# •S.3 Joyful living in HSP



Corresponding material topic: Local community `Traffic control `Life enrichment







#### Policy/strategy

- > To help employees in achieving a work-life balance through all-rounded development in terms of economic growth, environmental protection and community harmony
- To enhance the improvement and maintenance of the surrounding environmental infrastructure and quality of living. Subsidies are provided to local governments and township offices for projects such as traffic improvement, police and fire prevention, education and culture, in accordance with the Principles for Handling Construction Funds for Subsidies to Local Governments by Hsinchu Science Park Bureau and the Regulations for Reviewing Construction Funds for Subsidies to Local Governments for Unspecified Projects by Hsinchu Science Park Bureau, National Science and Technology Council.

# Targets and goals

Adhere to the philosophy of environmental protection, resources conservation and the sustainable coexistence of industry, environment and ecosystem, as well as promote the mutualism and sustainable development of technology and environment.

# Management evaluation system

The achievement of key performance indicators (KPI) is evaluated annually in accordance with the annual governance policies of Executive Yuan.

#### 2021-2022 performance and adjustment

- ➤ HSPB compiles monthly report on results of key measures implementation.
- Total tour bus rides reached 464,000 passengers in 2021 and 510,000 passengers in 2022.
- ➤ Conducted 56 environmental education activities on HSPB sewage treatment plan in 2021 with 1,509 participants and 47 sessions in 2022 with 1,882 participants.
- ➤ Environmental education programs for rural schools, with a total of 4 sessions and 140 students participating.
- ➤ HSPB conducted a total of 30 neighborhood cleanup activities.

# Prevention or remedial measures

- Launch National Cleanup Week
- Conduct activities to promote neighborliness in remote elementary schools
- ➤ Planning of park construction based on demand and subsidizing local constructions
- Carry out a variety of labor and welfare activities

#### S.3.1 Technology and Life Sciences

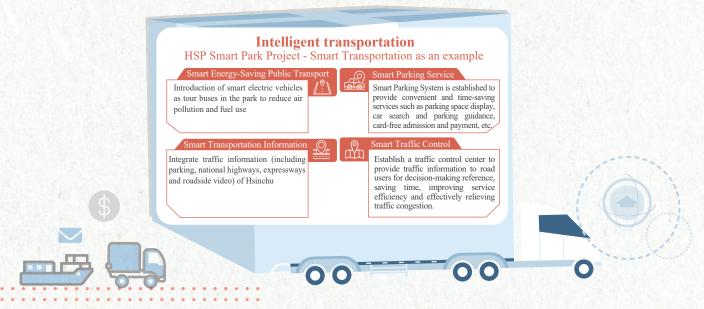
#### Application of ICT in developing Smart Park Project

NSTC has launched Using ICT Technology for the Development of Smart Park Project in 2016. The project won Gold Award of the 3rd Asia-Pacific Economic Cooperation (APEC) Energy Smart Communities Initiative (ESCI) Smart Transportation Gold Award in 2017, which fully demonstrated the technological strengths of Taiwan smart parks. In 2018, the project won the Merit Award of International Safety Awards (ISA) and was shortlisted for the International Data Corporation (IDC) Smart City 2019 - Smart City Asia Pacific Awards for Sustainable Infrastructure in 2019.

#### **Smart Park Development Project**

Policy	Installation Project
Smart Transportation	Energy-Efficient Public Transportation Network in the Park Smart Parking Service System Smart Transportation Information Service System
Smart Management	Environmental Management Information Website HSP 3D Geographic Information System (GIS)
Smart Sustainability	Smart LED Street Light System

In terms of transportation optimization, HSPB has implemented smart parking system, electric tour bus and smart traffic signage projects to improve intelligent transportation services. The smart parking system has introduced the license plate recognition and parking space occupancy detection systems, which effectively reduce the time spent by users and allow them to keep track of the parking status at instant. The green energy line from Taiwan High-Speed Railway (THSR) Hsinchu Station to Hsinchu Science Park has introduced electric tour buses, which not only serve the employees and residents along the park, but also save energy and reduce carbon emission. The total number of passengers in 2021 was 464,922 and 510,212 in 2022. The smart transportation signage provides real-time traffic information and users' reference. With the implementation of Program of Intelligent Transportation System of Hsinchu Traffic Corridor, the traffic congestion has been improved by more than 10%.



