became a government ordinance city in 1980, which grants the city larger administrative authority to plan and implement projects and strengthens its status as a regional economic hub.¹⁰¹ The city's population stands at 1.18 million in 2024 (Hiroshima City 2024).

From an urban-planning perspective, postwar rebuilding also left an issue of coordination between the newly rebuilt city center, the surrounding old neighborhoods, and the new expansion into peri-urban areas. Because the postwar reconstruction focused on the destroyed area, the neighborhoods that escaped damage remained unchanged. One example is the Danbara neighborhood near the city center, on the eastern side of the Hijiyama hills, which remained intact despite its proximity to the hypocenter because the hill blocked the force of the bomb's explosion. Houses in Danbara offered shelter and played a role in enabling interim actions in the early days. However,

because the Danbara district was not included in the land readjustment area for reconstruction, overcrowded conditions and old structures remained, leaving fire risks unsolved. After reconstruction of the city center concluded, urban upgrading was needed in this area to reduce fire risks and to ease traffic. Similarly, while the newly rebuilt area's urban landscape was improved, the bridges and transportation routes that connect the old and new communities remained untouched.¹⁰² By the mid-1960s, the expansion of urban areas to suburbs increased the population outside of the city center, and car ownership increased with the economic growth. Increasing traffic in and out of the city center caused congestion and necessitated upgrades to the wider transportation networks surrounding the city.

The city and prefectural governments continued to lead the planning of long-term urban development in the greater Hiroshima area through data collection, data-informed planning, and staged long-term development. In the late 1960s, the prefecture, the city, and the Hiroshima Chamber of Commerce and Industry, together with the Ministry of Construction, conducted the Hiroshima Area Transportation Study (HATS) to collect data on people's movement and transportation needs (Hiroshima Council on Urban Traffic Issues 1971). On the basis of the data collected in this pilot study, a long-term transportation development plan for the greater Hiroshima area was developed, incorporating urban highways, public transit, and land use.

¹⁰¹ A city designated by government ordinance is a city with a population bigger than 500,000 and it is designated under the Local Autonomy Law to perform certain administrative functions that prefectural governments would normally perform. The city government of a government ordinance city therefore has a greater authority and autonomy than other municipalities. Currently, there are 20 such cities in Japan.

¹⁰² Interview with Hiroshima city officials and a former prefecture official, February 2023.

This iteration envisioned the next two decades of transportation network improvements to cater to the needs of the growing city. However, this two-decade plan was later hampered by changing economic and social conditions. As an alternative solution, an underground subway network was proposed as an extension of the existing streetcar, but this was also too costly to be feasible given the geological vulnerabilities of the river delta region.

To prevent unplanned urban sprawl, the local government took a regulated approach to urban expansion. The local government imposed certain regulations on urban expansion by developers until highways and other urban infrastructure were in place, such as freezing development projects in the northwestern region.¹⁰³ Still, the original transportation network plan contributed to the long-term vision of what a future urban area in Hiroshima would look like. In the 1980s, an additional traffic study was conducted to reevaluate the traffic needs to continue highway and public transportation developments. This development included a new rapid transit system (the Astram Line) that connects the city center to the newly developed town in the city's northwestern area.¹⁰⁴

There are examples of suburban cities affected by extreme weather events such as torrential rain disasters where local residents have participated in the formulation of a “Reconstruction Community Development Vision.” Hiroshima City is prone to

landslide risks because of its geological characteristics and the expansion of residential areas into hilly suburban areas. Torrential rain disasters have occurred frequently in recent years, in and out of Hiroshima City. In particular, the 2014 torrential rain disaster caused landslides and mudslides, damaging more than 4,700 homes.¹⁰⁵ The “Reconstruction Community Development Vision,” formulated shortly after the disaster, calls for rebuilding the disaster-stricken areas into a safe and disaster-resilient community through disaster reduction efforts by the local government. These efforts include the construction of facilities for disaster prevention and disaster mitigation, as well as the voluntary activities of individual residents in their own communities. The city of Hiroshima will also do its utmost to support communities where residents voluntarily engage in disaster prevention and community development activities.

With changing demographics and emerging needs, Hiroshima continues to adapt to changes in its long-term urban planning. Today, like other cities in Japan, Hiroshima anticipates emerging issues from changing demographic patterns, life cycles of public infrastructure, and changing work and life preferences of citizens. Commercial revitalization is underway in the city center, including a new sports stadium that replaces the old city baseball stadium, commercial and urban space redevelopment, and the redevelopment of the Hiroshima station area.¹⁰⁶ These long-term urban development initiatives aim to achieve the next vision of Hiroshima.

