

The History of Fires and Firefighting in Japan and Six of its Major Cities [#3]

The History of Firefighting (Nagoya and Kyoto)

“The History of Fires and Firefighting in Japan and Six of its Major Cities” is a compilation of the history of fires and firefighting in Japan and six of its major cities and related data from 1950 to 2020 intended to introduce the state of fires and firefighting in Japan to the rest of the world. The third installment of this series of special chapters will focus on Nagoya and Kyoto.

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5-3 Nagoya

1) The history of Nagoya

Nagoya is located 250 km west of Tokyo, roughly halfway between Tokyo and Kyoto. Nagoya has long flourished as a transportation hub, connecting east and west by both land and sea. With a current population of over 2.3 million, it is the fourth largest city in Japan.

Nagoya was positioned as the center of the region in 1871, shortly after the establishment of modern Japan. Nagoya was declared a city in 1889, with an area of 13.34 km² and a population of approximately 157,000.

In 1891, the magnitude 8-class Nōbi earthquake hit Nagoya, causing extensive damage. The earthquake killed 7,273 people, injured 17,175, and destroyed a total of 142,177 houses in the region.

In the final stages of World War II, Nagoya was severely damaged in air raids by the U.S. Military. As a military industrial city, Nagoya was subjected to more intense air raids than other major cities: by 1945, Nagoya was hit by 63 air raids, killing 7,858 people, injuring 10,378, and destroying 135,416 houses.

After the war, the Japanese government began a reconstruction project to rebuild Japan's major cities, which had been burned to the ground. Among these, Nagoya became one of the most spectacularly reconstructed cities. Under the leadership of Jurō Tabuchi, Nagoya succeeded in building an advanced city by formulating a reconstruction plan that went beyond what was common practice in Japan at the time, including 100 m-wide roads.

In 1959, Nagoya was hit by Isewan Typhoon (Typhoon Vera), with a minimum pressure of 895 hPa and a storm surge of 5.3 m, resulting in more than 5,000 deaths and missing persons throughout the region as a whole. In Nagoya alone, 1,851 people were killed or went missing and 7,723 buildings were completely destroyed or washed away. The damage caused by this typhoon was the largest in the history of typhoon damage in Japan.

The opening of the Tokaido Shinkansen in 1964 accelerated Nagoya's economic development, and after holding the World Expo in 2005, Nagoya became even more of a global economic city.

Today, Nagoya is the region's central city, with an urban area of 327 km² and a population of 2.33 million.

(Reference materials: “The History of Nagoya”, City of Nagoya)

2) The history of firefighting in Nagoya

In Nagoya, a large-scale urban fire in 1660 that destroyed 2,700 houses led to the establishment of a citizens' fire brigade in 1661, which was responsible for Nagoya's firefighting activities for the next 200 years. With the establishment of modern Japan in 1868, the fire brigade was incorporated into the new system.

In 1910, a public fire brigade was established, consisting of a horse-drawn steam fire pump and 20 firefighters.

In 1919, the number of fire stations was increased to 2, and the number of firefighters to 54. Thereafter, the number of fire stations was increased to 4 in 1939 and 13 in 1943, with one station in each ward.

The fire brigade purchased a fire pumper in 1914 and continued to promote the introduction of fire trucks and motorcycles for firefighting. In 1916, a ladder truck (ladder length: 12 m) was introduced, and in 1935, a mechanical ladder truck equipped with a pump (ladder length: 30 m) was added to accommodate the rising height of buildings.

In 1934, the fire brigade began providing ambulance services.

After the war, firefighting was shifted to a new system administered by local governments, and in Nagoya, the Nagoya City Fire Bureau was established in 1948 with 1,366 firefighters. Ambulance services resumed in 1949, followed by marine firefighting by fireboat in 1950, and aerial firefighting by helicopter in 1973.

