



## Translated Paper

# The disposition of building evacuation sites and war-damage reconstruction in Sendai - The projects and the relationships among public entities for the conversion of evacuation sites into urban planning sites

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### Abstract

**The purpose of this paper is to clarify the state of the disposition of building evacuation sites in Sendai, including the processes and background, whilst considering the project environment surrounding the disposition in central ministries and Sendai. The Home Ministry, which had been responsible for building evacuation during the wartime period, consistently promoted the conversion of evacuation sites into urban planning sites immediately following the end of World War II. The Ministry of Transport and the War-Damage Reconstruction Institute also planned to convert evacuation sites into urban planning sites and railway land. Therefore, in Sendai, there were plans to convert two evacuation sites into streets. However, due to differences in the project environment surrounding the disposition of evacuation sites; such as the number of evacuated houses, required expenses, regional characteristics, and differences in project characteristics; only one street was completed. Considering the influence of pre-war urban planning on building evacuation, and thus war-damage reconstruction: three streets coincided with preceding pre-war plans, and the pre-war urban planning street was taken over in a manner consistent with war-damage reconstruction through building evacuation.**

### Keywords

air defense, building evacuation, Sendai, urban planning, war-damage reconstruction

## 1. INTRODUCTION

### 1.1 Background and objectives

At the end of World War II, building evacuation had a major influence on the urban spaces of wartime Japan, reportedly involving the demolition of 610 000 buildings in 279 cities [Note 1]. In addition, as building evacuation was proposed by the Home Ministry (*Naimu-sho*), which was in charge of urban planning in peacetime, there was a desire to promote urban planning as there had been limited progress during the war and the designation of building evacuation areas was strongly influenced by pre-war urban planning [Note 2]. Therefore, building evacuation sites (hereafter referred to as evacuation sites) were converted into urban planning sites during war-damage

reconstruction, becoming wide streets and leaving traces of the evacuation sites in present-day urban spaces.

In view of the importance of urban planning, the need to conduct research on building evacuation is well-established in the field of urban planning history [Note 3]. The main research concern has been clarifying the relationship between building evacuation and war-damage reconstruction urban planning, which was pioneered by Ishimaru's research on Hiroshima and Nagasaki [Note 4]. Through detailed analysis of aerial photographs and maps, Ishimaru elucidated how evacuation sites were converted into wide streets, parks, squares, and riverside green spaces during war-damage reconstruction urban planning. Although there were differences between cities in terms of the extent of the conversion, it is known that such plans

were also drafted and implemented in Tokyo [Note 5], Nagoya [Note 6], and Yokohama [Note 7]. On the other hand, Kawaguchi's research on Kyoto reframed building evacuation from the viewpoint of national mobilization under the total war system and clarified the history of building evacuation, starting from the birth of the air defense concept and its influence on urban society [Note 8]. In addition, with the reality of urban spaces during the post-war reconstruction period having been elucidated in recent years in the field of urban history, it has been revealed that the presence of evacuation sites near terminal stations became a factor in the formation of *Yami-ichi* (black markets) in Tokyo during the post-war reconstruction period, as well as an impetus for the creation of new shopping districts [Note 9].

In this way, although research on building evacuation is expanding in terms of the number of cities and research approaches, this research has been limited to cities that saw early-stage implementation of building evacuation—the six major cities (Tokyo, Yokohama, Nagoya, Kyoto, Osaka, Kobe), along with Hiroshima and Nagasaki, which were exposed to atomic bombs [Note 10]. Meanwhile, cities where building evacuation was carried out under chaotic circumstances in a short timeframe at the end of the war have not been studied. In addition, although previous research has considered the relationship of building evacuation with war-damage reconstruction urban planning, the relationships with urban planning and air defense measures prior to building evacuation have not been considered. Taking note of these issues, my previous paper has discussed the relationship between the reality of building evacuation and the preceding pre-war urban planning and air defense measures in Sendai, where building evacuation was carried out over a short period of approximately two months at the end of the war [Note 11]. As a result, it was clarified that building evacuation was strongly influenced by pre-war urban planning and the air defense measures that preceded it, because the Home Ministry's intention to advance urban planning through the implementation of building evacuation coincided with Miyagi Prefecture and Sendai City's desire to promote urban planning in downtown Sendai, which was lagging behind.

My previous paper aimed to clarify the project background of building evacuation and the factors that affected the designation of evacuation areas through a detailed understanding of the project development and a discussion about individual actors' trends. Based on this view, however, some issues in the earlier discussion on the relationship between building evacuation and war-damage reconstruction can be identified. As previous research aimed to clarify the ideas behind war-damage reconstruction urban planning, as well as the planning process, it was naturally concerned with evacuation sites that were converted for urban planning. The analysis also made use of aerial photographs and planning maps, taking the approach of comparing evacuation sites and war-damage reconstruction urban planning, as is apparent in the diagrams. As such, little attention has been paid to the process of converting evacuation sites into urban planning sites, and the original plans that were never realized [Note 12]. However, it is considered important to view the plans in their entirety, including the conversion process and the unrealized plans, in order to properly position building evacuation, which greatly influenced urban spaces both during and after the war, in modern Japanese urban history and urban planning history.

Therefore, this paper aims to clarify the reality, process, and background of the disposition of evacuation sites in Sendai. There is a focus on the central ministries' policy on how to

dispose of evacuation sites and the project environment surrounding evacuation site disposition, including the progress of war-damage reconstruction urban planning projects in Sendai. The disposition of evacuation sites in Sendai was conceived immediately after war-damage and was partly carried out during the reconstruction period that followed. Details of the project are recorded in official Miyagi Prefecture and Sendai City documents, including discontinued plans. Therefore, by understanding the planning history and background as well as the process of actualization, including the canceled plans, it is possible to elucidate a full picture of how evacuation sites were converted to urban planning sites. Considering the continuity between building evacuation and pre-war urban planning in Sendai, which my previous paper detailed, it is also possible to consider the relationship and continuity between each form of pre-war and post-war planning (pre-war urban planning, building evacuation, and war-damage reconstruction), which were not covered in previous studies. In addition, Sendai's war-damage reconstruction urban planning has been praised for having a high standard as it developed wide streets with greenery-rich, treed zones in urban areas, forming an important scenic element of *Mori no Miyako* [Note 13]. However, the details of war-damage reconstruction urban planning have not been elucidated [Note 14], with the exception of a study that examined the conversion of former military land into urban parks and the relationship with the park-green system [Note 15]. Therefore, this paper has further significance in that it clarifies a key part of post-war reconstruction in Sendai.

As a prerequisite for considering the disposition of evacuation sites in Sendai, Chapter 2 of this paper first elucidates the policy trends that concern the disposition of evacuation sites in central ministries and agencies, including the Home Ministry, and the development of war-damage reconstruction urban planning, which is closely related to the disposition of evacuation sites. Next, Chapter 3 outlines wartime building evacuation in Sendai and clarifies the evacuation land utilization plans that were formulated before the end of the war. Chapter 4 elucidates the planning and implementation of plans for the conversion of evacuation sites into urban planning sites in Sendai during the war-damage reconstruction period, and the relationship with the context that was comprised of the project environment surrounding the disposition of the sites, including policy trends in the central ministries and agencies and Sendai's war-damage reconstruction urban planning policy [Note 16].

## 1.2 Research methods and materials

This study is based mainly on an investigation of literature and historical sources. In order to understand nationwide trends and policies for the disposition of evacuation sites, I used literature such as *Naimu-sho Shi* (History of the Home Ministry) and *Sensai Fukko Shi* (History of War-Damage Reconstruction) as well as official documents that are held by the National Archives of Japan.

Concerning Sendai's post-war reconstruction and disposition of evacuation sites, this study used historical sources such as official documents and assembly minutes kept by the Miyagi Prefectural Archives, Miyagi Prefectural Government Public Works Department City Planning Division, Sendai City Hall, and Sendai City Museum; as well as the local newspaper *Kahoku Shimpo*; materials published by Sendai City, such as *Sendai-shi Sensai Fukko Shi* (History of War-Damage Reconstruction in Sendai City) and *Sendai Shishi* (History of Sendai City); and maps. In addition, this study used aerial

photographs taken by the U.S. armed forces to verify the extent of the implementation of the disposition of the evacuation sites.

## 2. WAR-DAMAGE RECONSTRUCTION AND BUILDING EVACUATION SITES

### 2.1 The Central Ministries' Policy on the disposition of evacuation sites

With jurisdiction over all aspects of air defense administration, the Home Ministry led the post-war disposition of evacuation sites. The National Land Bureau (*Kokudo-kyoku*) [Note 17] of the Home Ministry, which took over matters relating to building evacuation from the Air Defense General Headquarters (*Boku-Sohombu*) [Note 18] following its abolition on August 31, 1945, issued a notice as early as September 20 of the same year on the disposition of evacuation sites [Note 19]. In *Tatemono sokai atochi ni kansuru ken* (Concerning Building Evacuation Sites) [Note 20], they indicated a policy of converting evacuation sites into urban planning sites. This notice ordered local governments to keep acquired evacuation sites vacant and maintain the leases on those sites earmarked for use as urban planning sites. In addition, the government decided to keep the evacuation sites owned by the state or private persons vacant. Moreover, until a decision on war-damage reconstruction urban planning could be reached, they ordered the retention of leased sites in war-damaged cities, whether or not there was an expectation that these sites would be used. In this way, the Home Ministry clearly indicated a policy of converting evacuation sites into urban planning sites immediately after the end of the war.