¹⁰³ Interview with Hiroshima city officials, February 2023.

¹⁰⁴ The new town was originally proposed in 1977 and opened in 1994 in time for the Asian Games that Hiroshima hosted (sourced from an interview with Hiroshima city officials, February 2023).

¹⁰⁵ Presentation by a Hiroshima city official, March 2023.

¹⁰⁶ Presentation by Hiroshima city official, March 2023.

Lessons Learned to Navigate Urban Crises

Hiroshima's experience of rising from crises serves as a beacon of hope for urban restoration, regeneration, and development. At every stage of recovery, Hiroshima was pressed to address the changing needs of its citizens within the constraints of available resources and make changes to previously set plans. Hiroshima offers the following key lessons for other cities grappling with crises and rebuilding after destruction:

- **The restoration of critical infrastructure and services must occur in stages and should include a comprehensive assessment of damage to effectively determine what can be repaired.** Often, the assessment and repair should happen simultaneously, while determining what resources are needed and available to make repair work possible. When the government institution is devastated, repair work hinges on spontaneous action by respective service sectors.¹⁰⁷
- **With an understanding that temporary solutions devised with time and resource constraints often end up being permanent solutions, effective prioritization of key issues within the limited resources is critical.** In postwar Hiroshima, the restoration of key infrastructure and services, as well as improvements to the overall urban landscape, were prioritized, allowing livelihood recovery and the revitalization of local industries. Other areas, such as providing upgraded housing solutions, were addressed once resources became available. As prioritization criteria could differ in other contexts, cities need to consider what works the best for a given situation within resource limitations.
- **Similarly, financing reconstruction often poses a considerable challenge and should come from multiple sources.** Even if planning is done, a lack of funding will delay implementation of reconstruction projects. The government and people of Hiroshima pieced together available funding, both public and private, to implement different pieces and sections of urban reconstruction plans.
- **Planning should take place early to help envision future solutions.** Hiroshima first embarked on planning without much financial consideration to first determine what the rebuilt city should look like. Despite financial constraints that necessitated changes later, a grand vision and specific components of the plans regarding roads, parks, and land uses that accompanied the early plans played a crucial role in coordinating cohesive implementation in the long term. Planning should go beyond hard infrastructure and should incorporate political, economic, social, and cultural aspects with a focus on the people who live in the affected area. An absence of a grand vision could result in disjointed reconstruction projects, unplanned expansion, and vulnerable living conditions.

¹⁰⁷ Even in Japan, housing would be given a bigger prioritization today, as seen in more recent post-disaster reconstruction (sourced from an interview with Hiroshima city officials, February 2023).

- **Successful reconstruction requires strong and persistent political will.** The political leadership of postwar mayors and Hiroshima-native national policy makers, combined with motivated public officials and successful citizen and private sector engagement, have contributed to maintaining momentum for reconstruction and the construction of a “Peace City.” In Hiroshima, political leadership not only enabled the inflow of resources needed for the city’s many years of rebuilding, but also institutionalized their political will in the form of law enactment, perpetuating the city’s duty to the national government and its citizens so the momentum would not disappear when leadership changed.
- **Reconstruction can be an opportunity to build a greener, more resilient, and more inclusive city.** The war destruction, as devastating as it was, enabled new city planning to increase the number of roads and urban public spaces that would mitigate hazards, risks, and vulnerabilities. Hiroshima’s pre-war discussions of improving urban landscapes, although halted during the war, provided a basis and a mode of planning and executing such improvements, emphasizing the importance of planning in normal times.
- **The government is not the only actor in the rebuilding process; civilians and the private sector are also critical agents for navigating multiple crises.** Urban regeneration is only possible when decision-makers, urban planners, public and private sector stakeholders, and citizens are all aligned and contribute to the execution of plans and visions. The interactions among the public, the private sector, and civil society strengthened Hiroshima’s identity of a city of peace that lives on today.
- **Urban regeneration is a long-term endeavor that requires sustained engagement to make a better city.** Urban renewal goes beyond rebuilding a city from damage and destruction to incorporating resilience in the face of emerging challenges and changing demographics. Today’s Hiroshima is the product of successive modifications and adaptations accomplished by reassessing the changing needs of the city over time. Citizens’ voices should also be reflected in planning to increase inclusion and address future urban endeavors.

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