(Reference materials: “The History of Firefighting in Nagoya”, Nagoya City Fire Department)

3) Data on fires and fire service systems in Nagoya

Table 6 Key firefighting-related data for Nagoya (2020)

Population	2,328,138
Total Area	327km ²
Nagoya City Expenditures (based on the 2018 settlement of accounts)	JPY 1,195.2B (USD 10,865M)*
Firefighting expenses (based on the 2018 settlement of accounts)	JPY 26.7B (USD 243M)*
No. of public firefighters	2,403
No. of volunteer firefighters	5,362
No. of fire department (public)	16
No. of Volunteer fire corps	268
Fire pumpers (including volunteer fire corps vehicles)	106
Ladder trucks	22
Fire and disaster prevention helicopters	2
Fire boats	2
Ambulances	61

Prepared based on the 2020 White Paper on Fire Service and the FY2018 Municipal Accounts Card.
*Converted at JPY 110 to USD 1 (exchange rate at the time of 2018)

Table 7 Major fires in Nagoya (1868-2020)

Date	Buildings or districts where the fire occurred	No. of burned houses	Fatalities	Injuries	Overview
8/19/1951	Baseball stadium		3	371	Spectators panicked as they tried to evacuate and were killed or injured when the crowd collapsed.
8/16/1983	Underground substation of subway		2	3	Five firefighters were killed or injured when they were engulfed in smoke and lost their way while attempting to put out the fire.

(Prepared based on “The Encyclopedia of Environment, Disasters and Accidents (published by Maruzen)”)

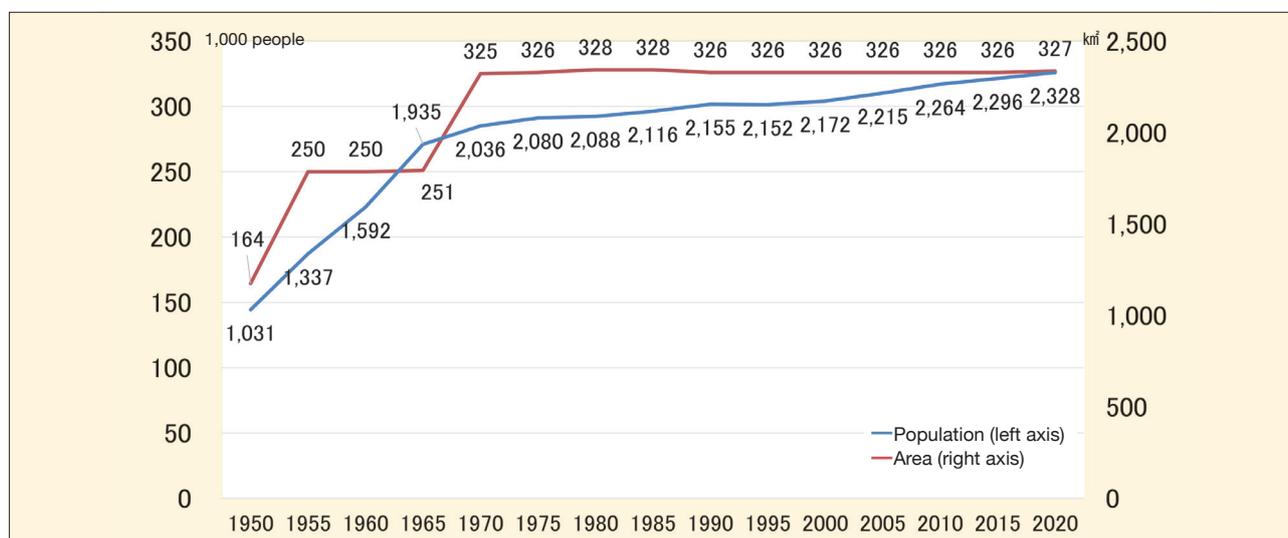


Figure 18 Population and area of Nagoya (1950-2020)

