

Layer 1 :

Overall vision of creating a livable and sustainable city



The goal is to lay the foundation for urban sustainable development and formulate relevant strategies for implementation by embracing the spirit of “urban SDG”. The planning of sustainable development strategies for this City began in 2004 in response to the impacts of climate change. The Sustainable Development Council was established in the same year to strengthen efforts in the fields of environmental protection, social equity, and economic development on the foundation of the global sustainable development framework. The promotion efforts by this Council over many years resulted in 6 core visions, 47 sustainable development indicators, 79 action plans, and 145 concrete works based on the overall vision of Livable and Sustainable Taipei city and the three major dimensions of “Engagement of Environmental Regeneration and Resource Circulation”, “Promotion of Social Security and Sharing Society”, and “Smart Growth of Economy and Technology”.

Layer 2 :

Corresponding SDGs for the city's visions



This report aims to match the six core visions of sustainable, ecological, clean, safe, cultural, and industrial which are included in the overall vision of Livable and Sustainable Taipei city to corresponding SDGs. Only four goals (SDG 5 Gender Equality, SDG 10 Reducing Inequality, SDG 14 Life Below Water, and SDG 16 Peace, Justice, and Strong Institutions) out of 17 were not taken into account.

However, SDG 10 Reducing Inequality and SDG 16 Peace, Justice, and Strong Institutions are mentioned on the sustainable development strategy roadmaps of Taipei City. In addition, a gender equality office has been established to formulate gender indicators, and SDG 5 Gender Equality is taken into consideration for administrative practices. Only SDG 14 Life Below Water was therefore not taken into account.

Layer 3 :

Selection of SDGs as development priorities



At the goal level, international cities directly apply the 17 SDG goals and analyze the correlation between the 17 goals and existing sustainable development goals and plans of the city to determine the SDGs with the highest correlation or achievability. Drafts of development priorities for this City which have been formulated in accordance with the following procedures were submitted to expert consultation meetings and the Sustainable Development Council for final decision upon deliberation.

1. Research project : The Secretariat of the Sustainable Development Council conducted a research project to plan sustainable development strategies of Taipei City based on the SDGs and assess the applicability of SDG indicators
2. Analysis of the operations of each city government department: Analysis and organization of operations, functions, authorities, responsibilities, and policy and plan reviews of each department in cross-departmental meetings to conduct an assessment of development priorities
3. Feedback: Provision of feedback by responsible personnel of all departments upon completion of required training
4. Comparison of existing policies and indicators: Analysis of the correlation between the 17 SDGs and the city's current sustainable development vision, sustainable development plans, strategy roadmaps, or relevant plans to generate drafts of development priorities for Taipei City

The drafts were submitted to external expert consultation meetings for review upon deliberation. All goals were screened based on their importance and high priority goals were selected in accordance with the following principles.

1. Goals must be related and achievable
2. Goals must correspond to local government authorities and responsibilities
3. High-priority items are selected based on development differences

The seven high-priority development goals selected by Taipei City are shown below.

Target and Indicator items have been determined based on the selected goals. Concrete implementation results are compiled, organized, and disclosed in this report.

- **SDG 3** Ensure healthy lives and promote well-being for all at all ages
- **SDG 6** Ensure availability and sustainable management of water and sanitation for all
- **SDG 7** Ensure access to affordable, reliable, sustainable and modern energy for all
- **SDG 11** Make cities and human settlements inclusive, safe, resilient and sustainable
- **SDG 12** Ensure sustainable consumption and production patterns
- **SDG 13** Take urgent action to combat climate change and its impacts
- **SDG 17** Strengthen the means of implementation and revitalize the global partnership for sustainable development



Layer 4 :

Other SDGs related policies and assessment indicators

During the compilation of this report, comparisons and reviews were conducted based on the sustainable development strategic planning of this City in line with the SDGs spirit of “Leaving no one behind”. In addition, other SDGs related policies and assessment indicators adopted by Taipei City were reviewed. Sustainable development strategies represent a principal axis of the administrative policies of the city. Eight strategic themes, 104 strategic goals, and 257 indicators have been determined based on the vision of “Livable and Sustainable Taipei city”. This City has further formulated healthy city indicators, urban competitiveness indicators, and sustainable development indicators which can be linked to SDGs and are revisable in the future.



Prioritized Promotion Objectives and Outcomes



Photo by tingyaoh on pixabay.com



Prioritized Promotion Objectives and Outcomes

This chapter mainly presents Taipei City's promotion of sustainable development strategies and the results. According to the results by seven task forces set up by the city's Sustainable Development Council, the city's sustainable development is summarized and compiled, focusing on seven prioritized promotion goals described below.

3 GOOD HEALTH AND WELL-BEING



SDG 3

Ensure healthy lives and promote well-being for all at all ages

This city has been implementing the Healthy City Project in accordance with the World Health Organization (WHO) of the United Nations since 2002 to fulfill its mission of serving its residents and promoting urban innovation and achieve the goal of "Health for All" set by the WHO in 1986. The healthy city and safe community concepts are implemented in six administrative districts respectively with reference to international indicators and the needs assessment of city residents. As of 2011, the city was fully committed to participation in international organizations. In addition, the 12 administrative districts of the city started to jointly promote the Age-Friendly City concepts in response to the rapidly growing ageing population in 2012.

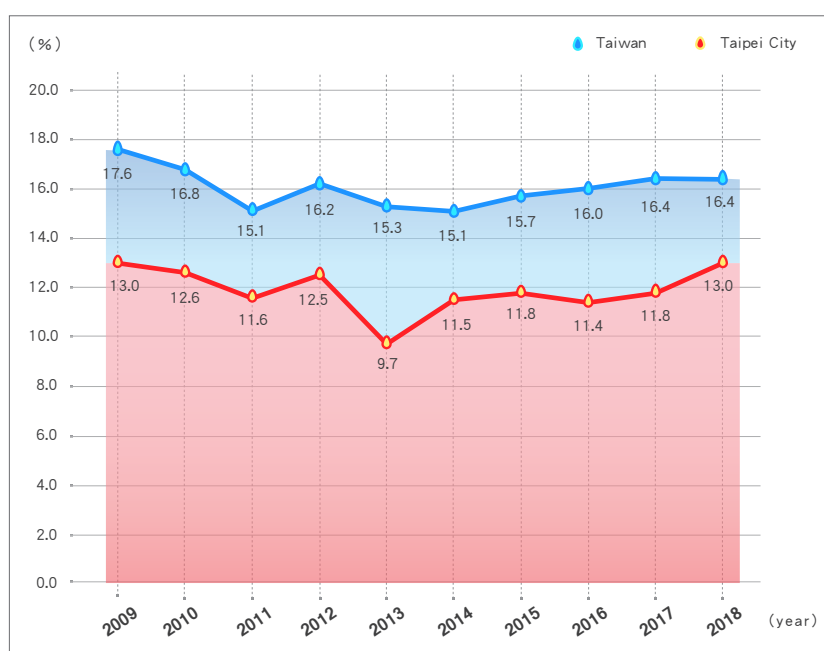
Community health building has been adopted as a pioneering model for the integration of the three major concepts of healthy city, age-friendliness, and safe community to successfully deal with problems associated with urbanization and population ageing. The initiative which aims to promote the healthy city concept and align with the global agenda is divided into the five dimensions of ecological sustainability, convenience and prosperity, safety and security, friendly culture, and health and vitality.

