Overview of the 2024 White Paper on Fire Service

Materials created by the Fire and Disaster Management Agency were translated by the International Fire Service Information Center

The Fire and Disaster Management Agency (FDMA)

Contents

Special Feature

Topic

Elementary Item

Note: Information on damage is correct as of November 21, 2024.

Response to the 2024 Noto Peninsula Earthquake

Rescue of a stranded person 72 hours after the disaster (Wajima City)

Firefighting by the Wajima City Volunteer Fire Corps

- ○ At 16:10 on January 1, 2024, an earthquake struck the Noto region of Ishikawa Prefecture. A maximum seismic intensity of 7 was recorded in Wajima City and Shiga Town.
- ○ Immediately after the disaster, the Commissioner of the Fire and Disaster Management Agency (FDMA) called for the dispatch of the National Fire-Service Team (later switched to an order to deploy), and a force of more than 2,000 persons was deployed from the onset of the disaster.
- ○ Volunteer fire corps in the affected areas conducted firefighting and rescue operations in cooperation with standing firefighting teams, supported evacuation center operations, and conducted patrols and monitoring.

Casualties	Damage to Housing
Death toll: 447; missing: 3; injuries: 1,344	138,884 buildings damaged

Earthquake Verification and Future Response

- ○ The FDMA has conducted examinations of the approach to firefighting and disaster-prevention measures in light of the large-scale fire in Wajima City, as well as the activities of the National Fire-Service Team.
- ○ The decision has been made to put greater effort into strengthening firefighting and disaster-prevention measures, including further enhancement of the National Fire-Service Team, standing firefighting teams and volunteer fire corps.

FDMA personnel deployed to an affected area
(Investigation into the cause of a large fire in Wajima City)

Response to the heavy rains that began on September 20, 2024

- ○ On the morning of September 21, 2024, a linear precipitation band occurred in Ishikawa Prefecture, causing river flooding, inundation, and landslides, mainly in the Noto region of Ishikawa Prefecture.
- ○ On the same day, the Commissioner of the FDMA issued a request for the dispatch of the National Fire-Service Team and a 600-member force was deployed.

Casualties	Damage to Housing
Death toll: 16; injuries: 47	2,301 buildings damaged

National Fire-Service Team in action (Heavy rains on September 20, 2024)

Note: Information on damage is correct as of November 21, 2024.

Aircraft Fire at Haneda Airport

○ On January 2, 2024, at approximately 17:47, a Japan Airlines aircraft and a Japan Coast Guard aircraft collided on Runway C of Tokyo International Airport (Haneda Airport). Both aircraft were destroyed by fire.

○ Six chemical fire trucks were dispatched from the Tokyo Airport Office of the Ministry of Land, Infrastructure, Transport and Tourism. 115 large chemical fire trucks, ambulances, and other vehicles were dispatched by Tokyo fire department (which has jurisdiction over the area) to extinguish the fires and provide first aid.

Casualties
Death toll: 5; injuries: 16

Firefighting using a fire truck with a telescopic water hose
(Courtesy of Tokyo fire department)

Hyuga-nada Earthquake, Miyazaki Prefecture

○ At 16:42 on August 8, 2024, a magnitude 7.1 earthquake with a seismic intensity of 6 Lower occurred, centered in the Hyuga Sea (Hyuga-nada). The earthquake struck Nichinan City, Miyazaki Prefecture.

○ In addition, the Japan Meteorological Agency issued the first-ever Nankai Trough Earthquake alert (warning of a megaquake), and the FDMA communicated information as required to prefectures in the Nankai Trough Earthquake Disaster-Prevention Countermeasures Promotion Area.

Casualties	Damage to Housing
Injuries: 16	83 buildings damaged

Date	Time	FDMA Response
August 8	16:43	Establishment of the FDMA Disaster Management Headquarters headed by the Commissioner of the FDMA (Level 3 emergency response system)
	17:24	Nankai Trough Earthquake alert (under investigation) issued by the JMA in prefectures in the Nankai Trough Earthquake Disaster Countermeasure Promotion Areas.
	19:31	“Nankai Trough Earthquake Extra Information (Caution for Huge Earthquakes)” issued by the JMA in prefectures in the Nankai Trough Earthquake Disaster Countermeasure Promotion Areas.
	21:54	Information from the “Government Agency Disaster Response Council Concerning Hyuga-nada Earthquake” provided to prefectures in the Nankai Trough Earthquake Disaster Countermeasure Promotion Areas.
August 15	17:11	Notification issued to Prefectures in the Nankai Trough Earthquake Disaster Countermeasure Promotion Areas that the government’s call for special precautions has ended.

2024 Typhoon No. 10

○ From August 27 to September 1, 2024, the Pacific side of western and eastern Japan experienced record-breaking heavy rainfall due to Typhoon No. 10, which occurred on August 22, 2024.

○ In Gamagori City, Aichi Prefecture, where a massive landslide occurred, rescue operations were carried out by the local fire department and prefectural support teams.

Casualties	Damage to Housing
Death toll: 8; injuries: 134	4,986 buildings damaged

Rescue activities
(Courtesy of Gamagori City Fire Department)

National Fire-Service Team

○ In view of the Great Hanshin-Awaji Earthquake that occurred in January 1995, a National Fire-Service Team was established in June of the same year as a system of mutual assistance among national fire departments, enabling them to more effectively and quickly rescue people in earthquakes and other large-scale disasters that occur in Japan.

○ The number of registered units has increased from 1,267 at the time of establishment to 6,661 (as of April 1, 2024). From its inception through to November 2024, it was dispatched 45 times to rescue people and perform other life-saving activities during various large-scale disasters, including earthquakes, fires, landslides, wind and flood damage, volcanic eruptions, and train accidents.

Search and rescue operations using heavy machinery
(Kumamoto Earthquake, 2016)

Rescue operations using lifeboats
(East Japan Typhoon (Typhoon No. 19) in 2019)

Efforts to cope with increasingly severe and frequent disasters

○ In recent years, disasters have become more severe and frequent. In addition, the Nankai Trough Earthquake and other large-scale earthquakes are imminent. In order to respond appropriately to such disasters, teams are being enhanced and improvements are being made to equipment by utilizing subsidies for National Fire-Service Team equipment maintenance, and by deploying vehicles and equipment based on the free use system under Article 50 of the Fire Defense Organization Act.