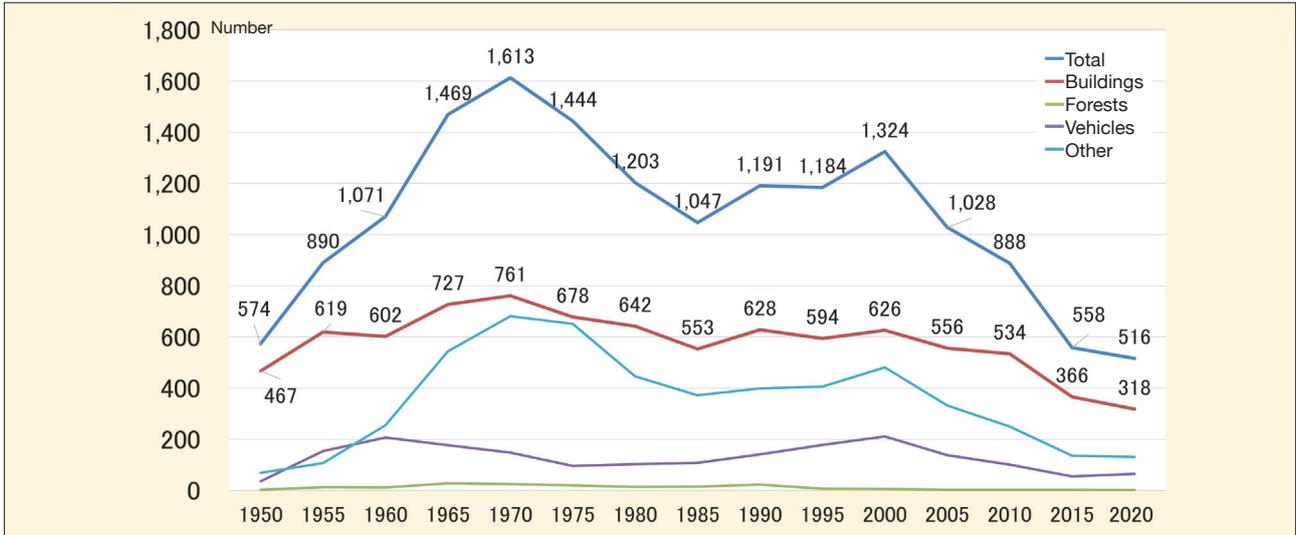


Figure 19 Number of fires in Nagoya (1950-2020)
(Prepared based on "The Fire Annual Report", FDMA)

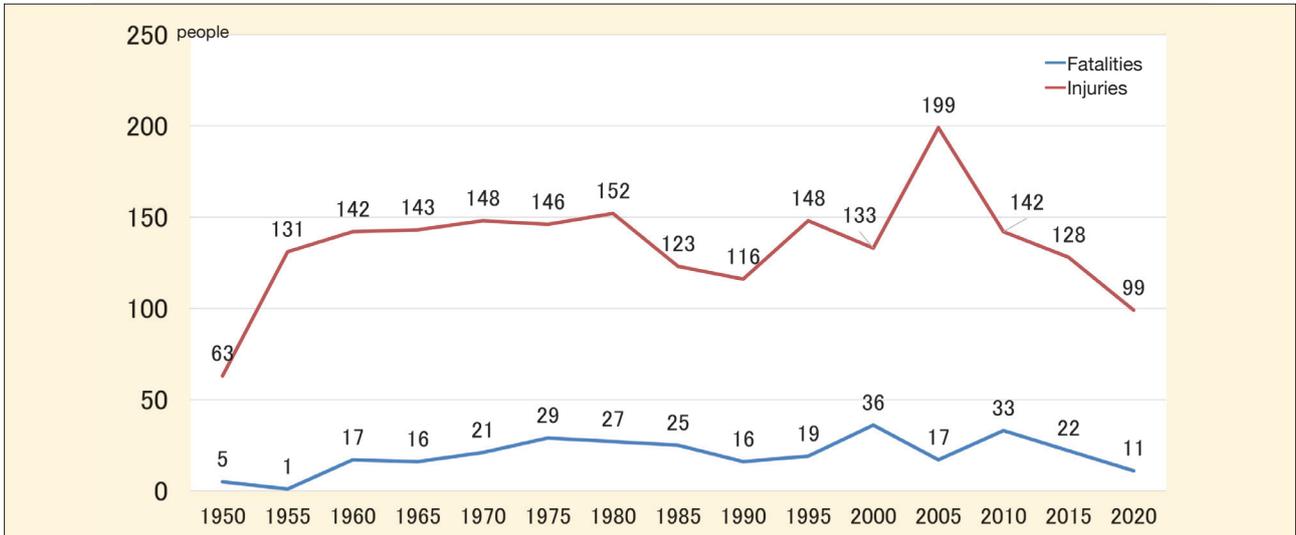


Figure 20 Fatalities and injuries from fires in Nagoya (1950-2020)
(Prepared based on "The Fire Annual Report", FDMA)