City's Current UN Sustainable Development Targets

- ♥ 3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
- ♥ 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
- ♥ 3.C Substantially increase health financing and the recruitment, development, training and re-tention of the health workforce in developing countries, especially in least developed countries and small island developing States.

Indicator	Latest Data	Past Data
Immunization coverage (%)	40 (2018)	38 (2017)
Physicians(per 100,000 population)	546.6 (2018)	546.4 (2017)
Suicide mortality rate (per 100,000 population)	13.0 (2018)	11.8 (2017)

Establishing a Government-Level Suicide Prevention Center



▲ Taipei City and Taiwan Suicide Mortality Rates per 100,000 Population from 2009 to 2018

In view of the extensive suicide causes, the city has established a government-level suicide prevention center to building capacity for suicide prevention, integrate the bureaus and offices and private resources, provide diverse planning and integrative measures, and set up a comprehensive network of suicide prevention to effectively curb suicide behaviors.



The suicide prevention strategies include conducting relevant activities to strengthen health education and promotion, continuing to develop the professional skills of center staff, strengthening care visitation services for attempted suicides and high-risk cases, coordinating professional private organizations to provide cases with continuous visitation services, compiling the “Safety Manual for Falling Prevention” to prevent suicides from jumping from heights while strengthening the promotion of community building fall safety in order to restrict access to lethal means.



▲ Safety Manual for Falling Prevention

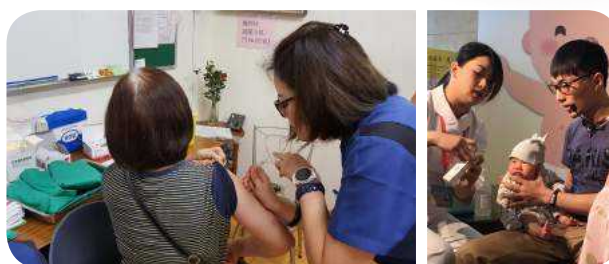


◀ Set up Falling Prevention Control Label nearby Guard Office

Providing Free Vaccination for High-risk Groups

Since vaccination proves to be the most effective intervention measure for infectious diseases, in order to enhance protection for infants, children, the vulnerable, elderly, and high-risk groups, the city has continued to carry out influenza vaccination, rotavirus

vaccination, pneumococcal vaccination, routine vaccination policies to maintain high vaccination completion rates and gradually introduce new vaccination plans. At the same time, vaccination effectiveness, vaccination service quality, and related infectious disease prevention and control effectiveness have been comprehensively enhanced to protect citizen health and reduce the threat of disease.



▲ Vaccination

Promoting the Community Integrated Care Service Plan

With the city's accelerating population ageing and increased long-term care and medical needs, the existing long-term plan services each have its own norms and service situations, lacking cross-disciplinary, cross-departmental, and cross-medical system integration. In order to integrate the expertise of health and social administrative units and properly carry out labor of division, new community integrated care service plans have been promoted. Through integrative medicine and mobile home services, the frequency of elderly hospital visits and repeated medication administration can be reduced to avoid medical resource waste, thereby providing more comprehensive and convenient medical and care services despite long-term care manpower shortages and limited subsidies.

Since the promotion of this plan in September 2016, cross-disciplinary teamwork, health and social administrative resources have been integrated. With the case service-centered single portal, integrative services are provided to people with disabilities. Since the readjustment of the community integration care

system ABC service mode under the long-term care policy of the Ministry of Health and Welfare in December 2017 into the medical and care integrative services beginning April 2018, the complex cases requiring professional teamwork were targeted to provide integrative services, establish a family care support service mechanism, construct community resource networks, and advocate long-term care services.

The plan has set up bases in Datong, Songshan, Neihu, Zhongzheng, and Wenshan districts since 2017. Beginning April 2018, the service bases have been extended to all 12 administrative districts of Taipei City. In 2017, 453 people received services; in 2018, 1,081 cases of persons with disability were found through the mobile home service, the case-by-case service was offered to 1,448 persons, 6,762 persons accessed online inquiries. Service bases were set up within the consigned regions, and health promotion and family caregiver support activities were held three times a week, accounting for 1,417 sessions in total and 19,304 persons. In 2019, activities will continue to be promoted and conducted to benefit more long-term care service cases and their families.

Press conference on the opening of the community integrated care services for the 12 administrative districts of the city ▼





Cancer Screening and Advocacy

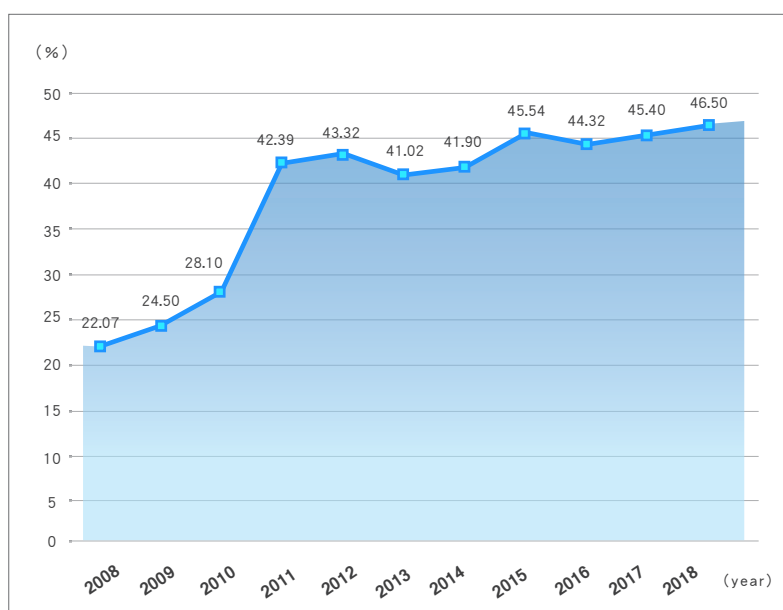
Cancer has ranked number one among the ten leading causes of death in Taiwan for 46 years. According to research data, large-scale pop smear can reduce the incidence and mortality of cervical cancer by 60-90%, while periodic mammography and fecal occult blood examination and oral mucosal examination can also effectively reduce mortality rates of breast cancer, colorectal cancer, and oral cancer. In order to protect the city residents from the threat of cancer and improve their health, the city continues to actively promote the screening of four cancers (cervical cancer, colorectal cancer, oral cancer, and breast cancer) in order to detect cancer early for early treatment.