This policy was also indicated in the *Sensaichi fukko keikaku kihon hoshin* (Basic Policy for the Reconstruction of War-Damaged Areas) [Note 21]. Approved by the Cabinet on December 30, 1945, it became decisive in war-damage reconstruction urban planning to convert evacuation sites into urban planning sites. At this time, it was decided that local governments should acquire all evacuation sites in the land readjustment areas. In addition, it was stipulated that local governments should also acquire sites outside the land readjustment areas and in non-war-damaged cities if they were necessary for urban planning, and that the national treasury would subsidize those purchases.

On April 11, 1946, the manager of the Planning Division (*Keikaku-ka*) of the National Land Bureau of the Home Ministry issued *Tatemono sokai atochi shori ni kansuru ken* (On the Disposition of Building Evacuation Sites) [Note 22] to encourage urban planning decisions to be made by July 31 of the same year for evacuation sites deemed necessary for urban planning. The background to this was the loss of legal grounds that came with the end of the war. The Air Defense Law comprised the grounds for the building evacuation projects, but the law was abolished on January 30, 1946, following the end of the war. Therefore, evacuation sites should normally have been returned to their owners, however, the Home Ministry exceptionally extended the validity of the provisions of Article 5-5 of the Air Defense Law, which had been the basis for the designation of evacuation areas and the prohibition on construction within those areas, to July 31 of the same year, in order to promote the conversion of evacuation sites for urban planning. In other words, the Home Ministry was making an exceptional extension to the legal grounds for evacuation sites as a way of buying time to make urban planning decisions pertaining to these sites. The government also took fiscal

measures to extend the national treasury subsidies (representing two-thirds of leasing costs) for the leases that were to be terminated with the abolition of the Air Defense Law [Note 23].

In this way, the Home Ministry, which had jurisdiction over wartime building evacuation, led the post-war disposition of evacuation sites, however, other ministries and agencies were also involved in developing the disposition policy. Three parties; the Home Ministry, the Ministry of Transport (*Un'yusho*), and the War-Damage Reconstruction Board (*Sensai-fukko-in*); held consultations to coordinate war-damage reconstruction urban planning with railway reconstruction planning. On July 15, 1946, they issued *Sensaichi oyobi tatemono sokai atochi ni okeru un'yusho keikaku to toshikeikaku ni kansuru moshawase no ken* (On the Understanding Regarding the Plans of the Ministry of Transportation Plan and Urban Planning for War-Damaged Areas and Building Evacuation Sites) [Note 24]. This notice defined evacuation sites as follows:

#### 1 Facility plans

##### B Others (A omitted)

- 1 Generally, to keep roads or green spaces at an appropriate width on both sides of a railway.
- 2 In the case of plans to implement Shinkansen or other railway facilities in a land readjustment area, to lay roads on both sides of the planned line.

With this regulation, it was decided that roads and green areas should be planned for evacuation sites located along railway lines. This may be attributed to the fact that building evacuation aimed at protecting railways was carried out in many cities during the war, and that many cities across Japan likely had evacuation sites along railway lines [Note 25]. Therefore, it is presumed that the Ministry of Transport wanted to designate evacuation sites as requisites for the Shinkansen project and double-tracking, taking advantage of war-damage reconstruction. Furthermore, it is likely that "Shinkansen" in Item 2 does not directly refer to Shinkansen in the current sense, rather, it refers to the so-called bullet train plan (Shinkansen plan, Plan of laying another wide gauge line), double-tracking, and other plans to increase mainline transportation capacity for the purpose of enhancing transportation capacity and continental communications during the war [Note 26]. In addition, the Fire and Disaster Management Department of the Metropolitan Police Department (*Keishi-cho Shobo-bu*) took a fire-defense perspective and proposed to the War-Damage Reconstruction Board that evacuation sites be kept vacant or as green spaces or streets as part of war-damage reconstruction urban planning for the purpose of securing fire-defense zones [Note 27].

As described above, the Home Ministry, which was in charge of building evacuation during the war, consistently promoted the conversion of evacuation sites for urban planning immediately following the end of the war, taking measures such as securing national treasury subsidies for the leasing and acquisition of such sites and exceptionally extending the relevant legal provisions. This Home Ministry policy was included in "Basic Policy for the Reconstruction of War-Damaged Areas" and adopted in war-damage reconstruction urban planning. Regarding the disposition of evacuation sites along railways, the Ministry of Transportation, which was responsible for railway reconstruction, and the War-Damage

Reconstruction Board, which was responsible for war-damage reconstruction, also envisioned their use for urban planning and railways.

## 2.2 War-damage reconstruction urban planning and urban planning projects for rebuilding urban production functions

The evacuation sites that were designated for conversion into urban planning sites following the course of events identified in the previous section were primarily part of war-damage reconstruction urban planning projects in war-damaged cities [Note 28]. These sites were then developed through *Seisan-Toshi Saiken Seibi Jigyo* (Urban Planning Projects for Rebuilding Urban Production Functions) in cities that had escaped war-damage.

Urban planning in war-damaged cities was initially assigned to the Home Ministry's National Land Bureau Planning Division, which had formerly been in charge of general urban planning [Note 29]. The Division examined basic policies for war-damage reconstruction projects in the immediate aftermath of the war [Note 30], producing a definitive plan in September, 1945. Simultaneously, the idea for a mechanism to handle war-damage reconstruction was also developed, which led to the establishment of the War-Damage Reconstruction Board in Cabinet on November 5 of the same year [Note 31]. As a result, jurisdiction over war-damage reconstruction urban planning projects was passed to the War-Damage Reconstruction Board, and the Home Ministry's National Land Bureau Planning Division was delegated responsibility for evacuation site development projects and urban planning projects in cities that had not been damaged in the war [Note 32]. Later, on December 30 of that year, the "Basic Policy for the Reconstruction of War-Damaged Areas" was approved by the Japanese Cabinet, leading to the implementation of post-war reconstruction planning that was intended to control overcrowding in cities and develop small and medium-sized regional cities. One effect of this policy was, in essence, to make municipal mayors the implementing bodies. Moreover, great importance was placed on land readjustment as the foundation for post-war reconstruction in this endeavor, and the Special City Planning Law was enacted on September 10, 1946, to ensure smooth implementation of such reconstruction [Note 33]. As a result, on October 9, the same law was applied to 115 cities across the country that had been damaged in the war, and war-damage reconstruction urban planning commenced throughout Japan [Note 34].

The latter urban planning projects for rebuilding urban production functions were under the jurisdiction of the Planning Division of the National Land Bureau of the Home Ministry, which took over the affairs concerning building evacuation from the Air Defense General Headquarters. These were urban planning projects aimed at "the evacuation sites, etc., that require preservation for urban planning and are directly connected to an increase in the productivity [...] of emergency commodities" [Note 35]. Of the 166 cities covered by the projects, only 12 were war-damaged cities, so the projects were mostly concerned with non-war-damaged cities [Note 36]. In other words, the urban planning projects for rebuilding urban production functions were geared toward converting evacuation sites for urban planning in non-war-damaged cities. However, the projects were not limited to evacuation sites, they were also used for general urban planning in non-war-damaged cities [Note 37].

In addition to the two aforementioned projects, the Planning Division of the National Land Bureau of the Home Ministry

also carried out a project to develop building evacuation sites, which was utilized for the urban planning conversion of evacuation sites. This project was for the development of evacuation sites that were excluded from war-damage reconstruction urban planning projects due to not being located in land readjustment areas, although they were located in war-damaged cities [Note 38].

## 2.3 The actualization of war-damage reconstruction urban planning

In war-damaged cities where the Special City Planning Law was applied, new urban planning was conceived and various urban planning decisions were made in accordance with the planning standard established after that law's enactment. When actualized, the government took strong fiscal measures, such as covering 90% of land readjustment project costs through national treasury subsidies in 1945 and 80% during the period 1946-1948 [Note 39]. However, the project's development was hindered by successive delays in the land readjustment project and a sharp rise in prices as a result of rapid inflation. The nine principles of economic stability in December, 1948, and the Dodge Line (March, 1949) that embodied them strongly demanded reductions in fiscal expenditures, and it became necessary to review war-damage reconstruction urban planning. As a result, war-damage reconstruction urban planning was reduced in various places. However, the extent of this reduction was not uniform; while it was minor in cities where projects had progressed starting at an early stage, it was considerable in Tokyo and in other cities where projects had been delayed [Note 40].