Regarding service efficiency, smart streetlights, smart air quality monitoring stations and wireless networks in public areas have been installed to expand the power of smart sustainability and smart governance. The smart streetlights can provide real-time information about the facilities online, which not only eliminates manual inspection, but also saves about 950,000 kWh of electricity per year. 12 air quality monitoring stations are set up and their monitoring results can be accessed through the Science Industrial Park Action Wizard App, providing instant environmental information to protect the public's rights. Besides, 29 wireless hotspots are set up to provide free Wi-Fi services to foreign visitors, employees and residents, serving approximately 855,000 visits per year.



National highway information



Parking space availability real-time information







Science Industrial Park Action Wizard 2.0 interface and download

In the future, HSPB will continue to introduce or apply advanced technologies to promote the development of smart and innovative transformation of the science park and help the high-tech industry to grow sustainably. Our experiences in promoting smart parks are expected to help other countries to contribute more smart applications, so as to drive the continuous growth and progress of the overall industry.

### **S.3.2** Convenient Living

HSP focuses on R&D of high-tech industries, linking related upstream and downstream manufacturers, industrial chains and diversified operations, gradually expanding into six parks. In order to meet the employees' needs in each park, HSPB is committed to improving the software and hardware facilities and creating a clustering effect. HSPB has taken into account the opinions of the six park manufacturers and the neighboring communities, hoping to create a harmonious park with quality industry and living environment by improving public facilities and providing daily services.

#### Residential and Recreational Facilities

The dormitory is strategically located facing Jingsin Lake and in the middle of greens, as if you are walking along the Royal Palm Boulevard. It is also equipped with sports facilities such as tennis courts, basketball courts, golf courses and swimming pools, providing residents with a variety of leisure options.

For the sake of improving quality of accommodation, HSPB has been planning to renovate and renew the old singleton dormitories since 2006. The renovation work of Yung-Yuen singleton dormitory has been completed in 2021 and is available for rent. The scope of renovation includes sanitary equipment, electrical and mechanical equipment, roof waterproofing, exterior wall cladding, etc. An additional lift was built to create a barrier-free environment. Due to structural safety concerns, the Xuan-Yuan dormitory has been demolished and rebuilt in 2019 and is expected to be completed and available for rent in 2024. Regarding the dorms for dependents' households, the construction along lakeside has been planned in 2022 and is scheduled to be completed in 2026 and can accommodate around 72 families. The existing dormitories will be renovated according to their conditions and will continue to be maintained and managed properly in line with personal and quality needs, so as to improve the employees' living environment.

On the other hand, most of the residents move in because of their children's school enrollment needs. The facilities of both playgrounds (next to Hong Yi Building and Xue Cheng Building) in the area have been tested by professional organizations and have safety concerns. In order to fulfil children's leisure needs, the improvement project of children's playground in the park residential area has been completed in 2020 and has opened for use in May 2021 after inspection.





Children's playground in residential area

## Science Park Exploration Museum

The Science Park Exploration Museum showcases the efforts of the park manufacturers and the history of the development of HSP. It does not only play as part of science education, but also continues the mission of historical inheritance. By learning from the past, visitors are expected to witness the efforts of the pioneers and take the chance to highlight the outstanding high-tech achievements of HSP industry.

So far, there are three main-themed halls in the museum, namely Visionary Hall, the Industry Hall and the Culture Hall, which respectively introduces innovative products in HSP, Green Park concepts and the achievements of each industry as well as the founding history of the park, leading visitors to review, understand and look ahead to HSP.



Foreign guests paying visit to exploration museum



Students paying visit to exploration museum

cience Park Exploration Museum mobile phone \_\_ audio tour app

Science Park Exploration Museum website

https://web.sipa.gov.tw/explore/index.do

#### **■** Mobile pop-up stores

From September to November 2022, the mobile retail stores of Uni-President Enterprises Corporation have been introduced to the park on a trial basis. It was located at the open space in front of the gate of Yilan Park Phase I standard plants from 12p.m. to 1.00p.m. every Wednesday and Friday to provide convenience services for the park manufacturers. Hundreds of commodities, such as room temperature, frozen and refrigerated products, including daily necessities, snacks, beverages, noodles and frozen food, etc., are provided to meet the catering needs of the park's employees and enrich the park's life functions. After the trial period, it is officially stationed in the science park in 2023 after the open online leasing. In addition, HSPB has brought in OKmart Co., Ltd. and Xianfang Co. Ltd to provide supermarket and catering services at the first floor of the second phase of new standard plants at Hsinchu Science Park and Yilan Science Park.