The city has gathered the white power including medical institutions and medical associations, as well private resources such as non-governmental organizations (NGO) and groups to build health stations and link the strengths of the masses to “serve city residents and innovate for the city” in



▲ Cancer screening activity

concerted efforts. A diversity of channels are used to actively provide city residents with cancer prevention health education advocacy, screening, referral, or health consultation services, including betel nut health hazard prevention advocacy, periodic screening reminder service for the city residents, the promotion of integrative community and workplace cancer screening, etc. Additionally, the “Cancer Screening Management Center” has been set up to carry out referrals after establishing cases tested positive, thereby effectively monitoring and evaluating the number of high-risk group screenings.



▲ Trend of screening rates of four cancers in Taipei city within 10 years



Elderly Social Participation Services

In order to encourage the elderly to continue promoting and enhancing social participation to prevent or delay ageing, the communities provide local services, coupled with relevant welfare resources, the provision of care visitations, telephone greetings and inquiries, referral services, catering services, health promotion, and other diverse services, so as to establish a continuous care system. As of 2018, the number of care service bases totaled 395 locations. Through subsidies for private groups, bottom-up public participation, safe communities that safeguard elders have independently formed, which protect the living safety and mental and physical health of elders, which enhance their quality of life.

Drug Use Prevention Strategy for Minors

In order to control the recidivism of juvenile drug offenders, the city has developed all-rounded services and multi-modal treatments to cope with the issue. The relevant bureaus and divisions have also been integrated to develop preventive strategies and cooperate in undertakings. The Ministry of Education adopts three levels of preventive measures, namely, prevention advocacy, inspection and screening, and community service counseling, to execute campus drug abuse prevention work; police stations also strengthen investigation on whole-class drug crimes, while the Juvenile Affairs Division of Taipei City Police Department (Juvenile Counseling Section) conducts juvenile crime prevention, counseling services for juveniles displaying deviant behaviors, counseling for juvenile groups, education advocacy, and so on; after the Department of Social Welfare, Taipei City Government receives related reports, the Juvenile Welfare Service Center and relevant private groups will provide services and disciplinary parenting education targeting parents whose children use drugs.

For more serious juvenile cases, “special youth: youth integrative drug addiction treatment and medical subsidy services” are provided. Through case management services, protection, assistance, and addiction abstinence medical resources are integrated to provide the youth with drug abstinence services, develop addiction prevention community building, set up a drug addiction prevention system, hold cross-bureau and cross-division meetings, set up communication software groups, establish referral mechanisms, strengthen contact and information exchange among police stations and schools, etc., thereby strengthening horizontal links.



Establishing a Dementia Support Network

In order to provide comprehensive, high-quality and high-accessibility medical services for dementia patients, the city's seven hospitals and united hospitals have signed a contract to provide dementia checkups, diagnoses, and related medical services to citizens aged above 65. Targeting suspected dementia cases, initial screening, confirmed diagnosis, case requirement assessment, and other services are provided to monitor the cases and log in the city's dementia case management system, in the hope of enhancing care and quality of life for patients with dementia and their families.



▲ City resident undergoing dementia screening

Expand Nursery Service Model

Population growth is an important factor contributing to the sustainable development of a nation. An observation of Taiwan's demographic trends in recent years shows that the challenge of "low birth rates" has directly led to a population growth slowdown, resulting in a drastic decrease in the young and middle-aged population, affecting the country's future tax revenues, labor, and economic growth, which pose a threat to national development and competitiveness. It is the city's goal to resolve the problem of day care for double income families, encourage childbirth, and construct a friendly childbirth and child rearing environment.

In order to lessen the burden of child rearing and child care on parents and provide childbirth and child rearing incentives to encourage the population at the right age to get



married and have children. The city plans to through advancing construction expansion set up additional small and large public nursery facilities (including two modes: private management of public nursery centers and community public nursery homes) in social housings, campus free spaces, urban renewal feedback welfare facilities, and other bases. As of 2018, 70 locations were set up, accommodating 1,425 infants and toddlers and providing affordable, high-quality, community-based, high-accessibility preschool services and care to families with children rearing needs. At the same time, through multi-policy incentives, high-quality private nursery centers and home nannies are encouraged to join the city's publicization service units, construct public-private cooperative care, expand the city's overall nursery service supply momentum, and move toward the goal of making parents rest assured that they can send their children to nursery and go to work with peace of mind.

▼ Public nursery facility site educare activity





SDG 6

Ensure availability and sustainable management of water and sanitation for all

Relevant initiatives include the establishment of a safe water resource management system for the whole process from the stable supply of safe tap water to the proper treatment of sewage as well as the enhancement of existing water supply network facilities and monitoring systems. The goal lies in the reduction of water resource losses during the water supply process, and the promotion of reclaimed water use and rainwater recycling in order to fully utilize water cycling and reuse.

City's Current UN Sustainable Development Targets

- 💧 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- 💧 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

Indicator	Latest Data	Past Data
Tap water quality achievement rate (%)	100 (2018)	100 (2017)
Wastewater tertiary treatment ratio (%)	0.90 (2018)	0.67 (2016)
River biochemical oxygen demand in line with water classification benchmark achievement rate (%)	93.05 (2018)	-

Providing Stable Tap Water Sources

Taiwan ranks 18th among the world's most water-stressed countries. Water resources are very precious, and a water reservoir plays a very important role in storing water resources. How to effectively enhance reservoir water utilization rates and promote the sustainable management of reservoirs remain very important issues at hand.

Feitsui Reservoir is an important livelihood and public water source for the Greater Taipei metropolitan area. Currently, the water supply can accommodate up to five million people; in the future, it is expected to accommodate up to six million people. In order to ensure Feitsui Reservoir can meet water supply needs and construct Greater Taipei into an environment without water shortages. In the future, reservoir operations must continue to be improved so as to strengthen water resource utilization. An increase in reservoir water source utilization not only ensures water supply stability, but also reduces the flushing volume during typhoons and floods as well as the occurrences of reservoir downstream flooding. In order to increase reservoir water utilization, the “Feitsui Reservoir Stable Water Supply Plan”, the “Feitsui Reservoir Intelligent Management Plan”, and the “Feitsui Reservoir Operation Plan” have been drafted.