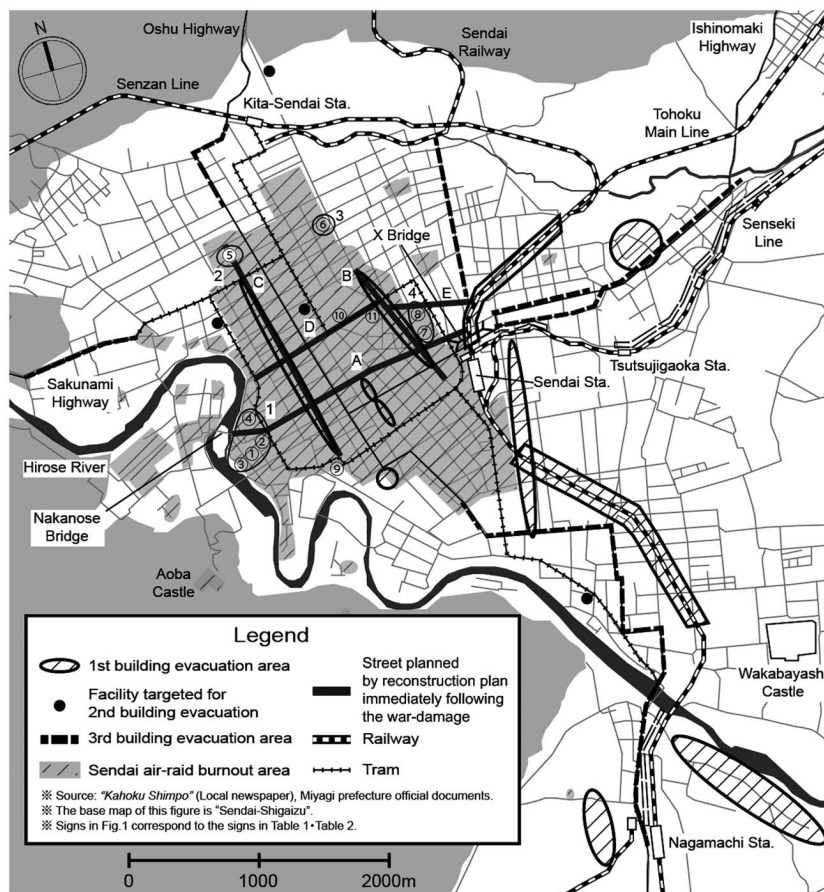
## 3. BUILDING EVACUATION AND THE WARTIME USE OF EVACUATION AREAS IN SENDAI

Wartime building evacuation in Sendai was rapidly planned and implemented in three phases starting on June 25, 1945, as the war situation deteriorated [Note 41]. Amidst this, on July 9-10, Sendai suffered an air-raid and the policy and purpose of building evacuation had to change accordingly, leading to the drafting of a reconstruction plan for the evacuation areas. This chapter clarifies how building evacuation proceeded after the air-raids and how the reconstruction plans that were made before the end of the war proposed to use the evacuation sites.

### 3.1 Formulating a building evacuation plan and the Sendai air-raid

The first wave of building evacuation, which was greenlighted for implementation on June 25, 1945, involved 1,076 houses in Sendai City. The area was designated with special attention to the production air defenses and urban function protection, such as the construction of fire defense roads and the protection of factories and railways (Figure 1) [Note 42]. On July 9, a decision was made to implement the second wave of building evacuation for the purpose of protecting durable buildings (Figure 1).

However, from midnight on July 9 to the following day, July 10, amidst the first and second waves of building evacuations, Sendai suffered an air-raid at the hands of the U.S. armed forces causing major destruction. About 500 ha of the central city was destroyed in this air strike, with 11 933 households burned (about 23% of the city's total number of households), 57 321 people injured (about 26% of the city's total population), and 1066 people killed (Figure 1) [Note 43]. As small-



**Figure 1.** Designation of building evacuation areas in Sendai and reconstruction plan immediately following the war-damage

scale bombings continued after this, it became an urgent task to manage the remains of the fires, secure housing for the victims, and eliminate food shortages.

Under these circumstances, the policy for building evacuation also changed considerably. During the third wave of building evacuation, which was reported to take place on July 29, areas were designated as part of a strong, urgently needed effort to mitigate damages in the likely event of another air-raid [Note 44]. Furthermore, as will be described in detail in the next section, the plan was also to evacuate buildings for purposes other than the original “air defense” purpose in order to secure building materials to construct new housing for victims [Note 45].

### 3.2 Post-air-raid reconstruction planning and building evacuation

In the wake of the air-raid, Sendai faced two challenges in the form of securing housing for victims and eliminating the food shortage, therefore, emergency reconstruction plans were drafted in response to each challenge immediately after the disaster.

Most of the early emergency reconstruction plans focused on eliminating the food shortage. On July 16, 1945, *Kahoku Shimpō* was the first to report on Sendai’s reconstruction plans [Note 46], stating that the prefecture had decided to make efforts to increase food production by designating areas where burned but robust buildings would be converted into government offices and barracks would be built, while areas not suitable for those purposes were to be designated as agricultural

areas [Note 47]. This policy was realized by the prefectural War Reconstruction Committee and, after metal had been recovered and other cleaning work had been concluded in the fire-devastated areas, they commenced reclamation, while the Volunteer Corps (*Kokumin Giyutai*) and the people who remained after the air-raid were tasked with cultivating the land [Note 48].

At the same time that they were planning to utilize the areas hit by the air-raid as agricultural land, they were also starting to plan for securing housing for victims. On July 20, the first meeting of the War Reconstruction Committee decided on a policy to have the Housing Corporation (*jutaku Eidan*) construct a wartime residential district (*Senji Juku*) [Note 49] consisting of about 1,000 houses [Note 50]. Thereafter, they went ahead with confirming the plan to build housing for air-raid victims, in which the Planning Division (*Keikaku-ka*) and Military Welfare Division (*Heiji-Kosei-ka*) of Miyagi Prefecture, as well as the City Planning Section (*Toshikeikaku-ka*) of Sendai City, drafted a plan to construct 1000 prefabricated houses for victims in four locations across the city (Figure 1, Table 1) [Note 51]. The plan was for the Housing Corporation to demolish 600 houses that had been spared by the destruction and had also been subject to the first and second waves of building evacuations in Sendai, then use the materials from those to construct about 10 tsubo per house. Immediately after this plan was made, the City Planning Section of Sendai City formulated a comprehensive reconstruction plan incorporating street laying as well as the construction of prefabricated

housing areas [Note 52]. The plan aimed to designate the aforementioned prefabricated housing areas as wartime residential districts, and it included a policy to develop welfare facilities. The five streets that were planned at this time were selected to connect four prefabricated housing areas (Figure 1, Table 2). In addition, these streets were expected to serve as connecting routes to the suburbs, showing that they had been given considerable thought from the viewpoint of urban planning rather than having been conceptualized as a mere emergency measure. This is corroborated by the fact that all streets were realized in subsequent war-damage reconstruction planning, indicating that the most important streets, possibly termed as the highlights of war-damage reconstruction, had been planned from an early stage, immediately after the Sendai air-raid. In particular, the last stop of the Tatemachi Line was called “X Bridge Evacuation Site,” which was one of the earliest plans for the use of evacuation sites. In addition, since the Higashi-Gobancho Aobaso and the Hosoyokocho Lines coincided with building evacuation areas, it is possible that these two lines were also planned for use as evacuation sites [Note 53].

In August, not only did they proceed to develop the plan to construct housing for victims, they also proceeded with the plan to use war-damaged areas and evacuation sites for farming. The plans for the greening of war-damaged areas (plans for conversion into farmland) were formulated by Miyagi Prefecture’s Agricultural Affairs Division (*Nomu-ka*), the Agricultural Association (*Nogyo-kai*), and the Volunteer Corps as well as Sendai City’s Agriculture and Forestry Section (*Norin-ka*). On August 4, plans were made for the reclamation of about 50 ha (50 chobu) in the first phase [Note 54]. In addition, on the 13th of the same month, a final proposal was made for the greening plan, and the Volunteer Corps and the Student Corps (*Gakuto tai*), which were established for each *Kokai* (neighborhood association in Sendai City during WWII) [Note 55], commenced reclamation [Note 56]. The greenery areas were designated to each of the *Kokai*, taking into account wartime residential district and major street planning.

Thus, reconstruction planning in Sendai was divided into two parts, namely the agricultural affair departments’ plan for the use of war-damaged areas and evacuation sites as farmland, and the urban planning departments’ plan for the construction of prefabricated housing areas and streets. These plans finally came to fruition in the *Sensaichi okyu fukko taisaku yoryo* (Guidelines for Emergency Reconstruction Measures in War-Damaged Areas) [Note 57]. The guidelines present the two parts as belonging to a single reconstruction plan, essentially reflecting the aforementioned content. However, in order to avert obstacles to war-damage reconstruction,

**Table 1. Placement plan for temporary housing immediately following the war-damage in Sendai**

Sign	Group name	Planned construction site
1	1st group	Nishi (west) Park (①), Tatemachi National Elementary School (②), Sendai Junior High School (③), Tokiwagi Girls’ School (④)
2	2nd group	Kita-Gobancho National Elementary School (⑤)
3	3rd group	Katsuyama Park (⑥) etc.
4	4th group	Daiichi (1st) Girls’ Junior High School (⑦), Sendai Girls’ School (⑧)

Source: *Kahoku Shimpō*, July 26, 1945, p.2.

**Table 2. Reconstruction plan immediately following the war-damage in Sendai**

Sign	Street name	Width (m)	Route	Current street name
A	Tatemachi Line	30	From Nakanose Bridge to the evacuated area in X-Bridge via Motodera-koji and Hiyoshicho	Hirose-dori Ave.
B	Higashi-Gobancho-Aobaso Line	15	From the intersection of Kita-Ichibancho St. and Kamisugiyama-dori St. to Tamon-dori St.-Ura-Gobancho	Atago-Kamisugidori Ave.
C	Hosoyokocho Line	30	From Kita-Rokubancho to the court of appeal (⑨)	Bansui-dori Ave.
D	Jozenji-dori Line	20	From the library (⑩) to Mototokiwacho	Jozenji-dori Ave.
E	Kakyoin-dori Line	22	From Ikuei Junior High School in Nishikimachi (⑪) to the Sendai Municipal Tram Haranomachi Line	Kakyoin-dori Ave.

Source: *Kahoku Shimpō*, July 29, 1945, p.2.

they also indicated new policies to impose building regulations, such as designating building lines and restrictions on the construction of new buildings, and disallowing construction on evacuation sites [Note 58]. With regard to the latter, it is likely that they expected those sites to be converted for urban planning in the future.