○ Joint regional block drills are being held in six blocks across Japan, as well as national joint drills with participation from all prefectures to improve the firefighting and rescue techniques and command and coordination capabilities of the National Fire-Service Team.

Mobile base vehicle

Fire-fighting system using seawater (Super Pumper)

Special advanced work vehicle

Vehicles deployed by the National Fire-Service Team in recent years

Initiatives in light of the 2024 Noto Peninsula Earthquake, etc.

○ As a measure to deal with the situation when emergency access becomes difficult due to road damage or other reasons, the FDMA will be working to reduce vehicle sizes and equipment weight. We will cooperate with related agencies to dispatch support units by air and sea, strengthen coordination for air operations, and improve the operating environment for the National Fire-Service Team.

Using Self-Defense Force transport aircraft to transport teams
(the 2024 Noto Peninsula Earthquake)

Responding to the Increasing Demand for Ambulance Services

Current status of ambulance services

○ In 2023, there were 7,638,558 ambulance calls and 6,641,420 people transported by ambulance across Japan. This is the highest number since statistics were first collected in 1963.

○ The number of people transported to hospital by ambulance due to heat stroke nationwide from May to September 2024 was 97,578. This is the highest number since the data began to be collected in 2008.

Efforts relating to ambulance services

○ With the increasing demand for ambulance services in recent years, the FDMA has been promoting initiatives such as My Number ambulance services and #7119 in view of the fact that the stable and sustainable provision of ambulance services has become a major issue.

■ Facilitation of ambulance services using My Number cards (My Number ambulance services)

○ If emergency medical teams can use My Number cards registered for use as a health insurance cards to access the medical information of injured and sick persons, such as past medical history and drug information, they will be able to select a medical institution and provide appropriate emergency treatment during transportation.

○ In FY2024, 660 support teams from 67 fire departments participated in a demonstration project to identify operational issues and to collect effective case studies.

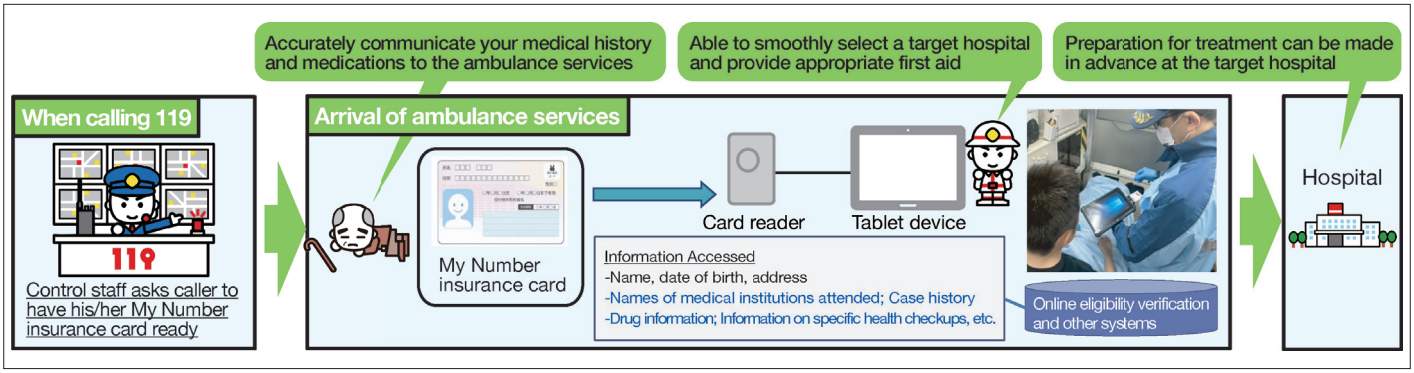
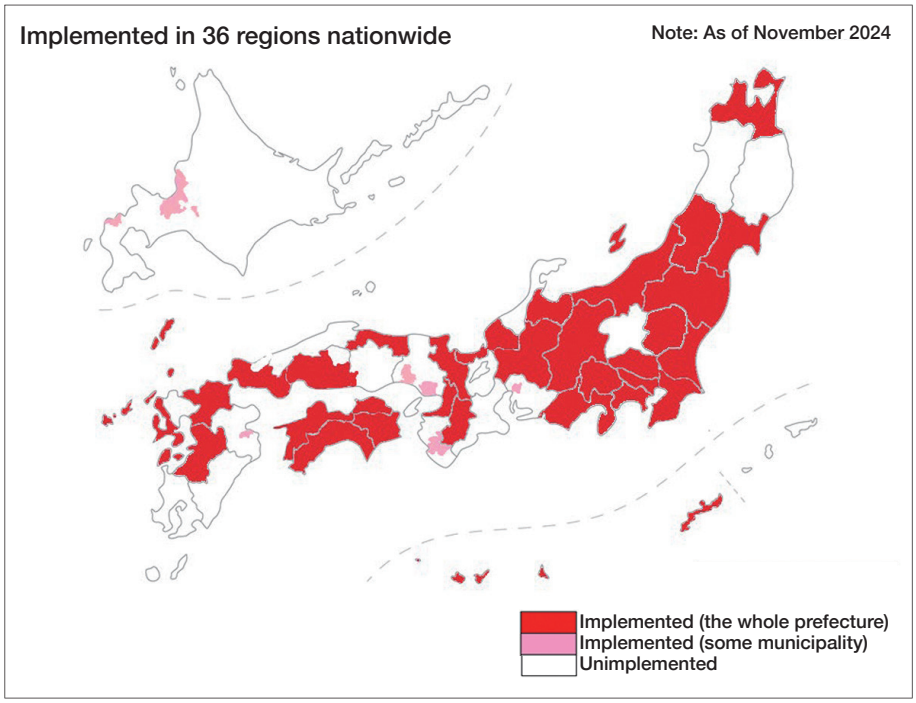


Illustration of My Number ambulance services

■ Emergency Advice Center Project (#7119)

○ The introduction of the Emergency Advice Center Project (#7119) is being promoted so that doctors, nurses, and counselors can provide a telephone consultation service when someone suddenly falls ill or is injured and it is difficult to make decisions about issues such as whether it is better to call an ambulance or take them directly to a hospital.