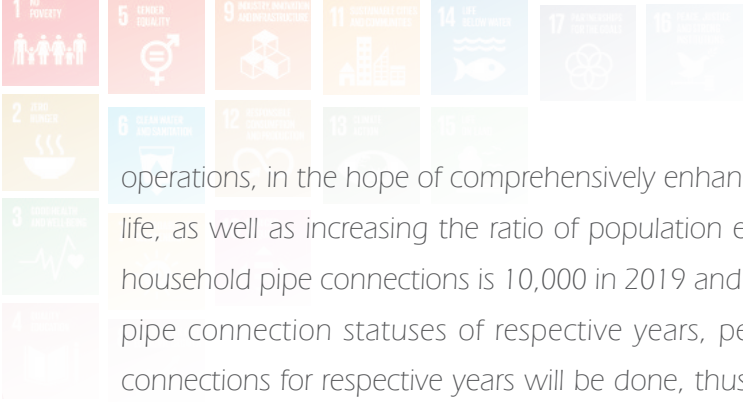
Water Supply Pipe Network Improvement Strategy

In view of the water resources becoming increasingly scarce, in order to effectively use water resources, prevent system leakage, and reduce the water leakage rate, the city has planned 20-year “Water Supply Pipe Network Improvement and Management Plan” long-term strategic approach (Year 2006~2025) to be executed in four stages. At present, Stage 3 is in progress (Year 2016~2020), thereby comprehensively promoting the “regional water quantity measurement” engineering method to control water leakage improvement effectiveness. In addition, according to the water leakage management strategy for pipe network water loss recommended by the International Water Association (IWA), pipeline replacement, water pressure management, voluntary water leakage detection, and leakage rate quality serve as the four main directions for perfecting the water supply pipe network system and gradually reduce water leakage rates by taking a combination of measures.

Proper Sewage Treatment Strategy

The city’s proper sewage treatment strategy involves collecting family wastewater, business wastewater, etc., through the sewer system to the sewage treatment plant, which purifies and properly disposes wastewater until it meets the national effluent standard for discharge.

In 2019, the city actively conducted Phase 5 pipe network engineering and user discharge equipment engineering in respective administrative districts of Taipei City; the Phase 6 engineering project (Year 2020~2023) will continue to be conducted, with appropriate engineering methods adopted to continue promoting user pipe connection engineering and conducting pipe life extension



operations, in the hope of comprehensively enhancing household pipe connection rates and prolonging pipe life, as well as increasing the ratio of population entitled to wastewater treatment. The targeted number of household pipe connections is 10,000 in 2019 and 8,000 by 2020 and 2021. Additionally, based on the actual pipe connection statuses of respective years, periodic revision on targeted numbers of household pipe connections for respective years will be done, thus sequentially enhancing the ratio of population entitled to wastewater treatment.

Improving Water Contamination Improvement Rates

The city's implementation of the water pollution source control permit system targets water pollution prevention measures for adoption by business entities, including: self-setup (wastewater) water treatment facilities, recycling and reuse, storage, inclusion for sewer system treatment, consigned treatment, and other methods. According to regulations, a permit application is required by law in order to fully grasp pollution source data. Water pollution source control requires periodic declaration of wastewater treatment facility operations, effluent water quality and quantity testing and electricity consumption records as provisioned, thereby supervising normal operations and maintaining wastewater treatment facilities, as well as strictly executing terminal inspection and control work.

Creating Excellent Water Quality Actions

In terms of water pollution prevention, construction sites, the city's controlled businesses mainly focus on community sewer systems, hospital and medical institutions, and tourism-oriented hotels. In order to grasp business and community sewer system pollutant discharge, controlled business and sewer system pollution inspection will continue to be strengthened, with the controlled target inspection rate of 100% as the target. Moreover, effluent quality is timely sampled and tested, and traders are urged to implement the normal power-on, operation, and proper declaration of sewage treatment facilities, so as carry out water pollution prevention work.

The city promotes citizen participation in water environment patrols and river conservation, thus purifying rivers, reducing pollution, and expanding environmental education on water through citizen power. The city's water

environment patrol consists of 19 teams whose total patrol range stretches 102 km, including the Jingmei River, Xindian River, Keelung River, and Danshui River and who forms a rigorous monitoring network covering rivers in Taipei City. River cleaning and river purifying activities are also regularly held to enable city residents to be closer to rivers and join to safeguard the water environment in concerted efforts.

Furthermore, at Guandu Natural Park, the Shuimokeng River wetland operation and maintenance are done. Water improvement is done through natural purification engineering methods, with the water treatment capacity exceeding 2,500 CMD.



▲ Recycled water intake at Neihu Sewage Treatment Plant

Comprehensively Enhancing Recycled Water Usage

After sewage has been properly treated in the treatment plant, the city adhering by the spirit of the circular economy to enhance the “ratio of three levels of waste water treatment” to increase the comprehensive recycling and use capacity for use by other units free of charge. Recycled water for water plants, environmental cleaning, street cooling, and other non-human contact uses are actively promoted, which combined with environmental education

courses promote the advantages of recycled water and the importance of water resource recycling and use.

Sewage treatment upgrade and recycled water quality and quantity enhancement continue to be promoted. The recycling capacities of the city’s Dihua Sewage Treatment Plant and Neihu Sewage Treatment Plant account for 10,000 CMD and 20,000 CMD respectively. After treatment, water is provided for factory wash use, plant watering, road cooling, equipment cleaning, and secondary water use by the general public. From 2015 to 2018, the average monthly recycled water usage reached 216,201 m³, equivalent to the saving about 36.04 million bottles of 600c.c. bottled water each month.



▲ Recycled Water Reuse

Rainwater Recycle and Reuse

In order to promote the recycle and reuse of park rainwater, the Parks and Street Lights Office, Public Works Department, Taipei City Government promoted the setup of rainwater harvesting in 17 parks from 2015 to the end of 2018, with the total capacity of 996.43 m³ for irrigation and secondary water resource uses. In addition, rainwater harvesting with the capacity of 467 m³ were set up in 95 schools, including: Minsheng Elementary School, Dongmen Elementary School, Taipei Municipal Zhishan Elementary School, Guting Junior High School, etc.



▲ Rainwater harvesting at Xiangshan Park



SDG 7

Ensure access to affordable, reliable, sustainable and modern energy for all

Photovoltaic systems are established and promoted through joint efforts of the public and private sector with a focus on model installations in idle spaces of the city. This includes the installation of PV systems at decommissioned landfill sites which are transformed into green energy eco-parks and public recreation areas. This initiative places equal emphasis on activation of idle landfill sites and development of renewable energy sources. In addition, subsidies are provided as an incentive for the private sector to install more PV systems and gradually increase green energy capacities year by year.

Efficient energy use is the key to sustainable energy. Social housing projects serve as a bellwether for the establishment of smart energy management systems that facilitate analysis and control of power use conditions and enhancement of energy use efficiency. In addition, an Energy Conservation and Renovation Service Program for underprivileged families in communities has been adopted to maximize energy conservation effects and promote social welfare.

Promoting the Solar Photovoltaic System Setup

In order to achieve the goal of promoting “advanced energy efficiency & conservation cities”, the city has actively installed solar photovoltaic equipment. The solar energy planning in public facilities, and open spaces enhances the rate of increase in renewable energy and creates sustainable energy development.

In order to accelerate the effectiveness of solar photovoltaic power generation equipment installation, solar photovoltaic power generation equipment has been extensively installed in both the public and the private sector. For the public sector part, the “Guidelines for city-



▲ Waste landfill converted into an energy hill

owned public premise installation and use of solar photovoltaic power generation equipment” was promulgated in 2016. The respective agencies and schools may subsequently conduct “city-owned public premise installation and use of photovoltaic power generation equipment” tender operations. Beginning 2016, an additional 8,600 kWp has been installed. It is expected that at least an additional 10,000 kWp will be installed by 2019. A subsidy fund has been allocated for solar photovoltaic power generation equipment installation by city residents or businesses, which is expected to boost their willingness to do so.