As described above, in late July, 1945, when measures to secure housing for air-raid victims were initially considered, Sendai was planning to convert evacuation sites into streets. At the same time, building evacuation had been changed to ensure not only conventional air defenses but also the security of construction materials. Furthermore, the “Guidelines for Emergency Reconstruction Measures in War-Damaged Areas,” which was the final form of the reconstruction plans that were made immediately after the Sendai air-raid, stipulated provisions for the smooth implementation of future war-damage reconstruction and the use of evacuation sites. In addition to conversion into urban planning land, they also planned to convert evacuation sites into farmland to increase food production.

#### 4. THE DISPOSITION OF BUILDING EVACUATION SITES IN SENDAI

##### 4.1 Formulating the war-damage reconstruction urban planning

As shown in Section 3.2, Sendai’s reconstruction urban planning was designed by the City Planning Section of Sendai City immediately after the air-raid and was realized in the prefecture’s “Guidelines for Emergency Reconstruction Measures in War-Damaged Areas”. However, these proposals were only emergency measures, and full-scale reconstruction urban planning was to be considered again after the end of the war.

At first, similar to conventional general urban planning, war-damage reconstruction urban planning was intended to be carried out with the prefecture as project leader, and the plans were made mainly by the Planning Division of the Civil Engineering Department of Miyagi Prefecture [Note 59]. The

reconstruction plan was announced at a panel discussion on war-damage reconstruction planning on November 15, 1945 [Note 60]. The highlight of this plan was the two 50-meter wide east-west and north-south streets going through the city center, with the Tozai Line serving as a route from Motodera-koji to Nishi(west)-Park (referred to as the Tatemachi Line in the reconstruction plan that was made immediately after the Sendai air-raid) and the Namboku Line going from Kencho-mae (in front of the prefectural government office) to Kitamemachi-dori (Higashi-Nibancho Line). In addition, except for the Kakyoin-dori Line, all the streets in the reconstruction proposal that was made immediately after the Sendai air-raid were planned, as was the widening of the street following the tram loop line and the street corresponding to the Sendai Station-Kawauchi Line (present-day Aoba-dori). In this way, in terms of street planning, the plan that was made immediately after the air-raid was very much consistent with later plans for the areas designated for building evacuation. In addition, regarding parks and green areas, large parks were built in front of the station and prefectural government office, as well as in the vicinity of the west park, with planning was completed for a 60-meter wide green zone connecting the prefectural government office park and the west park (Omotekoji Greenery). Moreover, a small park was to be built in each united *Kokai*, suggesting a policy aimed at improving greenery on a large scale.

Apart from prefecture-led deliberations, there were also private-sector reconstruction initiatives. The “Sendai City War-Damage Reconstruction Planning Award Selection” was held in November of the same year, jointly organized by Kahoku Shimpō-sha and the Tohoku Branch of the Great Japan Technology Association, and sponsored by Miyagi Prefecture [Note 61]. The planning policy determined the systematic creation of parks and green areas (about 10% of planned urban areas), focusing on health and disaster prevention. There were 48 applications for this award and 10 award-winning works were selected (eg, 1st prize was Eizo Hasegawa, manager of the Engineering Division (*Komu-ka*) of the Sendai Branch of the Housing Corporation) [Note 62].

With the enthusiasm for public and private reconstruction planning increasing, the aforementioned “Basic Policy for the Reconstruction of War-Damaged Areas” received Cabinet approval, and the projects were to be led, in principle, by municipal mayors. In response, Sendai City also reviewed the project leader role. Sendai City authorities had a policy of keeping the prefecture in charge because doing so made project implementation easier and prevented financial instability in the event that the city had to assume the project leader role. However, the City Council decided that the city should take charge, reflecting the local community’s will [Note 63]. Consequently, a plenum of the City Council on February 6, 1946, decided that Sendai City should become the project leader.

As such, plans for the reconstruction of streets and parks were to be re-examined in Sendai City, and the Sendai City Reconstruction Committee was established in April, 1946 [Note 64]. As a result of the re-deliberation, the City Reconstruction Committee made its final proposal on August 13 of the same year [Note 65]. In this final plan, some street widths were reduced and the plan of Omotekoji Greenery was scrapped, with a 12-meter wide green area on Jozenji-dori included as an alternative. The 50-meter wide street was also changed from the Higashi-Nibancho Line and the Motodera-koji-Kawauchi Line to the Higashi-Nibancho Line and the Sendai Station-Kawauchi Line. On the other hand, the number of streets and routes was increased beyond the prefectural

proposal, and existing routes were extended. In this way, while using the prefectural proposal as a foundation, the plan was wholly reviewed and changed, with apparent attention to connection with surrounding areas. The final draft subsequently passed the War-Damage Reconstruction Board’s review in September [Note 66], receiving approval from the Urban Planning Miyagi Regional Committee (*Toshikeikaku Miyagi chiho iinkai*) on October 9 [Note 67]. On the same day, specifications were also made according to the Special City Planning Law, leading to the establishment of a street and park plan as *Sensai-fukko-in kokuji dai-244-go* (War-Damage Reconstruction Board Notice No. 244) on November 11 [Note 68]. Furthermore, the street plan was added during the process that covered the period beginning with the War-Damage Reconstruction Board’s review and ending with their notice. The Rembokoji-Minamisomeshimachi Line, which is described in detail in Section 4.2.2, did not exist in the final draft, however, this process saw its addition.

The street planning that was completed during the aforementioned process focused on disaster prevention, emphasizing wide streets in the central city that were expected to double as fire prevention zones and evacuation roads. In addition, a total of 25 routes were designed in anticipation of future increases in traffic volume and connection with the suburbs [Note 69]. These routes were designated mainly in areas that had been burned down during the war and had also been subject to land readjustment projects.

## 4.2 Converting evacuation sites into streets

As mentioned previously, there were occasions when evacuation sites were converted into streets under war-damage reconstruction, and such conversions were also planned in numerous locations in Sendai, some of which were realized (Figure 2, Table 3). Depending on the area, some were planned as part of war-damage reconstruction urban planning projects, while others were planned as evacuation site disposition projects under the jurisdiction of the Planning Division of the National Land Bureau of the Home Ministry. Below, this section will clarify the details, background, and extent of the implementation of the plans for each area with confirmed or suspected conversion to a street.

### 4.2.1 Conversion at Nagamachi-Hachihommatsu

During the first wave of building evacuation, 98 buildings near priority facilities were evacuated in Nagamachi-Hachihommatsu for the purpose of protecting the munitions factory.

Nagamachi-Hachihommatsu evacuation sites were earmarked for conversion into urban planning sites in 1946, and this intention was included in the city’s budget for the same fiscal year under the assumption that the national treasury and the prefecture would provide subsidies [Note 70]. This was partly completed in 1947 [Note 71], with all routes opening by 1948.

As the Nagamachi area was not ravaged by fire during the war, it was not eligible for inclusion in the war-damage reconstruction land readjustment projects. Therefore, the Nagamachi-Hachihommatsu Line was not designated as a war-damage reconstruction urban planning street, however, it was planned and implemented separately from the war-damage reconstruction urban planning projects, instead falling under the *Nagamachi-Hachihommatsu Sen Sokaiatochi Shori Renraku Gairo jigyo* (The Project for Converting Evacuation Sites into Connecting Streets in Nagamachi-Hachihommatsu). This project was subsidized by the national treasury and the prefecture, however, because the name was recorded among documents



**Figure 2.** Conversion of building evacuation sites into streets in Sendai

**Table 3.** Relationship between the conversion of building evacuation sites into streets and pre-war urban planning

Sign	Building evacuation area	Urban planning street before WWII	Urban planning street after WWII	Current street name	Notes
1	Nagamachi-Hachihommatsu	Tsuchitoi-Simokawara Line	Nagamachi-Hachihommatsu Line	Hirosekahan-dori Ave.	A
2	From the corner of Higashi-Shichibancho Monopoly Bureau to Minamisomeshimachi Rokugobori Canal	—	Rembokoji-Minamisomeshimachi east/west Line	—	B
3	Hosoyokocho west side	Hosoyokocho Line	Hosoyokocho Line	Bansui-dori Ave.	B
4	Aobaso-Hiyoshicho	Sendai Sta.-Tsutsumimachi Line	Sendai Sta.-Tsutsumimachi Line	Atago-Kamisugi-dori Ave.	B

A: Planned by the project for converting evacuation sites into connecting streets. B: Planned by the war-damage reconstruction urban planning project.

that pertain to subsidies paid by the prefecture [Note 72] and stored in the Miyagi Prefectural Archives, the national treasury subsidy project name is currently unknown. Nevertheless, considering that the Nagamachi-Hachihommatsu Line was not included in war-damage reconstruction urban planning projects, it is probable that this project was connected to the urban planning projects for rebuilding urban production functions or the evacuation site development projects under the jurisdiction of the Planning Division of the National Land Bureau of the Home Ministry, among the projects for the disposition of evacuation sites that were discussed in Section 2.2.

Figure 3 is a project plan [Note 73]. The Nagamachi-Hachihommatsu Line runs through the Tohoku Main Line, from the south end of Hirose bridge to the north of munitions factories such as Kayaba Industry. It is a street that leads to the vicinity of the present-day National Highway Route No. 4 bypass. Part of the line coincides with the pre-war urban planning street Tsuchitoi-Shimokawara Line, and the line as a whole extends in the southeast direction.