Mobile pop-up stores

#### S.3.3 Diversified Transportation Services

# ■ Traffic safety improvement and lane optimization planning of Hsinchu Science Park

With the industrial development of HSP, the traffic volume in the park continues to grow, which also leads to the rise of traffic accidents. In order to improve the road safety quality, HSPB has organized the project of Traffic Safety Improvement and Lane Optimization Planning of Hsinchu Science Park and a citizen engagement workshop, hoping to discuss the use and management planning of road space through the position and viewpoints of road users, together with industry, government, academia and citizens. The meeting was attended by 24 participants, including HSPB, Hsinchu County Government, police units, experts, public representatives, representatives of associations, local leaders and residents, etc. The scope of discussion included junctions prone to accidents, left turn and lane configuration adjustment for motorcycles and pedestrian quality, etc. HSPB will also take the conclusion of this meeting as an important basis for the subsequent road design and propose the overall road safety design standards for HSP.





Citizen engagement workshop on traffic improvement

#### **■** Electric Vehicle (EV) Charging Bays

In response to energy saving and carbon reduction as well as to support EV using employees, HSPB has been constructing EV charging bays since 2018 to provide charging services for electric vehicles. The charging stations are distributed at HSPLink, the four main metered parking lots and the areas with relatively high traffic flow. There are 8 fast charging bays for Tesla vehicles at HSPLink and 32 EV charging bays at the four metered public and roadside parking lots, with no electricity charge to encourage more EV users. The total number of charging stations has reached 40, contributing to energy conservation and carbon reduction.

#### **■** YouBike all over the Park

YouBike has reached 15 stations all over HSP, all of which are important spots, parking lots or crowded places. It has become a supplementary transportation tool to the tour buses in park and private transportation. Besides benefiting the employees in the surrounding communities, it is also a great blessing for the public transporters from other counties. In the past, one had to rely on buses or shuttle buses to enter HSP after getting off at Hsinchu or Xinzhuang railway station. Since the public bicycle system is available 24 hours a day, it can serve the employees commuting to work at night, which makes the transportation more flexible and convenient.

HSPB is now planning YouBike 2.0, with 15 stations set up next to the original YouBike 1.0. Other than YouBike 2.0 vehicles, YouBike 2.0E electric-assisted bicycles are going to be introduced to the line at the same time. YouBike 2.0E and YouBike 2.0 share the same parking pillar and app. With the assistance of electrical system, YouBike 2.0E allows riders to enjoy the experience of easy cycling long distances or steeper slopes. HSP is expected to provide YouBike with dual systems and offer different bike choices according to destinations or physical strength, thus improving the resilience and convenience of both internal and external transport, gradually moving towards a more perfect Green Technology Park.



## **■ THSR Under-bridge Liaison Route**

In order to improve the convenience of transportation between the park and the THSR Hsinchu Station, the Construction Division and the Hsinchu County Government have planned the development of THSR Under-bridge Liaison Road Extension to HSP Project in the construction plan of the road system in the living area, with a total investment of NTD 2,740.1 million and implementation in three phases.

Phase I construction, from Xinglong Road to Gongdao 5th Road, is about 1.83 kilometers long and was opened to traffic in June 2015. Phase II, from Gongdao 5th Road to Zhongxing Road, is about 901 meters long and was completed and opened for use in August 2019.

The Phase III project starts from Zhongxing Road in the north, crosses Kehu Road and Ke-Zi-Hu-Si towards the south, connecting to Lixing Road in HSP, with a total length of 1.3 km, bridge of 610 meters, embankment and cut of 690 meters and a road width of 30 meters. The project costs NTD 1,746.03 million and has begun construction on November 23, 2020, and is expected to be completed by the end of September 2023.