Status of the Emergency Advice Center Project (#7119)

Special Feature 5

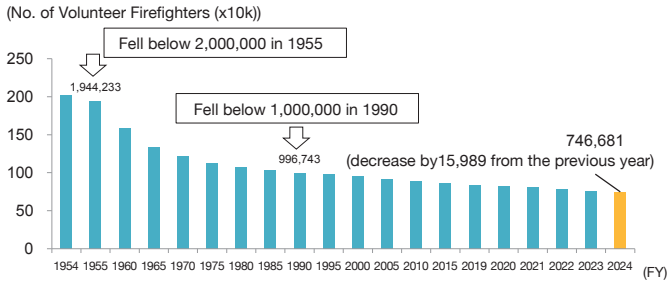
Enhancement and Strengthening of Local Disaster Prevention Capabilities Centering on Volunteer Fire Corps

Current state of the volunteer fire corps

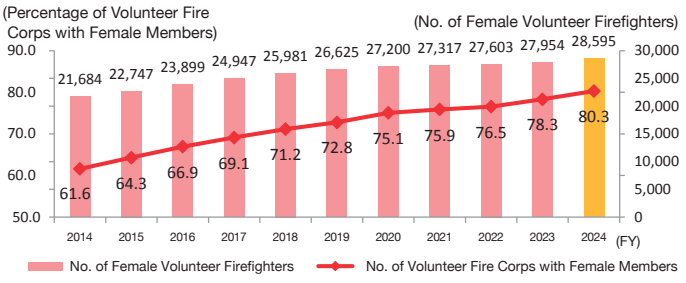
○ The number of volunteer firefighters decreases every year. As of April 1, 2024, the number decreased by 15,989 from the previous year, making a total of 746,681.

○ On the other hand, the number of new members increased for the second consecutive year due to such factors as the increase in the number of female volunteer firefighters (up 2.3% from the previous year), student volunteer firefighters (up 8.5% from the previous year), and function-specific volunteer firefighters (up 8.3% from the previous year). These categories were the focus of efforts to promote firefighter registration in volunteer fire corps. The number of people leaving the corps decreased for the first time in three years.

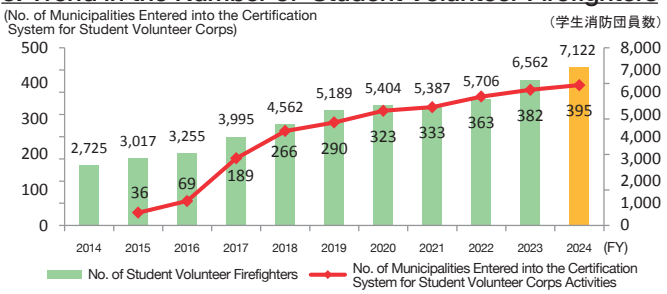
1. Trend in the Number of Volunteer Firefighters



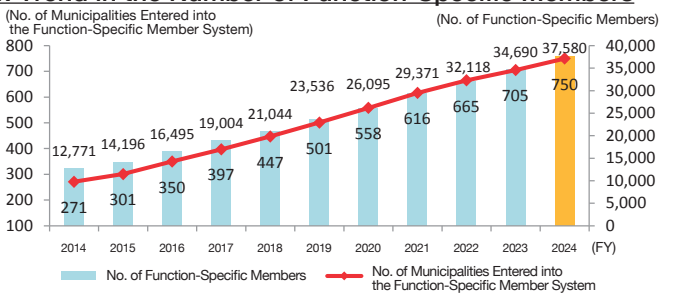
2. Trend in the Number of Female Volunteer Firefighters



3. Trend in the Number of Student Volunteer Firefighters



4. Trend in the Number of Function-Specific Members



Efforts to enhance and strengthen the volunteer fire corps

■ Enhanced benefits

○ In addition to reviewing compensation standards for volunteer firefighters, a “retirement bonus” paid to retired volunteer firefighters in proportion to their rank and years of service is currently capped at “30 years” of service. In order to promote the activities of senior members, a new category of “35 years or more” has been introduced to improve benefits for volunteer firefighters.

■ Promoting participation among a wide variety of people

○ In FY2024, a “Manual for Securing Firefighters for Volunteer Fire Corps “ was published, which includes know-how on recruiting and retaining volunteer firefighters and reducing their workload, thereby bringing about workstyle reforms.

○ Drone pilot training programs will be actively promoted throughout Japan to enhance disaster response capabilities, especially among young people, with the aim of promoting their participation.

○ Initiatives such as the “Model Project for Enhancing Volunteer Fire Corps Capabilities” enable the provision of focused support with the aim of facilitating women’s participation.

Disaster response training using drones

Enhanced video information sharing during disasters

○ To quickly respond to disasters by immediately identifying damage, more video information is needed soon after a disaster occurs. In order to further improve the means of sharing video information during disasters between the FDMA and local governments, the “FDMA Image Sharing System” was established and has been in operation since September 2024.

○ In FY2024, the “FDMA Image Sharing System” will be connected to the Cabinet Office’s new comprehensive disaster prevention information system (SOBO-WEB) to share disaster images with related ministries and agencies.

Footage taken by the FDMA (local public information officers, etc.) and National Fire-Service Team

Upload

Sharing information on the FDMA Image Sharing System Assessing work and damage

Viewing

(Shared by the FDMA and National Fire-Service Team)

Example of the FDMA Image Sharing System (Used in the 2024 Noto Peninsula Earthquake)

Strengthening National Fire-Service Team command and support systems

○ The command and support unit of the National Fire-Service Team will use digital operation tables and other DX equipment to collect, organize, and share a wealth of real-time information, including video and other digital information thereby ehancing the command and support system.

○ In FY2024, this technology was deployed at fire departments in nine prefectures and proficiency training was provided.