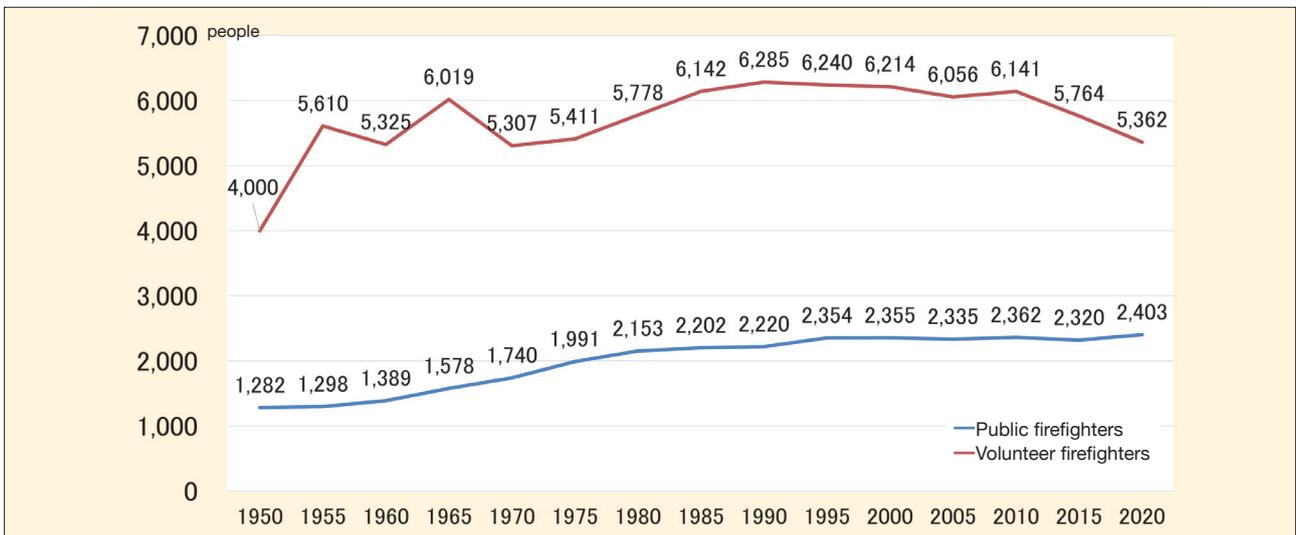


Figure 21 Number of firefighters and volunteer firefighters in Nagoya (1950-2020)
(Prepared based on "The Fire Service Annual Report", FDMA)

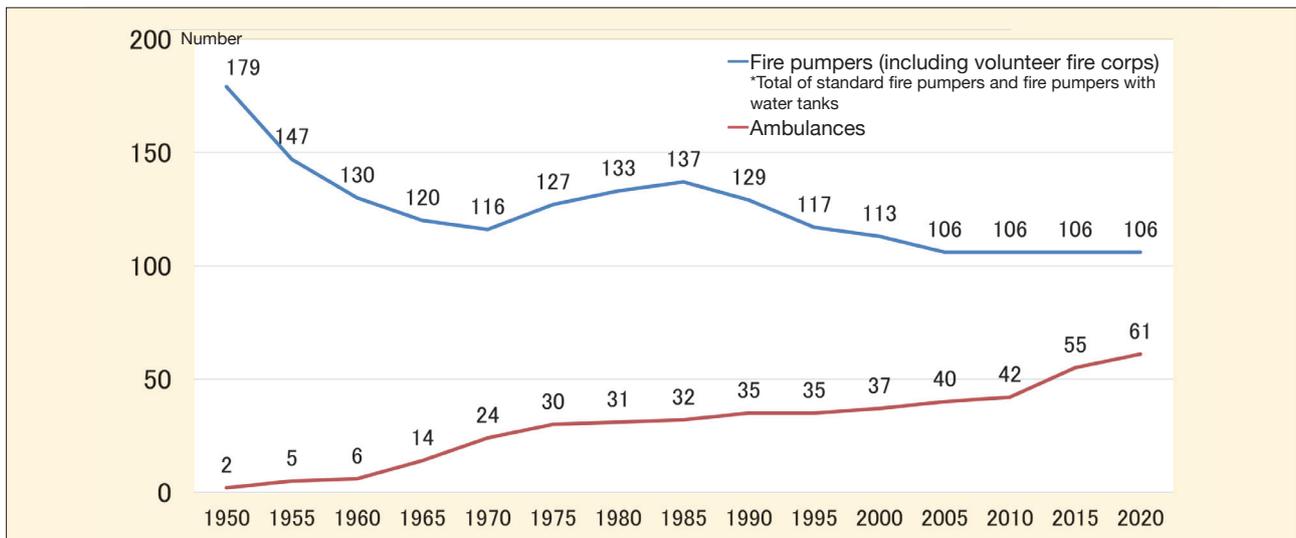


Figure 22 Number of fire pumpers and ambulances in Nagoya (1950-2020)
 (Prepared based on “The Fire Service Annual Report”, FDMA)