From 2007 to 2014, 39 schools (48 locations), Taipei Municipal Lishan High School included, were assisted in installing the rooftop solar photovoltaic system, with the setting capacity of 871 kWp. From 2017 to 2018, according to the “Guidelines for city owned public premise installation and use of solar photovoltaic power generation equipment” 40 schools (40 locations), Lanya Elementary School included, completed the setting 6,474 kWp in total.



▲ Installation of solar photovoltaic system on school rooftop

Energy Welfare Plan for Disadvantaged Families

The city has actively promoted work related to economizing on electricity. In addition to encouraging households to replace existing for energy-efficient equipment, targeting economically deprived families, the “Energy Welfare Plan for Disadvantaged Families” was launched in 2015. Targeting the mid- and low- income households listed in the manual, the professional team visited the household sites to evaluate their needs and replace their old lighting with energy-efficient lighting, not only economizing on electricity, but also enhancing electricity efficiency, thereby achieving the benefits of reduced lighting electricity consumption, energy efficiency & conservation, and carbon reduction.

From 2015 to 2018, 2,700 mid- and low-earning households received services, replacing about 20,000 lights in total, saving 970,000 kWh of electricity consumption annually. After the replacement, each household can on average save about NTD 1,200 on the electricity bill a year. The energy welfare plan will continue to carry on in 2019, expecting to serve 2,000 disadvantaged



families or a cumulative 4,700 households that will be benefited in four years, saving 2,000,000 kWh of electricity. Through environmental protection combined with care for the disadvantaged, the virtuous cycle of social goodness and love will be promoted.

- ◀ Energy-efficient lighting replacement and installation in a disadvantaged family

T Social Housing Smart Grid Flagship Plan

This city adopted nine locations, namely, “Hsinglung social housing in Wenshan District (Area 2)”, “Youth social housing in Wanhua District”, “Dongming social housing in Nangang District”, “Zhongnan section social housing, Nangang District”, “Phase 2 Youth social housing, Wanhua District”, “Minglun social housing in Datung



District”, “Ruiguang social housing in Neihu District”, “Liouzhangli camp area (A, B streets), and Xinyi District”, “Guangtuzobai Park, Xinyi District”, a total of 5,134 smart social houses, to jointly construct a large smart grid empirical flagship field. The accumulation of Hsinglung’s smart community empirical experience will contribute to the creation of a new generation of smart social houses, and different levels of energy management systems and advanced information and communication technology (ICT) plans will be imported as the development vision to enhance social housing living and service standards. Additionally, through the analysis and control of smart grid and energy management systems, energy utilization effectiveness can be enhanced. It is also anticipated that the benefits of 10% household economizing on electricity and 20% peak load reduction can be achieved, thus saving electricity costs and stabilizing urban electricity supply. It is also expected that the overall benefits shown serve as a guide exerting an influence on other social houses and private houses.

It is expected that, under the promotion and guide of this plan, combined with research technology integration, the establishment of specifications and standards, government conduction experience sharing, and other package measures, the city’s vision of promoting smart grid importation into houses can be gradually expanded to comprehensively implement smart grid development, effectively alleviate the risk of power shortages, and achieve the goals of energy conservation, carbon reduction, and power transmission and distribution system pressure.

In addition, in response to Taiwan Power Company's granting users access to participating in demand response measures. Through reasonable distribution, reward for reduced electricity consumption is given to users to encourage low-voltage users to take energy efficiency & conservation actions and promote metropolitan areas' promotion of demand response load management measure. The city will also carry out social housing integration, turning it into a virtual power plant and continuing to cooperate with Taiwan Power Company in promoting the "demand bidding test for small-scale low-voltage users". The energy efficiency & conservation strategies and practices in this plan are as follows :



ICT standard equipment manufacturers shall install digital meters behind Taiwan Power Company's meters and compile data information to building energy and community energy management systems through a signal interface in parallel with energy monitoring, control, and unloading functions of energy management systems and smart building integration management platforms. According to needs, demand control and equipment unloading mechanisms are provided, and a diversity of electricity consumption models and behaviors such as time of use (TOU) and time of bidding (TOB).

In the future, the family energy management system is expected to be imported into social housing, which will in turn promote joint participation by 100,000 private houses in the peripheral areas, thereby promoting the movement of "economizing on electricity by all". Social houses that import the family energy management system can on average save up to 10% electricity. From 2016 to 2019, 5,134 households in Taipei City have completed the importation. With the average electricity consumption of 4,836 kWh per household, it is estimated that about 2,482,802 kWh of electricity can be saved in three years.

Housing Building Energy Efficiency & Conservation Strategy

Targeting new buildings, the city signed the "City Environmental Protection Agreement" in 2005, proclaiming the determination to promote a sustainable development by incorporating "green buildings" in the action plan. Additionally, the Municipal White Paper clearly stipulates "the Regulation of Green Buildings in Taipei City setup" as the work focus. In 2014, the said regulation was promulgated; from 2015 to 2017, the relevant sub-regulations and package measures were subsequently set up.

With regard to existing buildings, buildings situated within the city's jurisdiction, licensed for more than five years, and those not listed by Taipei City Revenue Service as high-end residential houses levied an additional house tax, building management committees should file applications. For those that have not set up the building management committee, after obtaining consent from over 80% of house owners, one person will be designated as the representative who will file an application and submit the report of assisted evaluation and diagnosis by the Taipei City Construction Management Office or the plan execution report proposed by the architect who registered commencement of business. An application for green roof or green energy facility improvement is to be filed during the acceptance period, and approved funds will be granted after review by the review team.







SDG 11

Make cities and human settlements inclusive, safe, resilient and sustainable

Relevant initiatives include the establishment of a fast and convenient public transportation network and improvement of the quality and convenience of mass transit services which indirectly results in better air quality and reduction of environmental burdens. Diversified and intelligent transportation and information systems reduce public transport waiting times. In addition, free and accessible transit services and transportation subsidies are provided to underprivileged groups to give them access to convenient transportation services.

Disaster resilience and environmental sustainability are strengthened to enhance preparedness for natural disasters. This contains the formulation of district disaster management plans in consideration of disaster resilience and environmental sustainability to provide comprehensive planning and guidance for disaster prevention operations and to constantly promote and strengthen disaster risk governance. For the prevention and reduction of damage and losses caused by human-caused disasters, strong emphasis is placed on disaster prevention measures and evacuation drills.