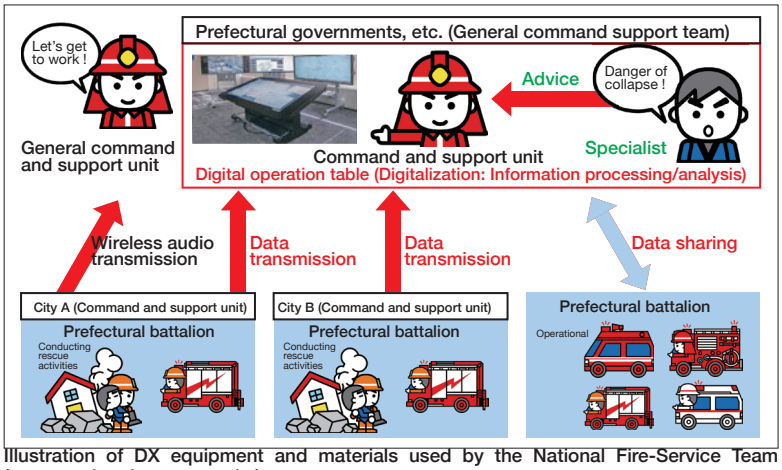
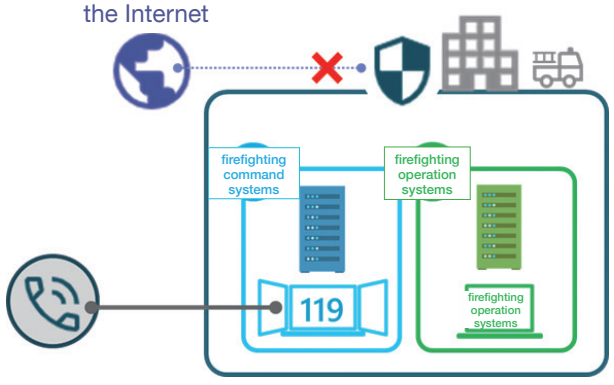


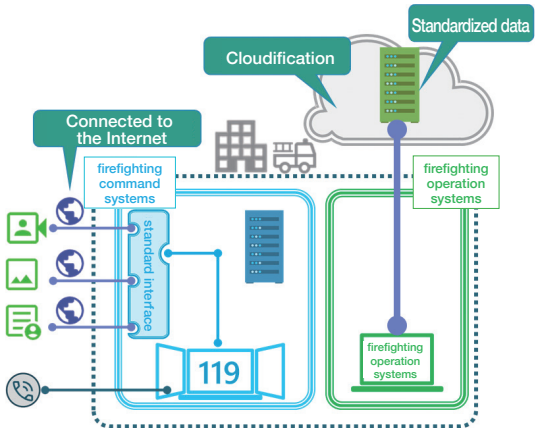
Illustration of DX equipment and materials used by the National Fire-Service Team (command and support units)

Standardization of firefighting command system interface and cloud computing of firefighting operation systems

○ System renewal at fire department headquarters is coming to a peak between FY2024 and FY2026. Taking advantage of this opportunity, firefighting command system interfaces will be standardized and a transition will be made to cloud computing for firefighting operations systems in order to link various external services, add new functions, and reduce costs and procurement workloads.



Stand-alone firefighting system not connected to the Internet



Firefighting systems that are connected to the Internet, making it easy to link data and add new functions

Progress in civil protection measures in light of the security environment, etc.

■ Promoting the creation of patterns for evacuation implementation procedures

○ In order for each municipality to smoothly establish evacuation procedures for residents in the event of a civil protection incident, the FDMA is promoting efforts to prepare for multiple types of incident.

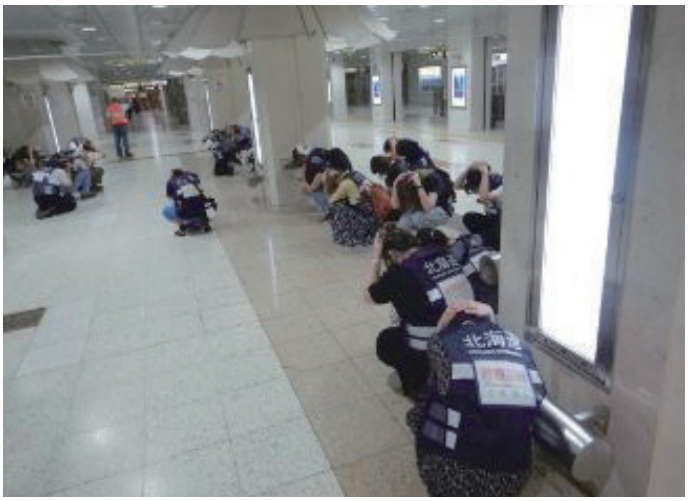
■ Promoting the designation of evacuation facilities, etc.

○ The FDMA is encouraging local governments to designate emergency temporary evacuation facilities to mitigate damage from explosions, etc., and promoting efforts to designate such facilities.

■ Enhancement and strengthening of joint training for civil protection

○ The FDMA, in cooperation with the Cabinet Secretariat, is further promoting nationwide efforts for joint training between the national government and local governments on measures to protect the public.

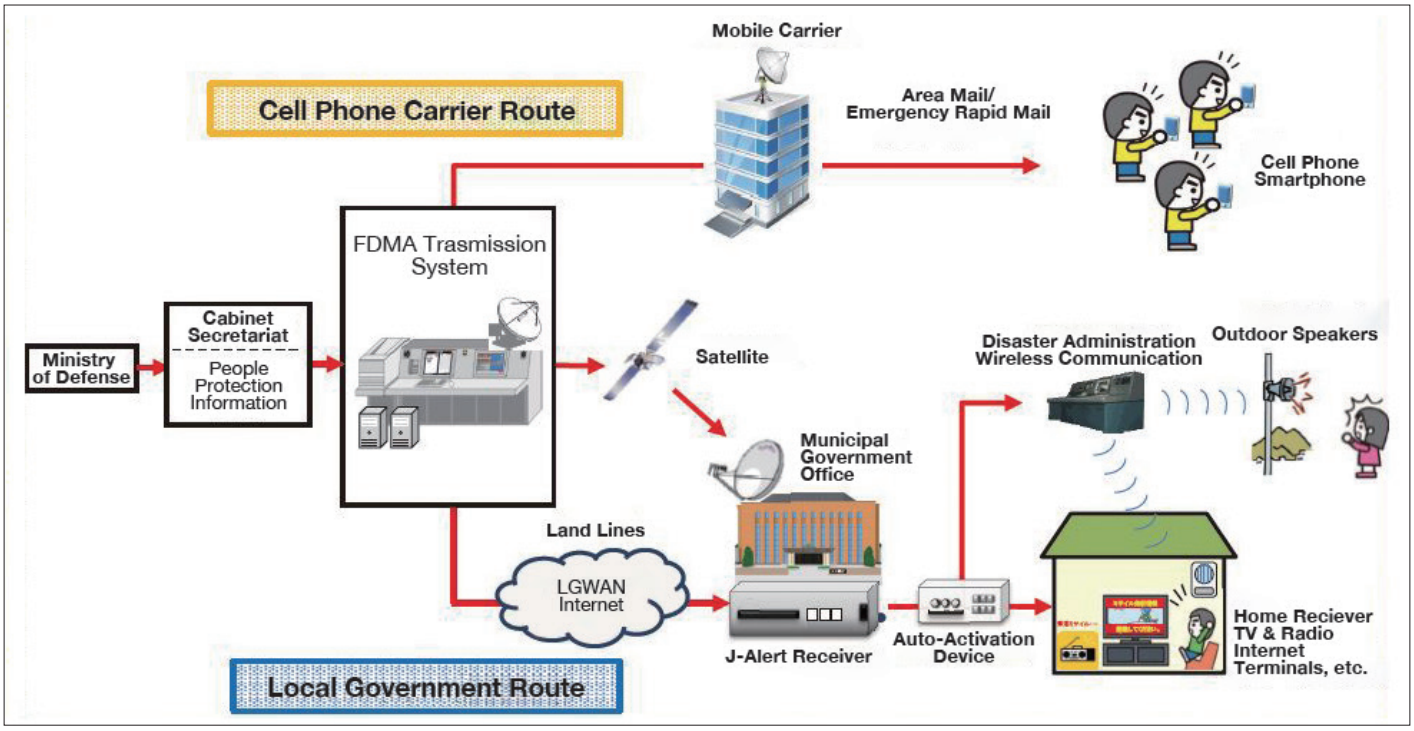
Examples of emergency temporary evacuation facilities (underground facilities) (Tenjin underground shopping center, Fukuoka City)