5-4 Kyoto

1) The history of Kyoto

Kyoto is located 365 km west of Tokyo and was the capital of Japan for more than 1,000 years from 794 to 1868.

Kyoto was built 1,200 years ago on a land measuring 4.5 km east to west and 5.2 km north to south, surrounded by mountains on three sides, based on a linear urban plan modeled after the ancient Chinese capital. In addition to the royal palace (Gosho) where the emperor resided and the residences of the nobility, there were various government offices and many shrines and temples. In the early 17th century, the political core of the city moved to Edo (present-day Tokyo), but Kyoto remained the capital as well as the center of culture and religion, fostering a unique culture.

As in other large cities in Japan, all of the buildings in Kyoto were made from wood. Although there have been large-scale fires in the city, and historical buildings such as famous shrines and temples have been destroyed by fire, many have been rebuilt each time and continue to stand to this day.

Toward the end of World War II, all other major cities in Japan were burned to the ground as a result of intense air raids by the U.S. Military, but Kyoto was spared from the raids due to its historical and cultural value. Thanks to this, most of the city’s valuable historical buildings have been preserved to this day, many of which are listed as World Heritage Sites.

Kyoto, with a population of over 1.4 million, has today become an international tourist destination, attracting more than 50 million tourists a year from both Japan and abroad.

(Reference materials: “The History of Kyoto”, Kyoto School Trip Guide)

2) The history of firefighting in Kyoto

It is not known when the first fire defense organization was established in Kyoto, but by the 17th century there existed a public-private fire defense organization. The main role of the public fire brigade was to protect the Imperial Palace from fire, while private fire brigades, comprised of firefighters that were hired by civic organizations in each neighborhood, extinguished fires in cooperation with the public fire brigade.

In 1722, the private fire brigades were replaced by a system in which the citizens of each neighborhood organized their own fire brigades and the town hall managed them. In 1779, the public fire brigades were also changed to a system in which a professional commander from the town hall commanded hired firefighters.

After the establishment of modern Japan in 1868, the fire defense organization was incorporated into the police force, and several organizational reforms were implemented.

Based on the standards set by the Japanese government in 1894, 7 fire stations were established in Kyoto with 614 firemen and 24 man-powered fire pumps. Steam fire pumps were first deployed in 1901, and by 1912 all fire stations had one.

After World War II, each municipality assumed responsibility for firefighting activities. The Kyoto City Fire Department was created in 1948, and initially consisted of 6 fire stations, 1,200 public firefighters, 86 fire engines, 5 ambulances, and 4,800 volunteer firefighters.

Since then, the Kyoto City Fire Department has been strengthened as the city's size, population, and economy have grown
(Reference materials: "Kyoto Firefighting History Museum", Kyoto City Fire Department)

3) Data on fires and fire service systems in Kyoto

Table 8 Key firefighting-related data for Kyoto (2020)

Population	1,400,720
Total Area	828km ²
Kyoto City Expenditures (based on the 2018 settlement of accounts)	JPY 765.9B (USD 6,963M)*
Firefighting expenses (based on the 2018 settlement of accounts)	JPY 20.5B (USD 186M)*
No. of public firefighters	1,797
No. of volunteer firefighters	4,503
No. of fire department (public)	11
No. of Volunteer fire corps	11
Fire pumpers (including volunteer fire corps vehicles)	82
Ladder trucks	16
Fire and disaster prevention helicopters	2
Fire boats	0
Ambulances	50

Prepared based on the 2020 White Paper on Fire Service and the FY2018 Municipal Accounts Card.
*Converted at JPY 110 to USD 1 (exchange rate at the time of 2018)

Table 9 Major fires in Kyoto (1868-2020)

Date	Buildings or districts where the fire occurred	No. of burned houses	Fatalities	Injuries	Overview
1/12/1895	Shrine				"Nanzenji" burned down.
4/13/1902	Hospital		16		Fire in a psychiatric hospital
9/21/1934	Junior high school		30		Fire caused by a typhoon
7/2/1950	Shrine				The National Treasure "Kinkakuji" burned down.