This project received subsidies from the national treasury and the prefecture, with the left side of Figure 3 indicating the section that was subsidized by the national treasury and the



right side indicating the section that was subsidized by the prefecture. Of the two, the aforementioned prefectural official documents relate to the prefectural subsidy section, therefore a detailed knowledge of this section can be clarified. The prefectural subsidy section was 7-meters wide with a total extension of 700-meters. The road surface was covered with gravel and the edge of the street had a 1-meter wide ditch [Note 74]. The prefectural subsidy amounted to 130 000 yen, corresponding to 25% of the total project cost of 520 000 yen for the prefectural subsidy section, exclusive of land acquisition costs, which the municipal government absorbed in a 1947 project that was subsidized by the national treasury [Note 75]. Construction started on January 19, 1948, and was completed on schedule on February 29 [Note 76]. The completed street can be seen in an aerial photograph taken by the U.S. armed forces on October 31, 1952 [Note 77].

As described above, the conversion of evacuation sites for urban planning in Nagamachi-Hachihommatsu progressed smoothly from planning to implementation. The following three points are considered to have influenced this outcome. First, there was a small number of buildings in Nagamachi-Hachihommatsu. As a result, the cost of leasing and acquiring evacuation sites was relatively low. Second, the area around Nagamachi-Hachihommatsu was a new city area that corresponded to the former Nagamachi Town, which was incorporated into Sendai City in 1928. It was a newly industrialized area lined with munitions factories that were built successively in the late 1930s and early 1940s [Note 78]. Therefore, there was a small number of long-time residents and there was likely little opposition from local residents. Third, the development of the evacuation sites in Nagamachi-Hachihommatsu was completed as a project for converting evacuation sites into connecting streets, not belonging to the war-damage reconstruction urban planning projects. Therefore, the government was able to obtain adequate national and prefectural subsidies without being affected by circumstances such as the reduction of war-damage reconstruction urban planning and the progress of reconstruction projects in central Sendai. It is likely that this region's character and project environment induced the conversion of evacuation sites for urban planning.

#### 4.2.2 The plan for converting evacuation sites along railway lines

Building evacuation along railway lines was planned on the Tohoku Main Line and the Senseki Line during the first and third waves of building evacuation, for the purpose of protecting the railway. An analysis of aerial photographs revealed that

sites along the Tohoku Main Line (490 buildings) were evacuated during the first evacuation wave [Note 79].

Just as with Nagamachi-Hachihommatsu, the City Planning Section of Sendai City planned to convert evacuation sites along railways into urban planning sites, starting in 1946 [Note 80]. At this point, the plan was to lay roads at all evacuation sites along the Tohoku Main Line to create the “Odawarahirocho-Minamisomeshimachi Line” [Note 81]. In reality, the only part that was developed as a 1946 project was the surveying of 20-meters on either side of the rails between Rembokoji and Minamisomeshimachi, which is an area located south of the evacuation sites along the Tohoku Main Line, in preparation for laying the street. The plan for this section was also reduced to 1200-meters due to a decision that was reflected in the Sendai War-Damage Reconstruction Urban Planning Street on November 11, 1946 [Note 82]. This street plan included the Rembokoji-Minamisomeshimachi West Line and the Rembokoji-Minamisomeshimachi East Line. The sections of the two lines were on either side of the route from the overpass in Rembokoji to Shichigobori Canal [Note 83], both with a width of 20-meters. As a result, it was decided that only the southern part of the evacuation sites along the Tohoku Main Line (part of the evacuation zone “from the corner of Higashi-Shichibancho Monopoly Bureau to Minamisomeshimachi Rokugobori Canal” in the first wave of building evacuation) would be used for war-damage reconstruction urban planning projects.

However, from the viewpoint of the war-damage reconstruction urban planning street network as a whole, these two routes represented special plans to establish streets on both sides of the railway in the suburbs, which were situated in areas that had not been ravaged by fire. Such plans clearly differed from the overall policy of increasing the number of streets in the central urban districts, establishing new streets, and establishing connecting streets going to the suburbs.

At first glance, the plan's purpose is unclear in the context of war-damage reconstruction urban planning, but it was influenced by the central ministries' policy on how to dispose of evacuation sites, as clarified in Section 2.1. The aforementioned “On the Understanding Regarding the Plans of the Ministry of Transportation Plan and Urban Planning for War-Damaged Areas and Building Evacuation Sites” specifies two points: the laying of roads or green spaces on both sides of railway lines, and the laying of roads on both sides of the planned lines with sections forming part of plans to construct the Shinkansen or other railway lines. This notice was also delivered to Sendai City via Miyagi Prefecture, which likely influenced the street plan [Note 84]. According to the newspapers, there was a plan for a bullet train running between Sendai and Hakata as a railway

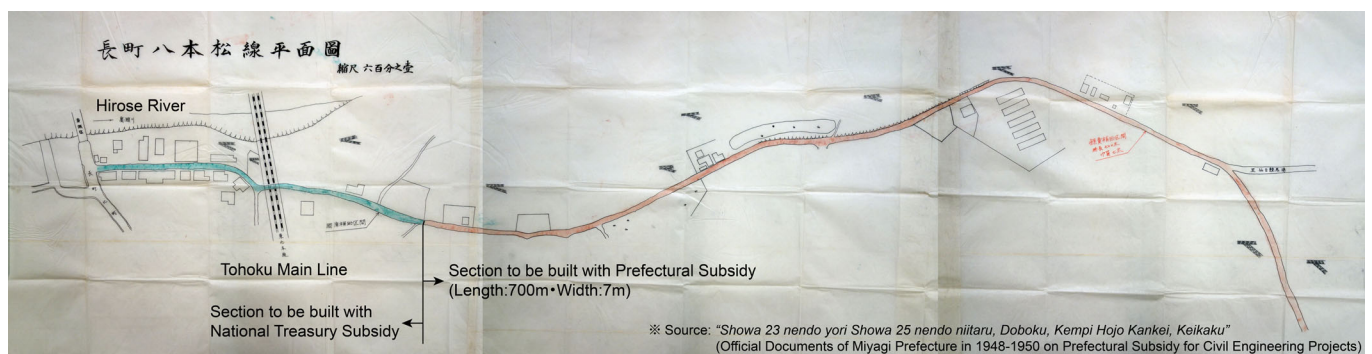


Figure 3. Plan of Nagamachi-Hachihommatsu Line [Colour figure can be viewed at wileyonlinelibrary.com]

construction plan [Note 85]. This plan was drafted by JNR and was to be completed between Sendai and Hakata in about 26 years as a continuation of the pre-war bullet train plan. This was not reported at any time thereafter, and it is not mentioned in *Nihon Kokuyu Tetsudo Hyakunenshi* (100-year History of the Japanese National Railways) and other sources, therefore, it is likely that this plan was never enacted. However, with regard to securing land for this purpose, it is possible that the plan affected the conversion of evacuation sites along the Rembokoji-Minamisomeshimachi Line.

In this way, although the Rembokoji-Minamisomeshimachi Line was formulated with consideration to the central ministries' policy and intentions, it did not proceed as intended. In response to this plan, the prefecture indicated in a document addressed to the Sendai City mayor, dated September 29, 1947, that the use of evacuation sites is an opportunity for urban planning, meaning that street construction would be a necessary project in 1948 [Note 86]. On the other hand, in the reply document dated October 27 of the same year, Sendai City, which was the principal project leader for war-damage reconstruction, notified the director of the Prefectural Civil Engineering Department that the street plan should be discontinued due to opposition from neighboring residents. Before this, on July 25, the city had already notified the evacuation sites' landowners that the leases would be terminated, suggesting that the city had no intention to implement the project on that land. After that, both planned routes had their widths reduced to 12-meters in 1954, before being completely excluded from the plan when the street network was reviewed in 1966 [Note 87].

As described above, although the national and prefectural governments actively encouraged the conversion of evacuation sites along railways for urban planning, the plan was not implemented. This outcome was likely influenced by the following two points. First, conversion of evacuation sites for urban planning was included in war-damage reconstruction urban planning. Urban planning for land readjustment areas as well as street and park plans had been decided in the previous year, and these plans needed to be implemented promptly. However, in 1946, which was the project's first year, the budget was exhausted before the project could be completed. The budget was not replenished until June, 1947, when it was finally possible to resume construction. As a result, land readjustment and street construction in the center of Sendai were barely implemented [Note 88]. Under these circumstances, there was no leeway to start construction on the Rembokoji-Minamisomeshimachi Line, which was outside the central area. This was also likely due to the fact that the government's subsidy for leasing evacuation sites was scheduled to be terminated in 1947. Second, there was a large number of evacuated houses along the railway lines because the former castle town area was crowded with houses [Note 89]. Furthermore, there were probably many long-time residents. As a result, a large budget would have been needed to actualize this project, and many residents were also strongly opposed to the use of evacuation sites. It is probable that the character of this area also affected the suspension of the conversion of evacuation sites for urban planning.

#### 4.2.3 Use in urban centers

At present, it has been impossible to confirm what progress was made with respect to the disposition of evacuation sites in the city center in any official documentation or records. In addition, it is difficult to distinguish in aerial photographs

between sites that were burned in the air-raid and evacuation sites, so it is currently impossible to know how sites were disposed in the city center. However, it is possible to make some estimates through a comparison between building evacuation areas and war-damage reconstruction urban planning streets.