Example of a resident evacuation drill (prefecture-led drill) in the case of a ballistic missile attack

Recent missile launches by North Korea and the FDMA's response

○ In May 2024, North Korea used ballistic missile technology to fire a missile. Because there was a possibility that the launched object would fall into or pass over Japanese territory, a J-Alert was issued to alert the public about evacuation orders.



J-Alert information transmission upon the launch of the ballistic missile

Improved firefighting capabilities through the use of new technologies

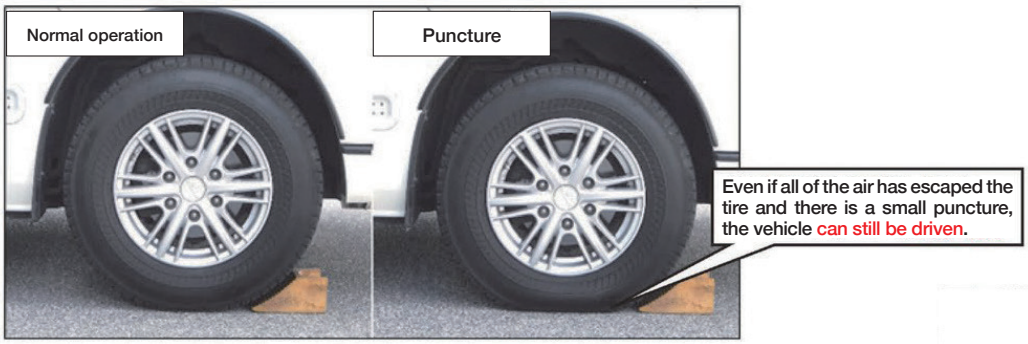
■ New technologies that proved effective during the 2024 Noto Peninsula Earthquake

○ The government compiled a "Self-Inspection Report on the 2024 Noto Peninsula Earthquake Disaster Response." In the field of firefighting and disaster prevention, it is necessary to further promote the use of effective new technologies such as drones and satellite communications equipment and materials.

■ Research and development through public-private partnerships

○ The FDMA's National Research Institute of Fire and Disaster has been promoting the practical application of new technologies through public-private research and development. So far, this has led to the development of tires that can be driven a certain distance even after a puncture, and a high-viscosity liquid emission device that can suppress fires using only a small amount of liquid.

Satellite communications in the National Fire-Service Team



Puncture-resistant tires

■ Future measures for the practical application of new technologies

○ The FDMA is promoting research and development under the "Promotion Program for Scientific Fire and Disaster Prevention Technologies." Commissioned research will be conducted by calling for research themes for FY2025, including the research and development of unmanned water discharge robots and on-site verification tests for AI and DX technologies.

Unmanned water discharge robot

Responding to new challenges

○ There have been cases where power generation facilities and products that use new sources of energy have caught fire, and the FDMA is taking measures to ensure that appropriate firefighting activities are carried out by each fire department.

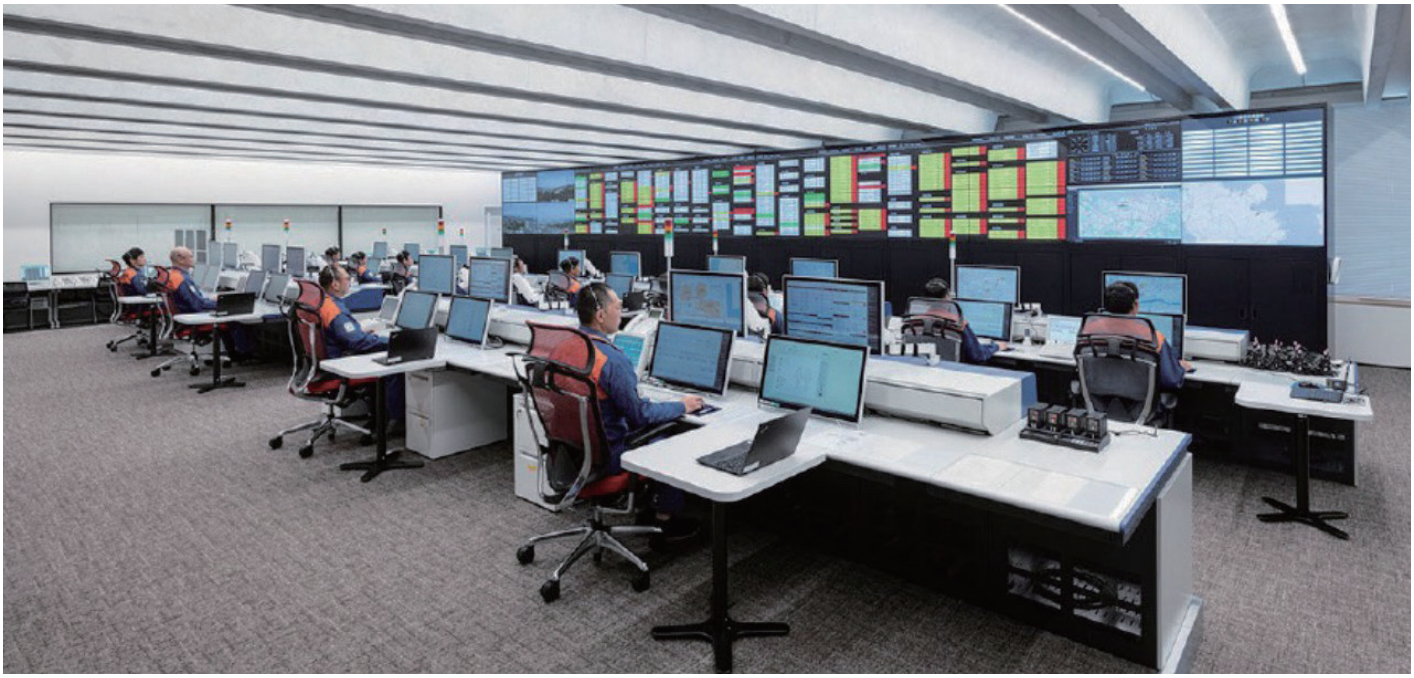
○ In addition, with the adoption of new energy technologies such as hydrogen energy and lithium-ion storage batteries, the FDMA is promoting examinations into to regulating hazardous materials in fire laws and regulations to ensure safety.