City's Current UN Sustainable Development Targets

-  11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
-  11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.
-  11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
-  11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Indicator	Latest Data	Past Data
Annual number of public transport trips per capita	463.24 (2018)	—
Numbers of fire related deaths per 100,000 population	0.600 (2018)	0.819 (2017)
Estimated damages by natural disasters (Unit: NT\$1,000)	44,213 (2018)	73,614 (2017)
Total municipal solid waste generation per capita per year (ton/person-year)	0.463 (2018)	0.464 (2017)
Annual average concentration of fine particulate matter (PM _{2.5}) (μg/m ³)	14.6 (2018)	15.3 (2017)
Green space (hectares) per 100,000 population	533.66 (2018)	523.64 (2017)

Establish A Convenient Public Transportation Network

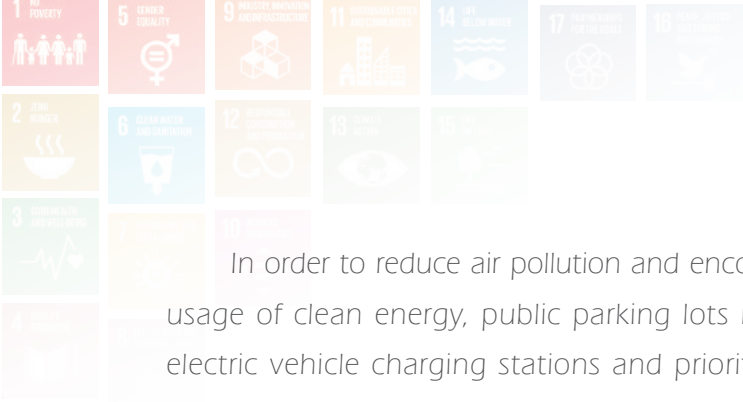
The backbone of the city's green transport network is Taipei Metro (comprehensive MRT routes), supplemented by buses (Taipei Metro Bus, transfer discounts, electric buses, low-floor buses, improved bus stop conditions and the "friendly bus movement"). In addition, last mile service for biking and walking is provided (better bike-friendly environment, YouBike program, bike lane, Neighborhood Traffic Improvement Plan and No Motorbikes on Arcades and Sidewalks Program). The city's public transportation system provides a high-quality and adequate public transport service. Various transport demand management measures have been implemented to reduce car/motorcycle usage.

Currently Taipei Metro has 117 stations, 131.1 km in operating network length and a daily average of 2.16 million passengers. 14 bus companies operate on a total of 290 bus routes with a daily average of 1.3 million passengers. In addition, to improve operation efficiency and safety, 15 bus-only lanes have been put in place to provide better and more convenient public transportation experience for the citizens.

The city's "Neighborhood Traffic Improvement Plan" provides better and safer walking space for pedestrians by marking sidewalks in alleys and lanes. The plan's mid-term measure is to establish a bicycle shuttle network, which will be used for transfer and shuttle across all Metro stations. The long-term measure is to mandate the expansion of sidewalks or open space during urban planning and urban design review and implement such mandate in urban planning measures to achieve sustainable development and develop a high-quality city environment.

Strategy to Promote Environment-friendly Green Transportation

In order to build a low pollution and emission city, Taipei City has promoted replacing old diesel engine buses with electric buses. As of the end of June 2019, a total of 22 electric buses are in operation. To encourage bus operators to quickly replace their old diesel engine buses with electric buses, Taipei City Government not only assists them in applying for bus purchase subsidy from Ministry of Transportation and Communications (MOTC), but also offers operators a mileage-based subsidy scheme (NT\$ 5 per km per vehicle).



In order to reduce air pollution and encourage the usage of clean energy, public parking lots now have electric vehicle charging stations and priority parking spaces are being planned. These measures aim to make an Taipei City more electric vehicle-friendly, improve air pollution condition and achieve green transportation. Currently, 91 public parking lots in the city have charging stations installed. The city has also required private companies contracted to operate public parking lots to install a certain number of charging stations to provide charging service free of charge following the contract termination.



▲ Mayor of Taipei renting a YouBike

Taipei City considers public bicycles as part of public transportation. To reduce the usage of private vehicles and encourage wider usage public bicycles, passengers transfer between Metro and bus within one hour of returning YouBikes will receive a NT\$5 discount beginning April 2018; passengers rent a YouBike in Taipei City within one hour of transferring between Metro and bus will have first 30 minutes free of bike rental. Furthermore, the monthly pass “All Pass Ticket” is introduced starting April 16, 2018 (introduced on April 16, 2018) at the price of NT\$1,280. All pass ticket holders are eligible for the 30-minute free rental for YouBike.

T Intelligent Management of Transportation Information

An intelligent transportation system can make transportation even more convenient for the general public. Taipei City has been actively promoting the development of Intelligent Transportation System (ITS). With ITS, bus information was transformed from the never-changing schedule into the constantly updated real-time information. Such information is even transferred to the OPEN DATA platform where private companies can utilize such information with added value. This also means more ways for the public to obtain the estimated time of arrival for buses (smart signs, apps, webpage, PDA and audiotext).

A survey shows that most people rely on smart signs for bus arrival information since they can provide such information to those without a cellphone, Internet access or access to the app. Anxiety level is reduced among commuters as these signs help them make informed choices on which public transportation to take. As of the end of June 2019, smart bus signs have been installed at more than 1,661 bus stops, accounting for 79% of all bus stops. It is estimated that 2,100 stops will have smart signs installed by the end of 2020.

Accessible Transportation Services



Wheelchair-accessible taxi provides ride service for the elderly, handicapped and disabled for the purpose of hospital visits school/work commute, or outing. As of the end of June 2019, wheelchair-accessible taxis have provided more than 490,000 trips to those in need. In the future, the city government will continue to expand the number of these taxis and encourage taxi drivers to provide accessible service.

In addition, to fully realize social welfare policies and take care of the handicapped, paratransit bus was presented in 1989, providing accessible transport services to the handicapped. There are 328 paratransit buses in Taipei City, which have provided approximately 300,000 trips from January to June, 2019. People with disabilities can reserve a ride online or by calling the hotline audiotext and voicemail. Contracted service providers will arrange vehicles and drivers based on the customer needs to provide accessible transport services to people with disabilities.



▲ Wheelchair-accessible taxi and paratransit buses

Transportation Welfare System

Taipei City provides transportation subsidies to children from low-earning households attending school above elementary school. Applicants must apply for the subsidy for each semester. For junior high students, the subsidy is NT\$500 each semester; for those attending high school students, the subsidy is NT\$1000 each semester; vocational school in Taipei City, the subsidy is NT\$1,500 per semester. A list of qualified applicants is compiled in each January and August and applications forms will be mailed to these applicants. Once they register for the semester, they can apply for the subsidy.

In order to encourage social participation among the elderly, transport fare subsidy was introduced in 1983, which was transformed into "Senior EasyCard" in 2003. A total of NT480 in credits are added to these cards each month automatically, which now can be used at Metro, Maokong gondola, certain

public venues, YouBike and double-decker sightseeing bus instead of being restricted to bus and taxi rides. This measure aims to encourage the elderly to use the free credits in Senior EasyCard on public transport systems or visit various cultural/recreational venues to lead an active and healthy life with more social participation.