In the city center, there is agreement between the two districts and the Nagamachi-Tsutsumimachi and Hosoyokocho Lines (Figure 2, Table 3). These two routes overlap with the area for which evacuation was planned during the first building evacuation wave with the aim of creating fire defense roads [Note 90]. They were also included in the street plan in the reconstruction plan that was made immediately after the Sendai air-raid, which was discussed in Section 3.2. The above points suggest that evacuation sites along these two routes were converted into war-damage reconstruction urban planning streets, also in the city center.

#### 4.2.4 The relationship with pre-war urban planning streets

In my previous study on the background to the designation of evacuation areas in Sendai, it was argued that this designation was strongly influenced by earlier pre-war urban planning because urban planning projects were insufficiently actualized in the city center during the pre-war and wartime periods [Note 91].

This poses the question of how the building evacuation areas, which were designated in a manner consistent with the lines of pre-war urban planning streets, were handled during war-damage reconstruction urban planning. When compared with war-damage reconstruction urban planning streets, there is coincidence between the two with respect to three districts and three lines, mainly in the city center (Figure 2, Table 3). Among them, the Sendai Station-Tsutsumimachi and Hosoyokocho Lines in the city center were planned as fire defense roads per the Air Defense Civil Engineering Facilities Development Project that preceded the building evacuation plan. They were also consistently planned since the creation of the reconstruction plan immediately after the Sendai air-raid. In addition, the Nagamachi-Hachihommatsu Line extended the pre-war urban planning street in a way that coincided with converting evacuation sites. Since then, streets have been laid along all three routes as part of war-damage reconstruction. In this way, the pre-war urban planning street plans, which were difficult to actualize at the time, were carried forward and realized in war-damage reconstruction through the designation of building evacuation areas.

#### 4.3 Non-street uses

Evacuation sites were primarily converted into roads after the war, but they were also used for other purposes. In Kyoto, for example, they were also converted into large-scale parking lots, park green spaces, squares by stations, and sites for government buildings [Note 92].

An official document of Sendai City has demonstrated that there were no plans to convert evacuation sites into parks or green spaces in Sendai [Note 93]. This document was in response to an inquiry from the manager of the Planning Division of the National Land Bureau of the Home Ministry into the existence of a plan to convert military and evacuation sites into parks or green areas. The document clearly states that there were no plans to convert evacuation sites into parks or green areas. In addition, it has been impossible to confirm any plans for conversion into station squares or government buildings. Therefore, for the time being, it may be concluded that the only permanent use of evacuation sites in Sendai was as streets.

However, a plan for the temporary use of evacuation sites as farmland was made in 1947 as a measure for coping with the food shortage during the war-damage reconstruction period [Note 94].

## 5. CONCLUDING REMARKS

This paper takes Sendai as an example to clarify the background and process of the planning and implementation of the disposition of evacuation sites, a topic that has not been previously considered. The paper focuses on the relationship of evacuation site disposition with the project environment, including the central ministries' policy on such disposition and the progress of war-damage reconstruction urban planning projects in Sendai.

The Home Ministry, which had been in charge of building evacuation during the war, consistently promoted the conversion of evacuation sites for urban planning immediately following the end of the war. The policy was also incorporated in the "Basic Policy for the Reconstruction of War-Damaged Areas". Furthermore, in war-damaged cities, it was decided that the conversion of evacuation sites for urban planning would be carried out mainly as part of war-damage reconstruction urban planning projects. In cities that were not damaged during the war, conversion was carried out in urban planning projects for rebuilding urban production functions. However, these plans had to be reduced due to project delays and inflation caused by post-war turmoil. In addition, while only the Home Ministry's involvement has attracted attention in previous research, the Ministry of Transport and the War-Damage Reconstruction Board also had involvement in the disposition of evacuation sites along railway lines, and it is believed that this strongly influenced the plan to convert evacuation sites into the Rembokoji-Minamisomeshimachi West and East Lines in Sendai. In addition, the Fire and Disaster Management Department of the Metropolitan Police Department requested that the sites be left as vacant plots, green areas, or streets in order to secure a fire defense zone.

The disposition of evacuation sites in Sendai was conceived from two aspects, namely urban planning and agricultural administration, from the reconstruction plan that was made immediately after the Sendai air-raid. Post-war planning included the conversion of evacuation sites for urban planning from an urban planning perspective, and this was inherited starting when Miyagi Prefecture formulated the initial plan up until Sendai City made its decision on the final plan. In the process of developing the war-damage reconstruction plan, the conversion of other evacuation sites was also planned. Evacuation sites along railway lines were planned as part of war-damage reconstruction urban planning projects, and the evacuation areas in Nagamachi-Hachihommatsu were planned as a project for converting evacuation sites into connecting streets. However, only the latter was actualized. This outcome was influenced by factors including differences in the number of evacuated buildings and associated costs, differences in the regional characteristics between Nagamachi-Hachihommatsu that was a newly developed industrial area with many factories and rental houses and evacuation sites along railway line with many old houses, as well as differences in the project environment and characteristics between a war-damage reconstruction urban planning project that was sensitive to project development in the city center and a single project for the conversion of evacuation sites into connecting streets that was unaffected by surrounding conditions. In this way, this paper has showed

that through a detailed understanding of the process from the planning of the disposition of evacuation sites to their implementation or suspension, it is possible to identify the factors that determine the success or failure of the conversion of evacuation sites for urban planning, such as differences in the project environment and regional character; including a change of planning leader, different perceptions, and different project expenses.

Finally, when looking at the relationship between the plans from the pre-war period and those from the war-damage reconstruction period (pre-war urban planning, building evacuation, and war-damage reconstruction), there was coincidence between the three lines. The continuity of these plans can be seen in the fact that streets were developed under war-damage reconstruction, and the plans for pre-war urban planning streets, which had been difficult to actualize at the time, were completed under war-damage reconstruction through the designation of building evacuation areas.

This paper has yet to elucidate the extent to which building evacuations were implemented across Japan, or the reality of post-war evacuation site disposition, but this is an avenue for further research.

## ACKNOWLEDGMENT

In writing this paper, I was given access to materials at the Miyagi Prefectural Archives, Sendai City Hall, Sendai City Museum, Miyagi Prefectural Government Public Works Department City Planning Division, Miyagi Prefecture Library, the National Archives of Japan, and the National Diet Library. In particular, Mr. Masamichi Kanno (formerly at Sendai City Museum) provided valuable advice regarding the location of materials, etc. I would like to take this opportunity to extend my sincerest thanks.

## DISCLOSURE

The authors have no conflicts of interest to declare.

## Notes

Note 1) See Ref. [1], p. 23.

Note 2) See Ref. [2]. The continuity between pre-war urban planning and building evacuation has also been explored in studies on Hiroshima, Nagoya, and Tokyo, which will be described later.

Note 3) See Ref. [3], p. 2.

Note 4) See Refs. [4] and [5].

Note 5) See Ref. [6]. In the case of Tokyo, the book that records war-damage issued by the Tokyo Metropolitan Government contains a detailed description of air defense projects, including building evacuation, Koshizawa's research also refers to this (See Ref. [7]).

Note 6) See Ref. [8].

Note 7) See Ref. [9].

Note 8) See Ref. [10].

Note 9) Hatsuda and Ishigure et al. detailed the formation and development processes of Yami-ichi (black markets) (See Refs. [11], [12], and [13]). In addition, Ishigure outlined the continuity between the plan for "Kotsu Sokai Kuchi" (the evacuation areas for defending transportation functions) around the terminal station in Tokyo and that for the pre-war station square (See Ref. [12], pp. 54-66). In addition to these studies, there is also a study by Takahashi that revealed the disposition of evacuation sites in non-war-damaged provincial cities (See Ref. [14]).

Note 10) Uchida et al. explored building evacuation in Tokuyama by analyzing aerial photographs taken by the U.S. armed forces, whilst Sato referred to the relationship between building evacuation and urban

planning in Hiroasaki, Fukushima, and Matsuyama (See Refs. [15] and [16]). However, the former is limited to understanding evacuation sites through the analysis of aerial photographs, whilst the latter goes no further than seeing it as an opportunity for modernizing cities with castle towns and does not provide any detailed clarification of the actual conditions of building evacuation or the process of converting evacuation sites for urban planning sites.

Note 11) See Ref. [2].

Note 12) Koshizawa outlined how Tokyo failed to convert evacuation sites for urban planning, partly because of the drastic reduction in war-damage reconstruction urban planning compared to cities such as Kyoto and Hiroshima where there was extensive conversion of evacuation sites for urban planning. In this case, Tamagawa-dori Street and Loop Road No. 2 were not realized despite envisioned street conversion (See Ref. [6], pp. 196-198). In addition, the aforementioned studies by Ishimaru and Kawaguchi revealed that the Home Ministry promoted the conversion of evacuation sites for urban planning (See Refs. [10], pp. 235-236, and [17]). However, the process and background of urban planning conversion of evacuation sites in each city have not been considered. In addition, of the policy trends of central ministries and agencies, only the Home Ministry is clarified.

Note 13) See Ref. [18].

Note 14) Although not closely related to the project details, there are some discussions based on the description of post-war reconstruction in the "History of Sendai City," which organized points of discussion for future research on the history of war-damage reconstruction after the war in Sendai (See Ref. [19]). In addition, Asano's discussion of the characteristics of war-damage reconstruction urban planning (street planning, zoning, etc.) and the continuity between pre-war and post-war plans through a comparison with pre-war urban planning covers 28 regional cities around Japan, and Sendai's war-damage reconstruction urban planning is provided as an example (See Refs. [20], and [21]).

Note 15) See Ref. [22].