A storage battery facility after a fire

Emergency rescue response training for next-generation automobile accidents

Topic 1 Expanded firefighting zones and coordination/cooperation

○ On October 1, 2024, the “Oita Firefighting Command Center” commenced full-scale operation between all 18 municipalities and 14 fire departments in Oita Prefecture. This is the first prefecture-wide joint firefighting command center in Japan.
○ In order to accurately respond to surrounding the world of firefighting, it is necessary to strengthen the structure of small fire departments, for example. The FDMA is promoting further integration of fire departments and collaborative cooperation.



Oita Firefighting Command Center (Japan’s first prefecture-wide joint firefighting command center)

Topic 2 Efforts to promote women’s participation in the fire service

○ The percentage of female firefighters and volunteer firefighters has been increasing year by year. (Firefighters 3.7%/Volunteer firefighters 3.8%) (As of April 1, 2024)
○ The FDMA is working to cross-develop leading examples, use PR videos for publicity and improve the working and activity environment for women in order to publicize the fact that women are active in the field of firefighting, and to increase the number of women who want to become firefighters.

PR Poster

Workshop event for female volunteer firefighters
(Courtesy of Osaka Prefecture)

Topic 3 Promote widespread use of seismic-sensitive circuit breakers

○ Electrical fires account for more than half of all fires that have occurred during major earthquakes in the past. The installation of seismic-sensitive circuit breakers needs to be promoted.
○ The FDMA has been promoting the use of seismic-sensitive circuit breakers in response to the fire that occurred around Asaichi Street in Wajima City after the 2024 Noto Peninsula Earthquake.

Flyer promoting the use of seismic-sensitive circuit breakers

Topic 4 Promoting the development of local government support response plans

○ In preparation for large-scale disasters, it is important for each local government and fire department to establish a system for receiving human and material support in advance.
○ The FDMA is working to improve the response capabilities of municipalities that have not yet formulated a support response plan, present examples of support response plans at fire departments, and create videos of support response drills.

National Fire-Service Team support response drill

Topic 5 Collection and dissemination of information in the event of a large-scale disaster

○ In September 2024, the FDMA set up the “FDMA Image Sharing System” for the FDMA and local governments to share images between and among themselves in order to improve the method of disaster site image sharing.
○ In the event of a large-scale disaster, the FDMA dispatches local public information officers to record the damage and activities in the disaster area and to ensure accurate and appropriate reporting.

Local publicity activities


the 2024 Noto Peninsula Earthquake Working with a helicopter in Wajima City (Courtesy of Toyama Prefectural Firefighting and Disaster Prevention Aviation Team)

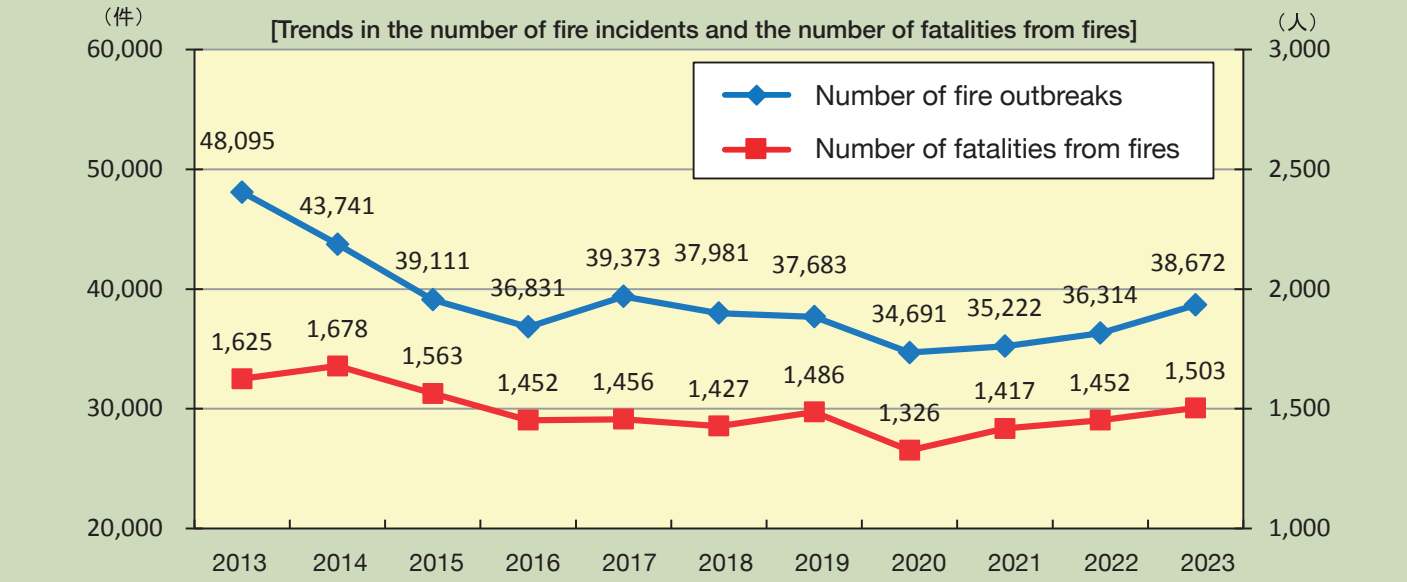
Topic 6 International cooperation and exchange

○ In order to contribute to the improvement of firefighting and disaster prevention capabilities in developing countries that are undergoing economic development and urbanization, the FDMA holds an annual international firefighting and disaster prevention forum overseas to widely publicize Japan’s firefighting technologies and systems.
○ Firefighting vehicles and other equipment no longer used by fire departments and volunteer fire corps are freely donated to developing countries to improve their disaster response capabilities and to promote face-to-face international cooperation.