Upon completion of Phase III, it can save 15 to 20 minutes driving time from HSP to Hsinchu City. It will be able to link up with Phases I and II of the operating High Speed Rail Bridge, effectively relieving the traffic flow between Hsinchu Science Park and Hsinchu High Speed Rail Station as well as between National Highway No.1 Zhubei Interchange and Hsinchu Interchange, thus improving the overall road traffic system and linking up specific areas of Hsinchu High Speed Rail Station, Hsinchu Biomedical Park, Taiwan Knowledge Economy Flagship Park and Touchong, Erchong and Sanchong Road of Zhudong Township.

#### S.3.4 Developing Health Promotion and Care

#### Pandemic preventive measures

In mid-May 2021, the outbreak of COVID-19 in Taiwan became more critical. The local city and county governments actively called for the public to do screening as soon as possible. In order to prevent virus from invading and affecting the science park, HSPB and the Hsinchu City Government cooperated to set up the first screening station at Du Sing Hall, jointly establishing a bastion of pandemic prevention for HSP.

In June 2021, there was a group diagnosis among migrant workers in the park, therefore increasing demand for screening. In order to solve this dilemma, HSPB cooperated with the Hsinchu City Government and the Miaoli County Government to establish screening stations for migrant workers in Hsinchu and Yilan Science Park. In total, 8,837 people have been screened in 2021. In a bid to allow employees to receive vaccination at the nearest location, HSPB works with Hsinchu City Government to set up a large-scale vaccination station at tennis court of HSP, which has been launched on June 16, 2021, providing a daily vaccination capacity of 1,200 people.

In October 2021, a large number of international vaccines are being imported into the country attributed to corporate donations and central procurement. In order to increase the vaccination rate in Taiwan, the Central Epidemic Command Center has encouraged ministries to open additional large-scale vaccination stations and large enterprises to have more than 100 people applied for vaccination (outreach) services. In line with the central government's policy, large vaccination stations were opened on October 18, 2021, at HSP and Jhunan activity centers, which were closed upon task completion of the phase until November 3, 2021, with a total of 12,118 people receiving vaccination.



In line with the vaccination schedule, HSPB and Hsinchu City Government have jointly set up a vaccination station at HSP Activity Center since January 17, 2022, which is available for vaccination without appointment and provides nearby services science park's employees and surrounding residents. Till February 25, there were 21,955 people enrolled on the 19th day of the campaign.



On-site photos of vaccination stations at HSP Activity Center





Staff clinic video consultation service

Within 2022, the staff clinic of HSP provided vaccination appointments, COVID-19 video consultation and distribution of oral antiviral drugs for treatment in response to the pandemic.



In response to the rapid increase of confirmed cases of Omicron in May 2022, HSPB intended to call for park manufacturers to contribute to pandemic prevention, foster friendly workplace and take care of physical and mental health of diagnosed employees, Therefore, HSPB has formulated the Corporate Sustainability - Working Together to Fight Pandemic action plan on May 23, 2022, which includes five measures: establishing corporate care measures and care groups, educational training and advocacy, letter/phone/video care services, mobile support and corporate care package as well as physical and mental health care after back to workplace. Park manufacturers are expected to take this action plan as a reference to formulate their own measures to take care of their employees and implement them accordingly, while assigning someone to supervise them through the pandemic reporting system, telephone counseling and on-site visits.

According to the Ministry of Health and Welfare, the top ten causes of death in 2021 are malignant neoplasm (cancer), among which pneumonia that ranked third is especially noteworthy. In view of this, the staff clinic has been implementing preventive medical care by providing more than 150 contract manufacturers with free annual low-dose lung computed tomography (LDCT) examinations. By the end of 2022, 2,678 people have completed LDCT and the majority of manufacturers received showed appreciation towards the effort. Due to the dedication and care of the staff clinic, patients are early detected, treated and restored general health.

In 2022, the staff clinic provided 586 people with bone density assessment (ankle type), including 6 people with abnormal test values of -1.5 or less. The staff clinic further provided dual x-ray absorptiometry (DEXA) scans and professional medical follow-up services. Since 2022, the staff clinic has added free Coronary-Artery Calcium Score (CAC) test. Up till now, about 16,251 employees have completed free Computed Tomography (CT) examinations.