Note 16) The disposition of evacuation sites in Sendai is discussed in Ref. [23]. Based on this, this paper reconfigures the previous paper in order to examine the relationship with central ministries' and agencies' policy trends and Sendai's war-damage reconstruction urban planning, etc., by adding new insights that were obtained in subsequent surveys.

Note 17) The Home Ministry's Planning Bureau, which was established in October, 1937, in accordance with the enforcement of the Air Defense Law and was in charge of urban planning and air defense administration, was reorganized into the National Land Bureau and the Air Defense Bureau in September, 1941, due to increased air defense operations. At this time, the National Land Bureau of the Home Ministry was in charge of urban planning and general civil engineering (See Ref. [24], pp. 203-204). The Air Defense Bureau became the Air Defense General Headquarters in November, 1943.

Note 18) The Air Defense General Headquarters was established in November of the same year in response to the second revision of the Air Defense Law in October, 1943. It was in charge of air defense administration in general under the jurisdiction of the Home Ministry. The Home Ministry as a whole established a system for air defense administration, and this department was established as an external bureau to facilitate coordination with each ministry in implementing air defense administration with a cross-ministerial character (See Ref. [24], pp. 510-511). The director of the Facilities Administration Bureau, which was later in charge of building evacuation, was also appointed as the director of the National Land Bureau of the Home Ministry, which is described above (See Ref. [25], p. 651). In addition, at the end of the war, the role of manager of the Building Evacuation Division at the Facilities Administration Bureau of the Air Defense Headquarters was held by Takeo Ohashi, who was concurrently manager of the Planning Division of the National Land Bureau of the Home Ministry; thus virtually merging the two divisions (See Refs. [26], p. 74 and [27], p. 133). In this way, air defense urban planning at the Air Defense General Headquarters, including building evacuation, and general urban planning at the Home Ministry had a very strong, integrated relationship.

Note 19) According to Kawaguchi's research, an official document of the Kyoto Prefectural Government confirmed the official letter of the National Land Bureau dated August 31, 1945, "*Tatemono sokai ni kansuru ken*" (Concerning Building Evacuation) (See Ref. [10], p. 235).

Note 20) See Ref. [1], p. 153.

Note 21) *Sensaichi fukko keikaku kihon hoshin no ken* (Concerning Basic Policy for the Reconstruction of War-Damaged Areas), *Kobun Ruishu, Dai 69 hen, Showa 20 nen, Dai 66 kan, Chiri, Tochi, Toshikeikaku, Kenzobutsu, Sokai, Keisatsu* (Collection of Official Documents of the Home Ministry in 1945 on Urban Planning, Evacuation, Police, etc.) (held by the National Archives of Japan).

Note 22) See Ref. [1], pp. 153-154. Although the details are unclear, the Home Ministry issued "*Tatemono sokai atochi shori ni kansuru tsucho*" (Notice on the Disposition of Building Evacuation Sites) on February 9, 1946, and "*Tatemono sokai atochi shori tsuite*" (Concerning Disposition of Building Evacuation Sites) on June 22 of the same year, suggesting that the Home Ministry strongly promoted the conversion of evacuation sites for urban planning (See Ref. [17], pp. 198 and 207).

Note 23) See Ref. [1], pp. 153-154. According to official documents held by Sendai City, the government subsidy for this rental expense was scheduled to be terminated only in 1947 (*Sokai atochi no gairo shinsetsu ni tsuite* (Concerning Conversion of Evacuation Sites into Streets), *Showa 22 nendo, Toshikeikaku Kankei Shorui* (Official Documents of Sendai City in 1947 on Urban Planning) (held by Sendai City Hall)).

Note 24) See Ref. [1], pp. 398-399.

Note 25) In wartime Japan, the protection of railways, which were responsible for transporting necessary war materials such as munitions and other supplies, was considered important from the viewpoint of the production air defenses (the maintenance of production functions). For this reason, there were occasions when buildings on both sides or on one side of a railway line were broken, and an empty belt-shaped zone was created along the railway line.

Note 26) See Ref. [28], pp. 314-317 and 347-348.

Note 27) See Ref. [1], p. 74.

Note 28) Of the 166 cities where urban planning projects for rebuilding urban production functions were carried out, 12 cities were designated as war-damaged cities, which is why some of the war-damaged cities converted evacuation sites for urban planning in urban planning projects for rebuilding urban production functions (See Ref. [14], p. 90). In the case of Miyagi Prefecture, Shiogama City was a war-damaged city carrying out this project ("*Kampo*" (Official Gazette) No. 6661, March 30, 1949, p. 231). In addition to the war-damage reconstruction urban planning projects, there were also war-damaged cities that implemented the project to develop building evacuation sites under the jurisdiction of the Planning Division of the National Land Bureau of the Home Ministry.

Note 29) During the war, air defense urban planning was under the jurisdiction of the Air Defense General Headquarters, but the urban planning organization in the Air Defense General Headquarters was unified into the Planning Division of the National Land Bureau of the Home Ministry, following the end of the war (See Ref. [1], p. 42).

Note 30) The Home Ministry recognized Japan's defeat from around August 10 and Takeo Ohashi, the manager of the Planning Division, instructed staff in charge of air defense and building evacuation work to suspend operations and start planning war-damage reconstruction (See Refs. [6], p. 201 and [29], p. 107).

Note 31) The War-Damage Reconstruction Board was merged with the National Land Bureau of the Home Ministry and reorganized into the Construction Board (*Kensetsu-in*), following the dismantling of the Home Ministry on December 31, 1947. On July 10, 1948, it became the Ministry of Construction (*Kensetsu-sho*) (See Ref. [1], pp.729-741).

Note 32) See Ref. [24], pp. 208-209.

Note 33) See Ref. [1], p. 2.

Note 34) See Ref. [1], p. 25.

Note 35) *Seisan-toshi saiken seibi jigyohei oyobi chika doboku shisetsu seiri jigyohei kokkohojo naitei ni tsuite* (Concerning the National

Treasury Subsidy to Urban Planning Projects for Rebuilding Urban Production Functions, etc.), *Showa 21 nen, Doboku, Chika Doboku Shisetsu Seiri Jigyo, Betsu zempo, Boku Doboku Shisetsu Kankei* (Official Documents of Miyagi Prefecture in 1946 on Civil Engineering, etc.) (held by the Miyagi Prefectural Archives).

Note 36) See Note 28. However, the aforementioned study by Takahashi analyzed the Official Gazette and revealed the cities that were included in the project, and since it is impossible to know of any cities that were not described in the Official Gazette, it may be assumed that more cities were actually covered by the project. In the case of Miyagi Prefecture, Ishinomaki City, Furukawa Town, Shi-roishi Town, etc., were also covered by the project and of these, Ishinomaki City planned the project for evacuation sites (*Showa 22 nen, Doboku, Keikaku, Seisan-Toshi Saiken Seibi Jigyo* (Official Documents of Miyagi Prefecture in 1947 on Urban Planning Projects for Rebuilding Urban Production Functions), held by the Miyagi Prefectural Archives).

Note 37) See Ref. [24], p. 209. In the case of Miyagi Prefecture, street construction projects that didn't target evacuation sites were carried out as urban planning projects for rebuilding urban production functions in the following five towns and one village: Furukawa Town, Shi-roishi Town, Watanoha Town, Ayukawa Town, Naruko Town, and Tagajo Village (*Showa 22 nen, Doboku, Keikaku, Seisan-Toshi Saiken Seibi Jigyo, Showa 23 nen, Doboku, Seisan-Toshi Saiken Seibi Jigyo* and *Showa 23 nen, Doboku, Seisan-Toshi Saiken Seibi Jigyo Zempo* (Official Documents of Miyagi Prefecture in 1947 and 1948 on Urban Planning Projects for Rebuilding Urban Production Functions), held by the Miyagi Prefectural Archives).

Note 38) See Ref. [24], p. 209.

Note 39) See Ref. [1], pp. 642-650.

Note 40) See Ref. [30], pp. 230-231.

Note 41) Details and the background of area designation, the extent of implementation, and the process leading to the implementation of building evacuation in Sendai are described in Ref. [2].

Note 42) See Ref. [2], pp. 1145-1148.

Note 43) *Chikaku jikkosentosuru juyo jiko, doboku-bu keikaku-ka* (Important Matters to Be Carried Out in the Near Future, Civil Engineering Department Planning Section), *Showa 20 nen 10 gatsu 27 nichi, Chiji Jimu Hikitsugisho, Hikitsugisha Ikezumi Motome, Hikiukeshi Chiba Saburo* (October 27, 1945, Governor Matters Hand-Over, Taken Over by Ikezumi Motome, underwritten by Chiba Saburo, held by the Miyagi Prefectural Archives). See Ref. [31], pp. 28-29.

Note 44) See Ref. [2], p. 1148.

Note 45) *Kahoku Shimpo*, July 26, 1945, p. 2.

Note 46) Relief measures for victims were reported from July 11 (*Kahoku Shimpo*, July 11, 1945, p. 2).

Note 47) *Kahoku Shimpo*, July 16, 1945, p. 2.

Note 48) *Kahoku Shimpo*, July 18, 1945, p. 2, and July 21, 1945, p. 2.

Note 49) It has been clarified that the plan was designed to rebuild communities in cities and increase the urban population in order to improve a situation where it would be difficult to maintain urban activities due to the effects of a decreasing urban population caused by war-damage and evacuation, with the concept of neighborhood unit formation providing the context for this (See Ref. [32], pp. 149-150).

Note 50) *Kahoku Shimpo*, July 21, 1945, p. 2.