Technical guidance during vehicle donation (March 2024, Bhutan)

Elementary Item | Fire Prevention　Number of Fire Incidents/Number of Fatalities from Fires

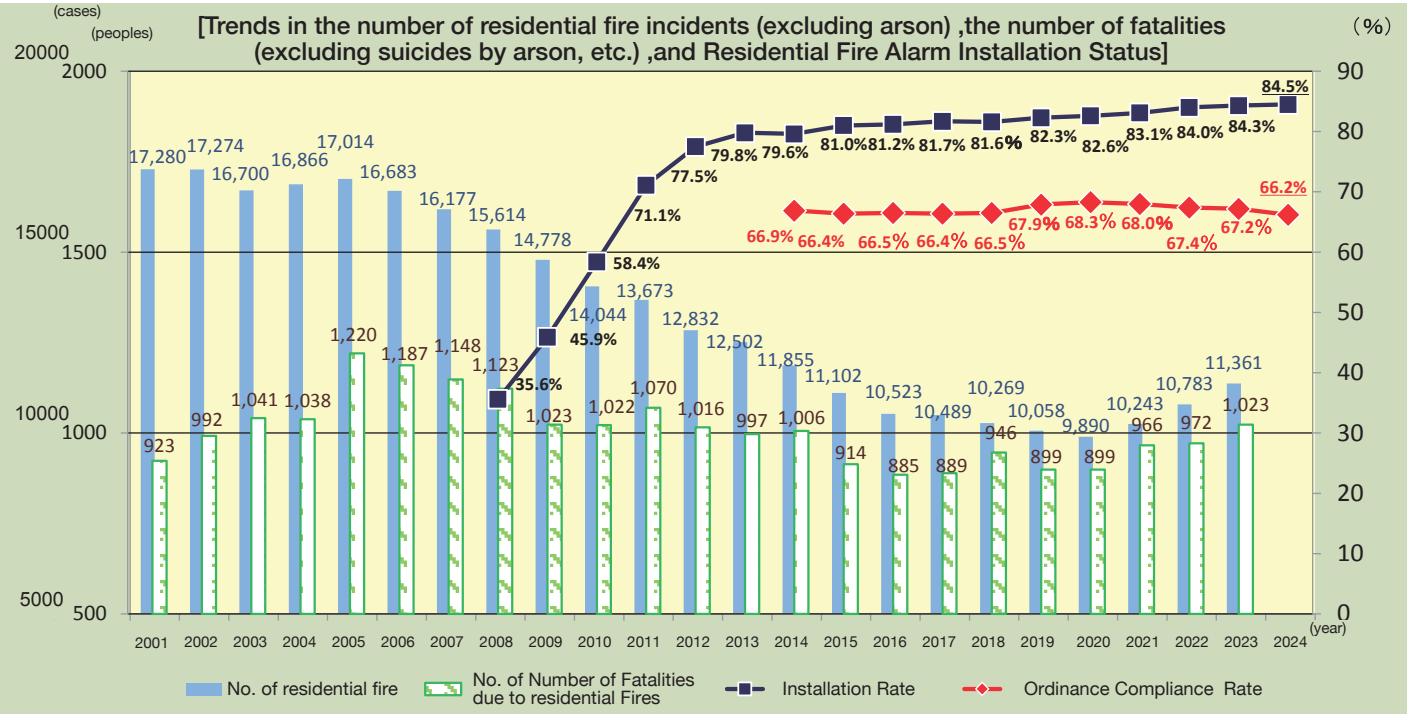
○ The number of fires and deaths from fires had been on a downward trend for the past 10 years, but began to increase from 2021.
○ The number of fires in 2023 was 38,672 (increased by 2,358 from the previous year), 80.4% of that of 10 years ago.
○ The number of fatalities from fires was 1,503 (51 more than last year), 92.5% of 10 years ago.



Notes: 1. Prepared based on “Fire Report”
2. See the left axis for the “Number of fire outbreaks” and the right axis for the “Number of fatalities from fire”

Elementary Item | Fire Prevention　Number of Residential Fire Incidents/Fatalities, Residential Fire Alarm Installation Status

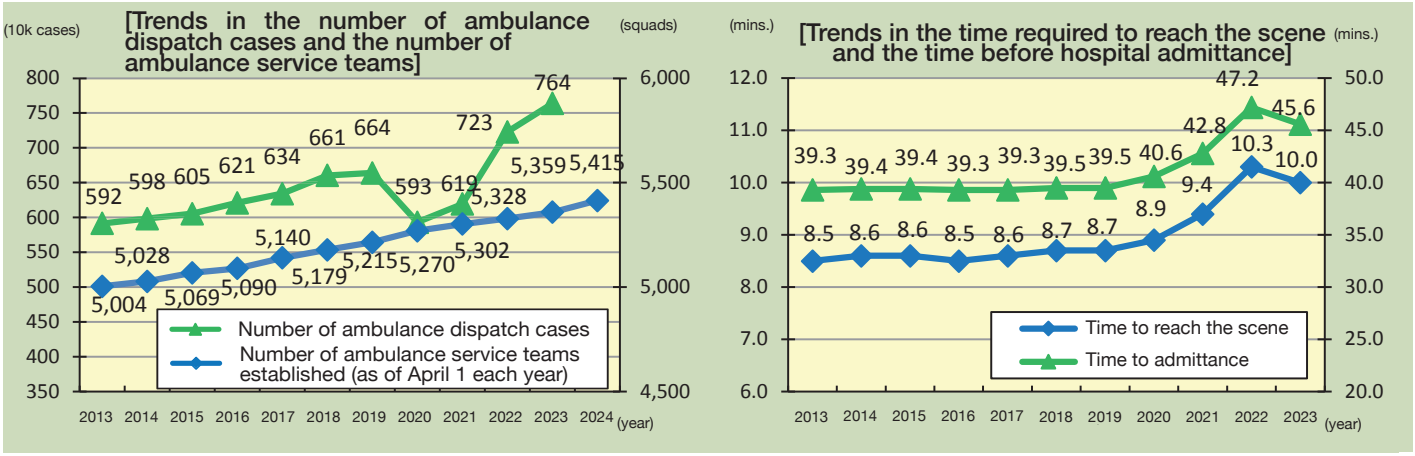
○ The majority of deaths from fire occur in residential fires.
○ The number of residential fire incidents in 2023 was 11,361 (578 more than the previous year), and the number of fatalities was 1,023 (51 more than the previous year).
○ The installation rate of residential fire alarms is increasing every year. As of June 1, 2024 the rate nationwide was 84.5%, and the rate of compliance with regulations 66.2%.