Vaccination is one of the most effective protective measures against viruses. The staff clinic has been actively promoting various vaccination services under the concept of care and service. In 2022, vaccination services were provided to about 7,700 people. In addition, 29 first aid training courses, 22 cardiopulmonary resuscitation (CPR)/automated external defibrillator (AED) classes, 1 ultrasound examination, 14 eye pressure tests and vision examinations, as well as 81 other multi-faceted health promotion courses were held in the same year, which raise the employees' awareness of their own health and enable the staff clinic to contribute to health care of the park.

# Park Cup Sports Tournament

In a bid to promote the exchange between companies in the park and to encourage proper leisure activities among park's employees, HSPB plans a series of sports tournaments every year. In the first half of 2021, the Park Cup Sports Tournament was cancelled due to Covid-19 outbreak. Several tournaments were also postponed due to the pandemic, including the softball tournament, which was postponed to November. There were still 49 teams of nearly 1,300 participants this year. Besides, the tennis tournament was also successfully organized in late November with 14 teams of nearly 100 players participating.

Despite the impact of the pandemic, HSPB encourages the employees to go outdoor after work to cultivate an exercise culture, maintain physical and mental health, as well as improve self-immunity, looking forward to achieving work-life balance. Besides opportunities to be physically active and relieve work pressure, outdoor games can cultivate mutual understanding too!





Ball tournaments highlights



#### S.3.5 Community Mutualism

In order to achieve mutualism between park development and local construction, HSPB assists local governments in management of the growing demand for public facilities around the park followed by park development. Local governments are subsidized to improve the infrastructures, maintain safety and environmental quality, manage local constructions of traffic, police, fire, drainage, water supply, environmental protection, education and culture, medical and health care as well as land use within 3 km of the park. HSPB works closely with local governments to enhance the public facilities and improve the quality of services. Within 2021-2022, HSPB successively provides subsidies to local governments to improve roads, sidewalks, parks and road slopes, build and expand roads outside the park, upgrade teaching and environmental facilities, police, land and firefighting facilities, and improve drainage, etc., so as to further enhance the quality of living environment for residents, improve disaster relief and ambulance capabilities, promote the quality of school education and increase local flood control capabilities.

#### Occupational Safety and Environmental Protection Month Road Run and Health Promotion Activities

Whilst HSPB is committed to promoting industrial development and economic growth while also taking into account the sustainable development of the environment and workplace quality and to raise self-awareness of physical and mental health, workplace safety and environmental protection, Occupational Safety and Environmental Protection Month Serial Activities is held every year, hoping to increase public participation in creating a safe and healthy living environment, and work together to continue occupational safety and environmental protection efforts. On October 29, 2022, the opening ceremony was held in Tongluo Science Park. 1,500 employees, relatives and citizens were invited to run in Tongluo Science Park and Jiuhu Village to enjoy the beauty of the Hakka villages and florist's daisy. Besides, four parent-child health promotion activities were conducted, as well as high school, junior high school and elementary school industrial safety graphic contests. In addition to providing scholarships to award-winning students, it can also attract parents' attention to the importance of occupational safety through their children's perspective.



The 1<sup>st</sup> place entry in the middle grade group (Theme: Occupational Safety)



Tongluo Science Park Occupational Safety and Environmental Protection Month Road Run

# National Cleanup Week

On the eve of the Lunar New Year, HSPB cooperates with EPA of Executive Yuan to launch the National Cleanup Week and holds the Clean Home for All Campaign in eight communities around the park, namely Science Park, Xinzhuang, Xiangong, Xianshui, Jinshan, Longshan, Gaufeng, and Guandong villages. After the New Year, the activities were held in Yilan, Longtan, Jhunan, and Tongluo Park respectively. Prior to the activities, the village chiefs will be contacted to conduct on-site surveys and assign the appropriate work content, number of people and equipment to be used. A total of 30 events were held from 2021 to 2022. The activities include street waste cleaning, tree pruning and the removal of water containers to eliminate dengue mosquitoes and to improve the environmental hygiene of the neighborhood. The community service has been very well received each year and the residents have shown their appreciation.





Photos of neighborhood cleanup

#### **■** Park Labor's Day Celebration Party and Honor of Outstanding

For the purpose of recognizing the outstanding employees and celebrating Labor Day, the 2022 Labor Day celebration was postponed to September 1 due to the pandemic. 88 employees with outstanding performance in 2022 were publicly commended. There were also great performances and activities.