Note 51) See Note 45.

Note 52) *Kahoku Shimpo*, July 29, 1945, p. 2.

Note 53) Considering the limitations of the historical sources, the extent of the implementation of building evacuation in the city center is presently unclear (See Note 44).

Note 54) *Kahoku Shimpo*, August 4, 1945, p. 2.

Note 55) The *Kokai* was a regional organization established as part of the project to commemorate 2600 years of the Imperial era (*Koki 2600*) in 1940. It was responsible for a wide range of duties such as air defense, the transmission of municipal information, tax payment, and rationing; and played a role in wartime civil life control (*Showa*

*21 nen 4 gatsu, Imamura shicho taishoku jimū hikitsugisho, kokai gakari* (April, 1946 Imamura Mayor Resignation Hand-Over, *Kokai* Office), *Showa 20 nendo do 23 nendo, Kyū Kokaichiku shutchoso Kankei Shorū, Shomū-ka* (1945-1948 Former *Kokai* District Office Documents, General Affairs Section), held by Sendai City Museum). *Tonari-gumi* (neighborhood associations) were organized under the *Kokai*, playing the same role as *Buraku-kai*, *Chonai-kai*, and *Tonari-gumi* that were organized across Japan based on *Buraku-kai Chonai-kai to seibi yoko* (Guidelines for the Establishment of Municipal Associations, etc.) in September, 1940. The *Kokai* played a considerable role in the implementation of building evacuation projects in Sendai, with the *Kokai* chairman explaining the project to evacuees and responding to their questions (See Ref. [33]).

Note 56) *Kahoku Shimpo*, August 13, 1945, p. 2.

Note 57) *Sensaichi okyu fukko taisaku yoryo* (Guidelines for Emergency Reconstruction Measures in War-Damaged Areas), *Showa 20 nen, Nosei, Noson Seibi Kankei* (Official Documents of Miyagi Prefecture in 1945 on agricultural administration) (held by the Miyagi Prefectural Archives).

Note 58) *Boku kuchi* (Vacant land for air defense) is described in the "Guidelines for Emergency Reconstruction Measures in War-Damaged Areas". *Boku kuchi* are strictly different from building evacuation areas, and are areas that do not involve the removal of buildings and where construction is prohibited. It is known that they were designated in Tokyo and Osaka. However, no *Boku kuchi* was specified in Sendai. In the air defense administration at that time, *Boku kuchi* and building evacuation areas were often confused (See Ref. [10], pp. 97-99). Therefore, in this paper, I regarded the descriptions in the "Guidelines for Emergency Reconstruction Measures in War-Damaged Areas" as indicating building evacuation areas.

Note 59) See Ref. [34], p. 121.

Note 60) *Kahoku Shimpo*, November 17, 1945, p. 2.

Note 61) *Kahoku Shimpo*, November 12, 1945, p. 1.

Note 62) *Kahoku Shimpo*, December 10, 1945, p. 2.

Note 63) *Kahoku Shimpo*, February 8, 1946, p. 2.

Note 64) See Ref. [35], p. 20.

Note 65) *Kahoku Shimpo*, September 30, 1946, p. 2. In the meantime, on May 9, 1946, they implemented a decision on land readjustment areas (See Ref. [31], p. 75).

Note 66) See Ref. [34], p. 122.

Note 67) *Sendai-shi fukko toshikeikaku gairo oyobi koen kettei* (Decision of Reconstruction Urban Planning Streets and Parks in Sendai City), *Showa 21 nendo yori Showa 23 nendo niitaru, Toshikeikaku Miyagi Chiho Inkaei, Keikaku-ka* (Official Documents of Miyagi Prefecture in 1946-1948 on Urban Planning Miyagi Regional Council) (held by Miyagi Prefectural Government Public Works Department City Planning Division).

Note 68) See Ref. [36].

Note 69) See Ref. [31], pp. 60-63.

Note 70) Sendai City Assembly Stenographic Record No. 1, February 23, 1946, "Sendai City Assembly Minutes, 1946," p. 7 (held by the Secretariat of the Sendai City Assembly).

Note 71) *Sendai-shi koho* (Sendai City Gazette) No. 251 (February 15, 1947), p. 2 (held by Sendai City Hall).

Note 72) *Showa 23 nendo yori Showa 25 nendo niitaru, Doboku, Kempji Hojo Kankei, Keikaku* (Official Documents of Miyagi Prefecture in 1948-1950 on Prefectural Subsidy for Civil Engineering Projects) (held by the Miyagi Prefectural Archives).

Note 73) Ibid.

Note 74) *Showa 22 nendo sokai atochi shori renraku gairo jigyo kempji hojo shinsei ni tsuite* (Concerning Application for Prefectural Subsidy in 1947 for the Project for Converting Evacuation Sites into Connecting Streets), *Showa 23 nendo yori Showa 25 nendo niitaru, Doboku, Kempji Hojo Kankei, Keikaku*, op. cit.

Note 75) Sendai City Assembly Stenographic Record No. 1, February 28, 1947, "Sendai City Assembly Minutes, 1947," p. 8. Sendai City

Assembly Stenographic Record No. 3, March 5, 1947, *ibid.*, p. 18 (held by the Secretariat of the Sendai City Assembly).

Note 76) *Showa 22 nendo sokai atochi shori renraku gairo jigyo shunko nintei ni tsuite shinsei* (Concerning Application for Certification of Completion of the Project for Converting Evacuation Sites into Connecting Streets in 1947), *Showa 23 nendo yori Showa 25 nendo nitaru, Doboku, Kempu Hojo Kankei, Keikaku*, op. cit.

Note 77) U.S. armed forces aerial photograph “USA-M174-360” (Taken on October 31, 1952), 9909 minutes 1, Geospatial Information Authority of Japan “Map and Aerial Photography Browsing Services”.

Note 78) See Ref. [37], pp. 135-142.

Note 79) The plan was to open up 30-meters on both sides of the two areas along the Tohoku Main Line “from Motodera-koji X Bridge to Kirin Brewery Company (Odawara Hirocho)” and “from the corner of Higashi-Shichibancho Monopoly Bureau to Minamisomeshimachi Rokugobori Canal” (a total of 490 buildings, 60-meters wide) (See Ref. [2], pp. 1145-1148).

Note 80) See Note 70.

Note 81) As of July 10, 1946, four streets were planned as the Integrated Civil Engineering Project. The streets ran on both sides of the Tohoku Main Line from Gyoninzuka to Rembokoji and from Rembokoji to Higashi-Sendai Station (each 20-meters wide on one side), thus maintaining the street plan for the whole evacuation zone along the Tohoku Main Line. In addition, street construction was intended on both sides of the planned evacuation zone along the Senseki Line, from the Sendai Station east exit to Rikuzen-Haranomachi Station (20-meters wide on one side). However, these plans remained a mere concept (*Sogo doboku jigyo keikaku chosa ni tsuite* (Concerning Integrated Civil Engineering Project Survey), *Showa 22 nendo, Toshikeikaku Kankei Shorui*, op. cit.).

Note 82) See Note 71.

Note 83) This refers to the section between Rembokoji and Minamisomeshimachi, which was developed as a project in 1946.

Note 84) *Sendai ekimae tochikukakuseiri ni tomonau Sendai tetsudokyoku kanri-bu to kenchikubutsu no seiri iten ni tsuite* (Concerning Relocation of Buildings due to Land Readjustment in front of Sendai Station), *Showa 22 nendo, Toshikeikaku Kankei Shorui*, op. cit.

Note 85) *Kahoku Shimpō*, November 20, 1945, p.1.

Note 86) *Sokai atochi no gairo shinsetsu ni tsuite* (Concerning Construction of New Streets in the Evacuation Sites), *Showa 22 nendo, Toshikeikaku Kankei Shorui*, op. cit.

Note 87) See Ref. [31], pp. 60-63 and 321-337.

Note 88) *Kahoku Shimpō*, June 29, 1947, p. 2.

Note 89) The area “from Motodera-koji X Bridge to Kirin Brewery Company (Odawara Hirocho)” is within the range of Sendai Castle Town, and the area “from the corner of Higashi-Shichibancho Monopoly Bureau to Minamisomeshimachi Rokugobori Canal” is the area corresponding to the castle town of Wakabayashi Castle, where construction began in February, 1627, in the south-eastern part of Sendai Castle Town (See Refs. [38], pp. 108-112 and [39], pp. 183-186).

Note 90) This refers to the two areas of “Hosoyokocho west side” and “Aobaso-Hiyoshicho” (See Ref. [2], pp. 1145-1148).

Note 91) See Ref. [2], p. 1150.

Note 92) See Refs. [10], p. 272 and [40], pp. 36-40, 56-61 and attached map.

Note 93) *Gunyo atochi tatemono sokai atochi no chosa narabini Showa 23 nendo kanko toshi seibi jigyo ni kansuru ken* (Concerning Survey of Military Sites and Building Evacuation Sites, and Tourism City Improvement Project in 1948), *Showa 22 nendo, Toshikeikaku Kankei Shorui*, op. cit.

Note 94) *Fukko tochikukakuseiri kuiki narabini sokai atochi no kosaku riyō ni tsuite* (Cultivation Use of War-damage Reconstruction Land Readjustment Areas and Building Evacuation Sites), *Showa 22 nen, Doboku, Fukko Tochikukakuseiri Jigyo, Keikaku* (Official Documents of Miyagi Prefecture in 1947 on War-damage Reconstruction Land Readjustment Projects) (held by the Miyagi Prefectural Archives).

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