(Prepared based on "The Encyclopedia of Environment, Disasters and Accidents (published by Maruzen)")

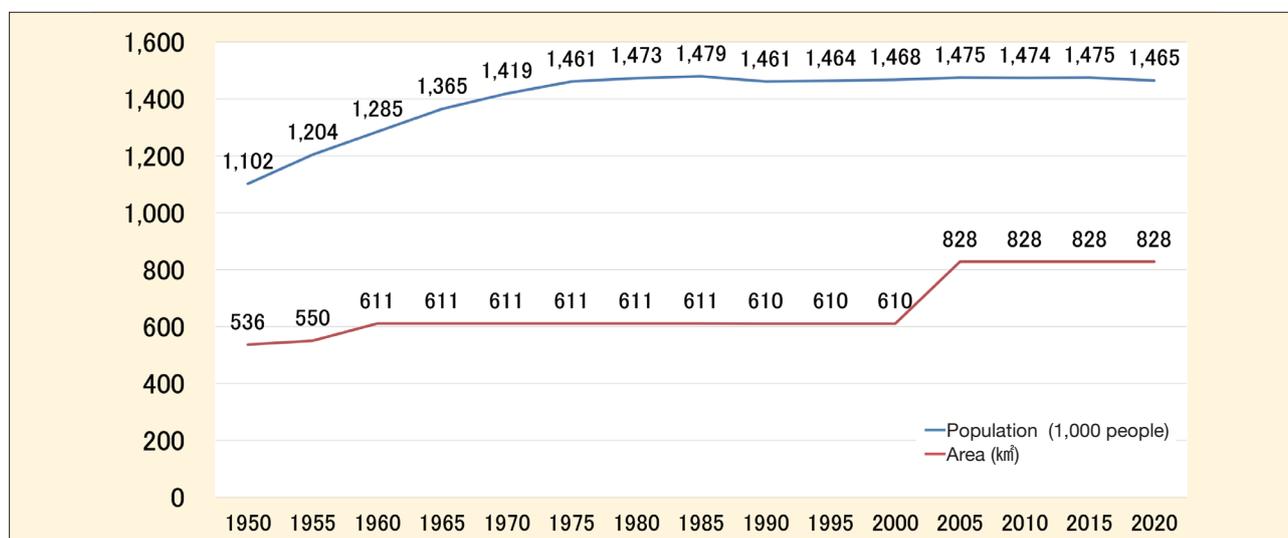


Figure 23 Population and area of Kyoto (1950-2020)