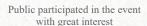
Photo of Park Labor's Day Celebration Party and Honor of Outstanding

## Hsinchu Science Park Year-End Arts and Music Festival Hundred people gather at Jingsin Lake to enjoy music and shopping

The Jing Xin Lake hidden in the HSP is usually a popular recreational place for the park employees and citizens. In order to achieve a work-life balance among HSP employees and residents, HSPB held a music festival and parent-child activities on December 3, 2022, to promote family harmony and foster parent-child relationship. The music festival featured live performances by several live bands, as well as parent-child crafting activities at the lakeside stores. Many guests were invited to attend the concert, including the leaders of surrounding communities, together enjoying jazz music and food by the lakeside in a pleasant autumn afternoon.

In addition, HSPB invited Hsinchu Mental Health Association - Dream Workshop to set up a booth selling handmade products. Besides, the handcrafted soaps made by physically disabled friends for whom Dream Workshop counsels and cares were also given as gifts for the event, contributing to charity while enjoying music and eventually put a perfect ending to the music festival.







Message from Deputy Director of HSPB, Hu, Shi-Min



Chief Secretary draws lucky winner

#### S.3.6 Environmental Education

#### Social Education and Dissemination Promoting Environmental Education

With the goal of fulfilling social responsibility and promoting sustainable development, HSPB has been actively promoting environmental education. Sewage treatment plant of NSTC (hereinafter referred to as the site) has been certified as an environmental education facility since December 2013. In November 2018, the site has passed the evaluation of EPA of Executive Yuan and successfully extended its accreditation to 2023. Seven sets of special courses on water resources, wastewater disposal and renewable energy, including Magic Sewage Plant, Water Gatekeeper, Environmental Protection Journey of Technology, Water Travel Journal, Green Energy Miracle, Get Your Own Water and Surrounding Water World, have been set up to meet the learning needs of different age groups. In order to promote environmental education and respond to the feedback from general public, the site actively seeks cooperation opportunities with representative industries of Hsinchu Science Park, volunteer teams, teaching units and community groups, hoping to integrate local resources to jointly promote environmental education and science popularization.

Since the initiation of recruitment, 7 park manufacturers, 34 volunteers, 8 teaching units and 7 community organizations have joined the partnership to promote environmental education in the plant. In total, 56 and 47 visits were received in 2021 and 2022 respectively, with 1,509 and 1,882 participants respectively.

In addition to receiving bookings for courses, the plant will also take the initiative to visit schools in rural areas from 2021 to 2022 to disseminate environmental protection knowledge and care for the disadvantaged. A total of 4 sessions of environmental protection courses have been conducted through graphic and storytelling, experimental experiences and question-and-answer (Q&A) sessions, with total participating students reaching 140 people.





Rural school visit service







Environmental education course visit

#### **Environmental Education Activities on Low Carbon Living**

In recent years, environmental sustainability has been advocated. With the purpose to continue raising awareness of environmental sustainability among the park's employees and public, HSPB held a low-carbon living and environmental education event in conjunction with Work Safety and Environmental Protection Month on October 22, 2022, inviting the manufacturers and the surrounding public to the Samgabsui Environmental Education Center in Taoyuan City to learn the ways local residents and volunteers can uphold the demand for reduction and work together to protect and restore the land they live on, transforming the place into a fun and educational place.

Samgabsui Environmental Education Center takes living, production and ecosystem as the development conditions and wisely makes use of local elements (wood, bamboo, soil, brick, stone and grass) to create a friendly environment with a minimalist mindset and restoration of the old, improving the villagers' environmental literacy as well as expressing humanity and environmental literacy in community culture through practical activities and environmental education courses. A variety of environmental education programs and interesting visits are also provided. The teaching experts in conservation will guide the public in understanding conserved animals in Taiwan - the Taipei grass frog, teach them the correct way of habitat maintenance and lead them in observation and planning of suitable environment from a biological perspective to achieve ecological restoration.

Through environmental education field trips, the public can learn about friendly environment that can be practiced in daily lives and thus create a symbiotic and mutualistic environment through ecological methods. HSPB hopes to make the concept of friendly environment more profoundly embedded in community through education and fun, together constructing a more enriched ecological environment.





Low-carbon living environment education activities