▲ Scope of Senior EasyCard Use

Fire Prevention

Fire prevention strategies include promotion of fire prevention at home, continuously improving the professional skills of fire prevention promoters, conducting visits more frequently to areas/venues prone to fire and promoting and monitoring progress at high-risk areas and its surrounding areas. Various activities (for community members to participate) are conducted and booths (temporary or stationed) are set up for interactive promotion of fire prevention. In order to create effective disaster prevention promotion, works toward the goal of “prevention, reduction and response of disaster” are made, and “Disaster Preparedness Taipei manual” was compiled, which, with its simple and detailed information, helps raise disaster prevention awareness of all city residents.

With the city’s budget and donation from civil groups, Taipei City has been promoting the installation of home fire alarm devices. As of July 2019, 383,794 households have installed fire alarm devices. Among them were 320 cases of successful escapes, thanks to the fire alarm devices that went off.

The city will continue to devote resources from departmental units of the city and use various prints and electronic media to promote the installation of home fire alarm devices to reduce fire casualty and protect citizens’ lives and property.

Disaster Preparedness Taipei Manual ▶



Clean air movement

In 2016, the “Clean Air Movement Whitepaper” was launched. Taipei City Government, based on this whitepaper, worked to reduce air pollution and implement many action plans via cross-departmental collaboration. In 2018, the city introduced “Clean Air Movement 2.0”, which includes 10 action plans to tackle air pollution from the three aspects: low pollution, green transport and regional collaboration. Encouraging the citizens to use low-polluting transport systems, reducing the usage of private vehicles and cross-county/city collaboration will give citizens cleaner, healthier air that they can enjoy breathing. The annual concentration of PM_{2.5} of Taipei City dropped to 14.6 $\mu\text{g}/\text{m}^3$ in 2018, meeting the national average standard of 15 $\mu\text{g}/\text{m}^3$ for the first time.

Source Reduction and Management of Waste

As more people commute to Taipei City for work and international events are increasingly being organized in the city, there are various policies and tools dedicated to source reduction in order to remain the same amount of solid waste. “The Per Bag Trash Collection Fee” Policy, an economic incentive to encourage citizens to reduce waste and recycle more. Another policy is restriction on single-use plastic, which controls the use of plastic bag to reduce the number of plastic bags, utensils and cups used. Furniture recycling and repair promotion aims to extend the lifecycles of furniture, making the amount of solid waste not rising and decline year by year.

Urban Green Space

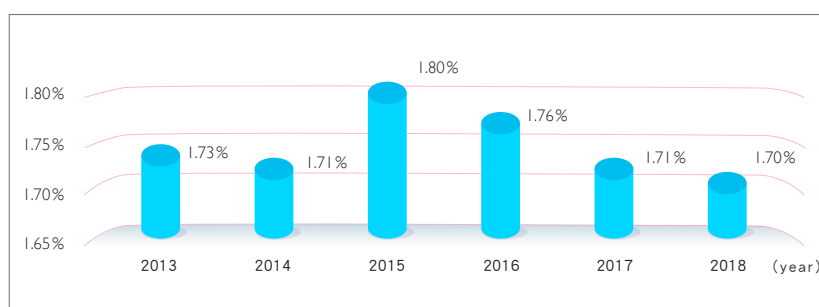
Parks and green spaces are referred to “a city’s lung”, as they protect the ecological system, provide beautiful landscape, prevent disasters and provide a venue for leisure purposes. In addition to improving environmental quality, parks and green spaces are also the best outdoor leisure spaces. Therefore, parks and green spaces have become a crucial indicator for a city's development and environmental quality.

In response to the citizens’ needs for higher environmental quality recreational purposes, it is crucial to continue to expand and maintain the parks, green spaces, squares, children’s playgrounds, riverside parks, protected areas and scenic areas in the urban plan. Between 2015 and 2018, the city had increased approximately a total of 385,062 m² of green spaces in Jingqin No.1 Park, Zhoumei Xian Zai Gang Park, North Gate Square, Taipei Travel Plaza, Chien-Cheng Circle and other locations. In order to increase the average green spaces per capita year by year, the target value will increase by 3 hectares of green space per year.

Low-income Assistance Program

There has not been much change in the poverty rate of Taipei City in the last five years, which is related to the slowly changing poverty threshold. Taipei City strives for an annual drop of 0.01% in its poverty rate while keeping it at the level of 1.70%. The city adjusts the minimum cost of living and amount of subsidy based on Public Assistance Act each year.

According to the Public Assistance Act, households falling below the poverty threshold can apply for various low-income household living assistances and counseling. As of July 2019, 20,821 household and 44,537 people (accounting for 1.67% of the entire city) were registered as low-income households. Low-income household



▲ Poverty Population Percentage Over the Years of the City

Note: Based on Article 4 of the Public Assistance Act, low-income households (poverty population) shall qualify under the following conditions: average divided monthly income among each person in the household falls below the lowest living index (NT\$16,580 in 2019); total household assets divided among each person falls below NT\$150,000; real assets of the family fall below NT\$7.4 million.

assistance includes family/children living subsidy, travel expense subsidy for children attending junior high or above, living subsidy for students above 18, childbirth subsidy, prenatal nutrition subsidy, holiday benefits, living subsidy for the handicapped and living subsidy for the elderly from mid and low-income households. In addition to financial assistance for low-income households, the city combines education, health and housing resources to meet the needs of the poor in schooling, medicine, employment and home care to maintain the fundamental life functions and dignity for the underprivileged. The city, to further assistance to the underprivileged, conducts counseling for the poor, provides measures to help them get out of poverty as well as provides employment transition counseling.

Implement Strategies to Reduce Disaster Risks based on Sendai Framework for Disaster Risk Reduction 2015-2030

In order to build disaster resilience and environmental sustainability, Taipei City has formulated “Taipei City Regional Disaster Prevention and Response Plan” as the comprehensive guidelines for disaster prevention planning to continuously promote and enhance disaster risk management. The plan took into consideration the nature of the past disasters that struck the city. In addition, Taipei City, in 2019, followed Sendai Framework for Disaster Risk Reduction 2015-2030 and reviewed all disaster prevention policies and their results and formulated concrete objectives and strategies to comprehensively promote disaster prevention awareness and capabilities.

Concrete Disaster Risk Reduction Targets

“Sendai Framework for Disaster Risk Reduction 2015-2030” proposed seven global targets. Taipei City Government, from the perspective of a local government, produced two major targets based on the framework’s seven global targets, which are “disaster mortality reduction” and “disaster vulnerability reduction (reduce the number of people impacted by disasters)”.

Managing Disaster Risk with Disaster Risk Governance

Various disaster prevention and response units continue to develop disaster prevention/response technologies to improve the speed and accuracy in disaster evaluation, monitoring and early warning. These technologies also help develop, update and publish location-based disaster risk information to serve as reference for decision-makers, general public and communities with high disaster risk. Taipei City Government implements the most effective way by providing age and demographic-specific disaster prevention education to help all understand the disaster risks at their environment, allowing them to take adaptive measures.