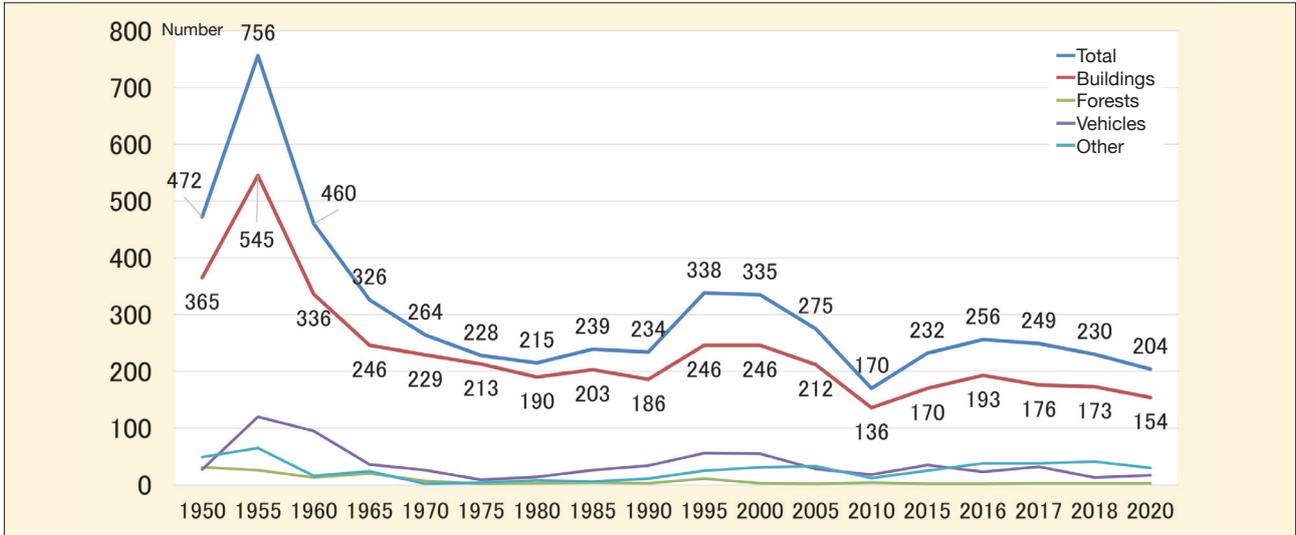


Figure 24 Number of fires in Kyoto (1950-2020)
(Prepared based on "The Fire Annual Report", FDMA)

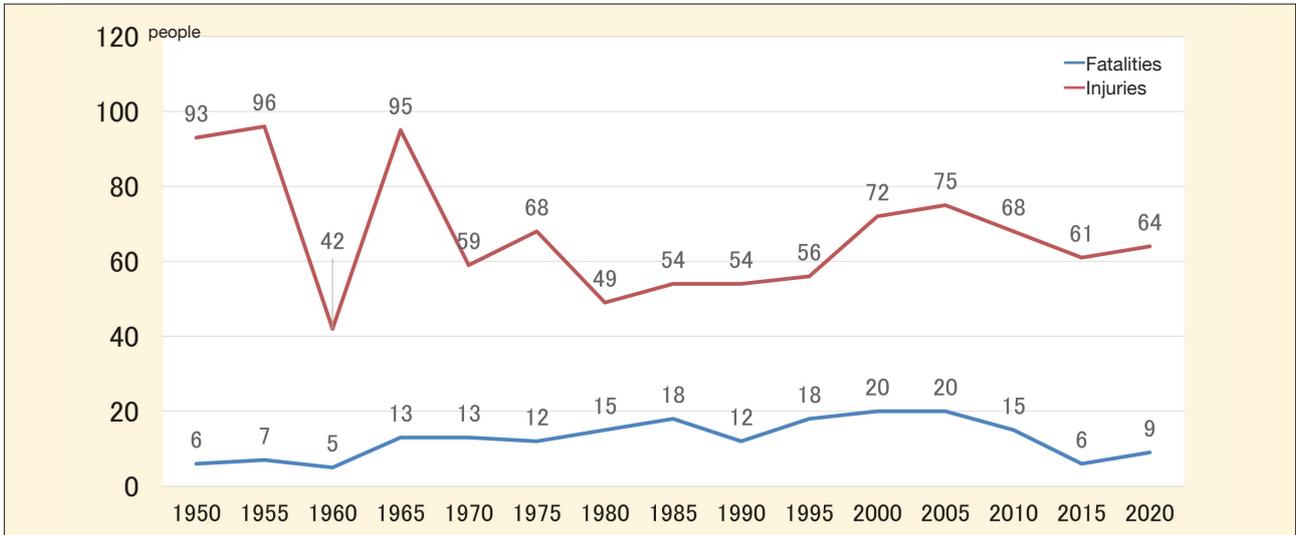


Figure 25 Fatalities and injuries from fires in Kyoto (1950-2020)
(Prepared based on "The Fire Annual Report", FDMA)