Notes: 1. Prepared based on “Fire Report” and “the Survey Result Residential Fire Alarm Installation Status“
2. The installation rate: The share of households that have installed residential fire alarms in at least one location of the sections of their home in which they are obligated to do so by municipal fire prevention ordinances (including households that are exempt from installing residential fire alarms on account of having installed fire alarm systems, etc.) out of the total number of households.
3. The ordinance compliance rate: The share of households that have installed residential fire alarms in every section of their home in which they are obligated to do so by municipal fire prevention ordinances (including households that are exempt from installing residential fire alarms on account of having installed fire alarm systems, etc.) out of the total number of households.
4. The number of residential fires and the fatalities in residential fires in 2024 are not yet determined.

Elementary Item | Ambulance System **Status of Ambulance Service Operations**

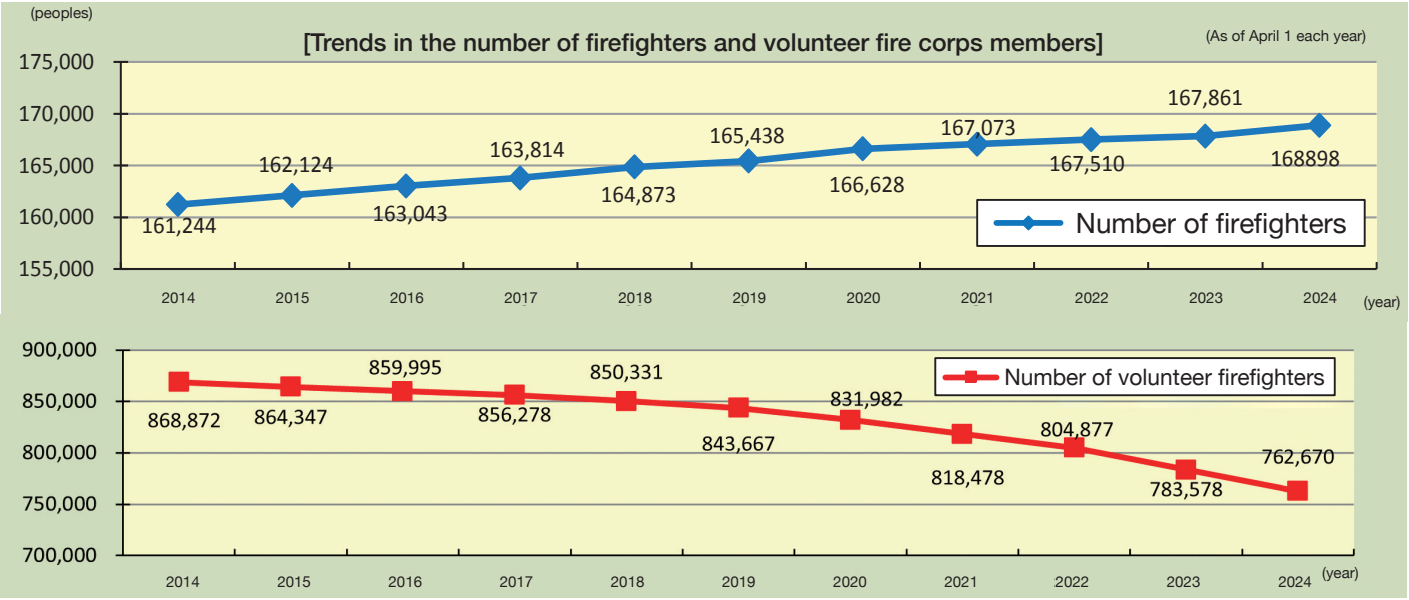
- ○ The number of ambulance service dispatch cases in 2023 was approximately 7,640,000 (an increase of approximately 410,000 compared to the previous year).
- ○ As of April 1, 2024, there were 5,415 ambulance teams (an increase of 56 compared to the previous year) .
- ○ In 2023 the average time required to reach the scene was approximately 10.0 minutes (an increase of approximately 1.3 minutes compared to 2019, the year before the novel coronavirus infection disaster (hereinafter referred to as the “COVID-19 pandemic”)).
- ○ In 2023 the average time before hospital admittance was 45.6 minutes (an increase of approximately 6.1 minutes compared to 2019, the year before the COVID-19 pandemic).



Notes: 1. Prepared based on “Fire Report”
2. The graph on the left refers to the left column regarding the number of ambulance dispatch cases, and to the column on the right regarding the number of established ambulance teams (as of April 1st of each year)
3. The graph on the right refers to the left column regarding the time required to reach the scene, and to the column on the right regarding time before hospital admittance

Elementary Item | Firefighting System **Fire Defense Organization**

- ○ Fire departments (as of April 1, 2024)
- ○ There are 720 fire departments, with 1,716 fire stations. There are 168,898 firefighters (an increase of 1,037 compared to the previous year).
- ○ Volunteer fire corps (as of April 1, 2024)
- ○ There are 2,174 volunteer fire corps, with 746,681 volunteer firefighters (an increase of 15,989 compared to the previous year).
- ○ Volunteer fire corps are the non-standing firefighting agencies in the municipalities. They are in every municipality.



Notes: 1. Number of firefighters created using the “Survey on the Current State of Fire and Disaster Prevention and Earthquake Countermeasures”
2. Number of volunteer firefighters created using the “Survey on the Current State of Fire and Disaster Prevention and Earthquake Countermeasures” and the “Survery Regarding the Organization of Volunteer Fire Corps”the total number of households.