Understanding Disaster Risk

Being located in the Ring of Fire of the Pacific Ocean, Taiwan faces high disaster risks. On top of the threats from natural disasters such as typhoons, heavy rain and earthquakes, there are also threats from major traffic accidents, fires, plagues and other compound disasters. In light of this, disaster prevention and response requires much and immediate attention as the city works toward sustainability. Disaster risk management policies and their implementation should be based on a comprehensive understanding of disaster risks, including vulnerability, capability, human/asset risks, disaster nature and the surrounding environment. Relevant knowledge can contribute to better estimates of disaster risks, disaster prevention and reduction, the development and implementation of suitable disaster preparedness and effective response.

Invest in Disaster Reduction to Improve Disaster Resilience

Encourage both the public and private sector to improve the disaster resilience of the infrastructure and working areas through structural and non-structural measures. Promote disaster risk evaluation as a key component in the formulation and implementation of land policies. Promote disaster risk transfer insurance to enhance the disaster resilience of the society, community and personal property.

Enhancing Disaster Preparedness to Improve Disaster Response and Achieve the Goal of “Build Back Better” During Reconstruction

With various disaster potential simulations and risk analysis, Taipei City, after taking into account the impact of climate change and previous disaster experiences, adopts a policy with periodic adjustment and formulates SOP and checklists for different operations. The city reviews and improves its disaster prevention/response policies at all times to ensure solid execution of disaster prevention, preparedness and response.

Taipei City has, based on the spirit of all-disaster prevention, established a universal response system, which considers the universal needs from all disasters from the “result management” perspective and has one agency that is responsible for all disaster responses to design a universal response procedure with coordinated efforts from and for all departments.

It is crucial to take necessary measures to help the impacted community rebuild after a disaster strikes. Therefore an integrated coordination platform has been established to help the private sector to participate in post-disaster reconstruction. Key infrastructure and public buildings that have been affected will be reinforced to achieve the goal of “Build Back Better”, which makes the city and community more disaster resilient.

Periodic Evaluation of Implemented Matters and Public Progress Report

Chapter Four of Taipei City’s Regional Plan of Disaster Prevention and Response includes a disaster prevention and response evaluation mechanism as well as the annual disaster prevention budget chart. All agencies can, based on such information, formulate their specific short, mid and long-term implementation plans and operation guidelines, which will be included in the city government’s comprehensive disaster prevention and response evaluation for reviews.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION




SDG 12

Ensure Sustainable Consumption and Production Patterns

Cities are centers of human and economic activity and account for 60~80% of global energy consumption, 70% of global waste generation, and the major contributor of GHG emissions. Obviously, energy and resource circulation have become the key factors for sustainable development, making advancing circular economy crucial for the planning of long-term urban development. Prioritizing economic growth, the city government has therefore taken the initiative in integrating cross-departmental capabilities of the public sector in an effort to foster long-term urban development and create a livable environment for its residents. A Circular City Promotion Program has been adopted to realize circular economy concepts and to implement pragmatic and feasible measures.

The formulation of enforcement guidelines governing the banning of single-use and melamine tableware and implementation of plastic reduction policies is coupled with educational efforts to increase the willingness of citizens to bring their own shopping bags and tableware. The follow-up introduction of dual-use bags combine shopping bags and city designated garbage bags (a two-in-one strategy) into one and thus helps reduce the amount of plastic bags. The delivery of goods bank services, on the other hand, realizes sustainable consumption. Finally, leftover exchange platforms are promoted in public markets to encourage the donation of overproduced food to underprivileged families on the same day and thereby maximize the benefits of such food surplus.

City's Current UN Sustainable Development Targets

 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Indicator	Latest Data	Past Data
Annual average amount of collected hazardous waste per capita (kg/person-year)	3.49 (2018)	3.22 (2017)
Recycling Rate (%)	64.42 (2018)	62.02 (2017)

Promoting Plastic Reduction and the Dual-use Shopping Bags

In light of this policy, Taipei City rolled out the policy to encourage these venues to use the dual-use shopping bags. Hypermarkets, supermarkets and convenience stores can only sell these bags that can be used as both shopping bags and trash bags. For each one of these bags sold, one bag less will be used. Promotional materials (“Help reduce plastic bag usage by bringing your own bags, borrowing bags or buying the dual use bags”) have been posted at these stores to encourage the citizens.



▲ Promoting re-use of the dual use bags

Ban on Single-use Tableware

In response to the over use of melamine tableware, its hazardous effect on the environment and its possible health risks, guidelines of the ban on single-use and melamine tableware were formulated and provided to all organizations and schools, as an effort to promote waste reduction, energy efficiency & conservation, and carbon reduction, and environmental protection and safeguard the health of school faculty members, students and guests. Taipei City Government hopes that, by leading by example and promoting corporate social responsibility, the general public will also follow suit.

Promoting Used Book Exchange Platforms

To reduce waste from the source, promote recycling, prolong books' lifecycles and help the underprivileged, the first “Yenhuei (Extension of wisdom)” book bank for used books was established in Neihu in 2013. A cloud platform was established where people can apply online for book pickups and donations, helping them conserve time, maximize the value of old books and reduce waste paper. Since these free books can help underprivileged children obtain new knowledge, the government continues to encourage businesses, schools, NPOs and citizens to donate books to help the book bank deliver to more areas.



Reduce Waste

| Free Meal Plan

"Free Meal Station" Plan is implemented starting 2009. With private donations, the social welfare center works with partners (lunchbox restaurants, noodle stands and eateries, etc.) where food vouchers (prepared by social workers and distributed to underprivileged families in need) can be redeemed. Social workers will collect the redeemed vouchers periodically for accounting purposes and pay these partners using the aforementioned donations.

| Goods Bank Project

It has been discovered that most underprivileged families allocate most of their income for rent, utilities and education and leave little for food.

Goods Bank was established in 2011 with a total of 23 collection points. It collects donations from various sectors, including goods and money from private organizations, businesses and individuals. Food (including noodles, instant cereal, nutrition supplements and milk powder) and daily necessities (including diapers and toiletry) account for the majority of donations. Social workers will evaluate these donated items to deliver them to underprivileged families in need.

| Overproduced Food Exchange Platform

For environmental protection and waste reduction, Taipei City Government partnered with the Market Administration Office and launched the "Overproduced Food Exchange Platform". (2017) Market stands are encouraged to donate such food surplus of the day to the platform. Matched social welfare units for the elderly, people with disabilities and young children can pickup these food/ingredients at the market at a specific time, cook them and serve it to their clients. Social workers can, after evaluation, give these food/ingredients to family in need so that they can cook at home themselves. Currently six public markets have partnered to promote the platform. In 2019, the platform started working with Taipei Agricultural Products Marketing Co., Ltd and receiving the company's donations of inglorious fruit and vegetables.



▲ Goods collection storeroom at the Wenshan Social Welfare Center



▲ Shidong Market became the platform's first partner