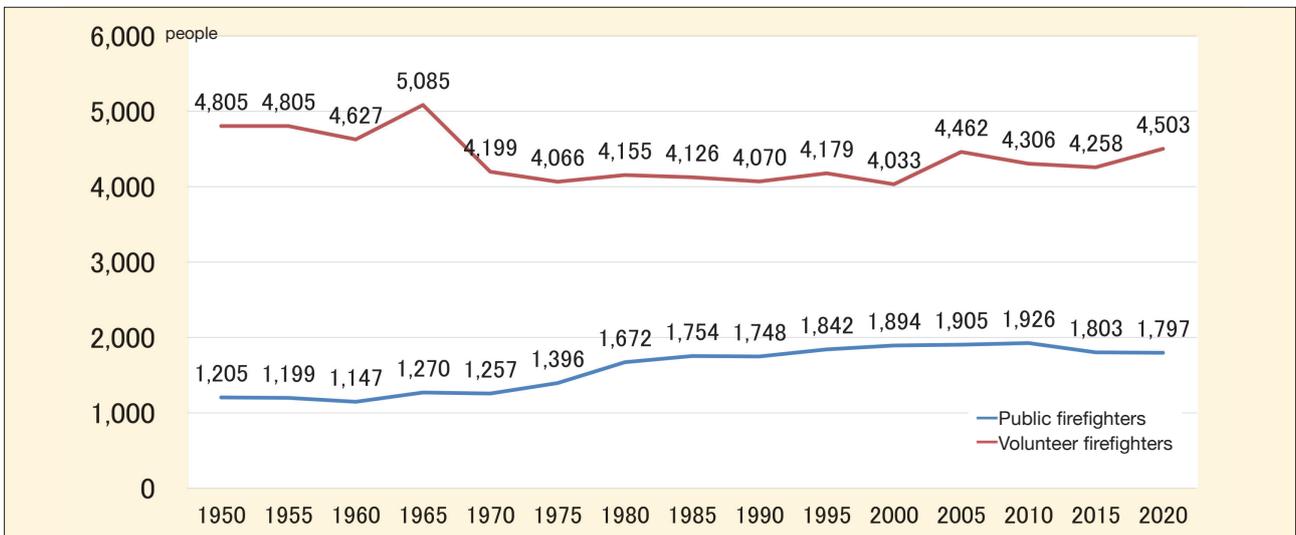


Figure 26 Number of firefighters and volunteer firefighters in Kyoto(1950-2020)
(Prepared based on "The Fire Service Annual Report", FDMA)

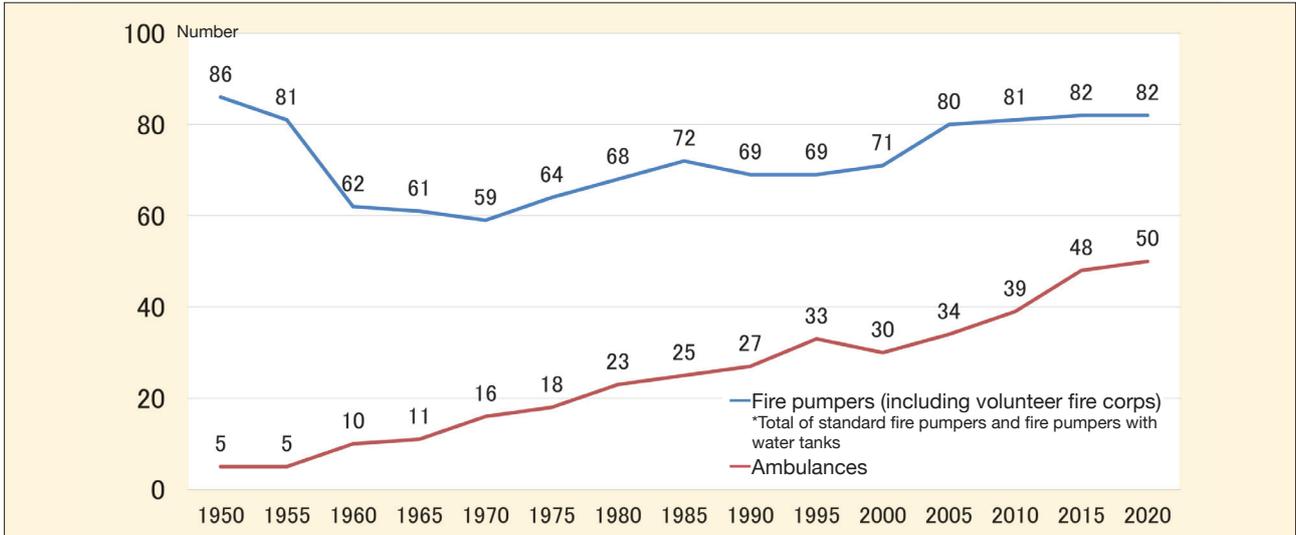


Figure 27 Number of fire pumps and ambulances in Kyoto (1950-2020)
 (Prepared based on “The Fire Service Annual Report”, FDMA)