



Go Extra Mile

2019

Taiwan High Speed Rail
Corporate Social Responsibility Report

Be There



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About this Report

In 2009, Taiwan High Speed Rail Corporation (hereinafter referred to as “THSRC”) released the first ever “THSRC Corporate Social Responsibility White Paper” to disclose its performance and actions in social responsibility. In response to international trends and compliance with non-financial information disclosure standards in Taiwan, the report has been renamed as “THSRC Corporate Social Responsibility Report” since 2015. This report is the seventh Corporate Social Responsibility Report published by THSRC. The previous edition was issued in June 2019. THSRC continues to enhance its operational capabilities by demonstrating its efforts locally and expectations internationally through the 2019 Corporate Social Responsibility Report. In the future, Corporate Social Responsibility reports will be published periodically every year.

Current version: Issued in June 2020

Reporting Period

This report discloses THSRC’s Corporate Social Responsibility results and performance in 2019 (from January 1, 2019 to December 31, 2019). However, as part of the content, which involves trend comparisons, the report reveals historical data at the same time.

Basis of Preparation, Scope and Boundary

This report follows the core requirements of the Global Reporting Initiative Sustainability Reporting Standards (hereinafter referred to as “GRI Standards”) developed by the Global Sustainability Standards Board, the “Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies,” and the “Corporate Social Responsibility Best Practice Principles for TWSE/TPEX Listed Companies.” In addition, it has been verified by third-party certification body, the British Standards Institute that this report meets the Core option of the GRI Standards, and complies with the AA1000AS with 2018 Addendum Type 2 high-level assurance. The Independent Assurance Statement issued by the British Standards Institute has also been included in the appendix to this report. Based on the requirements of the GRI Standards, this report discloses THSRC’s responses to material topics in economic, environmental and social aspects, as well as related performance.

The scope of this report is consistent with the financial statements. There is no significant difference between this report and the previous edition in terms of scope and quantitative data measurement methods. Any difference in terms of scope or data measurement from the previous edition will be indicated in the particular paragraph. All the statistical data disclosed in this report were compiled and provided by our first-level units. Financial performance data were information published publicly upon attestation by Certified Public Accountants (CPAs), and were consistent with data in THSRC’s annual reports. The basis for calculating and estimating environmental data was derived from public data provided by the government, and was calculated by THSRC.

If you have any suggestion or question about this report, please feel free to contact us at:



Taiwan High Speed Rail Corporation

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Letter from the Chairman

Looking back on 2019, in the rapidly changing world, THSRC is facing challenges from global economic situation, frequently reported climate anomaly, and declining birth rate and aging society in Taiwan, all of which have led to a gradual slowdown in passenger growth and affected the overall business environment. With increasing emphasis on sustainable management internationally, external stakeholders are paying more attention to companies in the governance, social, and environmental aspects.

This year, THSRC celebrated its 21st anniversary of founding. We have always adhered to the five core values of “Discipline, Integrity, Efficiency, Innovation, and Sensibility” and the four attributes of “Real, Progressive, Passionate, and Premium.” In this spirit, we continue to improve service quality and performance, and implement the corporate culture of “Go Extra Mile.” In the face of the trials of external operations and stakeholders’ care and supervision for a long time, THSRC still achieves outstanding results repeatedly while actively responding to external demands, and generates new profits to the Company.

THSRC not only competes against time, but also keeps pace with the times. We initiate and implement plans in a comprehensive and in-depth manner, with the 4T sustainability strategies as a guide. The 4T sustainability strategies are four major axes, including Transportation - Professional Transportation, Technology - Innovative Technology, Taiwan - Enhancing Local Connection, and Touch - Sustainable Care. We look forward to working with the public to create a rapid, convenient, and better future, in order to gradually implement the sustainable vision “To be the platform for advancement and enjoyment.”

Leading advancement and creating new horizons is the core mentality of THSRC, while “ethical management, enhancing corporate governance, and fulfilling corporate social responsibility” is the Company’s commitment of the highest principle. We hope that all our employees will work together for a common cause and continue to develop THSRC into a happy company that pursues innovation and high-quality performance. In 2019, THSRC ranked among the top 5% in the Corporate Governance Evaluation for the second year in a row and was once again selected as a constituent of the “Taiwan Sustainability Index.” We have once again earned recognition from investors and the public after being included as a constituent in the FTSE4Good Emerging Index and the TWSE Corporate Governance 100 Index, and winning the “CommonWealth Magazine Corporate Citizen Award” in 2018.

In addition, THSRC strives to exert its social influence by “practicing corporate social responsibility” and continues to launch the educational endowment program and related social welfare programs, in hopes of integrating and realizing THSRC’s role as the backbone of intercity public transportation in Taiwan’s western corridor, and spreading warmth and love to every corner of Taiwan with professional care and attention. In order for the public to have an encounter with their heart in arts, THSRC continues the “Taiwan High Speed Rail Opening Year of Arts” jointly organized with the National Culture and Arts Foundation (NCAF) by transforming HSR stations and trains into a platform for dialog in arts, in order to build a bridge between arts and local culture and daily life.

We would like to express our sincere gratitude to all our partners and passengers who have accompanied THSRC all the way and continue to give us support. This report not only shares THSRC’s achievements in sustainable development with all our stakeholders, but also further encourages us to not stop after achieving our phased goals, reserve an even more powerful, sustainable momentum to continuously welcome future challenges, and create sustainable value for all our stakeholders and ourselves.



Chairman *Y. C. Chiang*

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Letter from the President

Since the commencement of operations on January 5, 2007, THSRC has welcomed a brand new milestone in travel services by “exceeding 600 million passengers” in January 2020. In response to the continuous growth of ridership volume, the weekly train services provided have reached 1,016 trains. Today, THSRC has become the public’s most comfortable, convenient, and preferred mode of transportation, and also an indispensable part of daily life. We hope that people can visit Taiwan and enjoy the beautiful scenery all over the country every day.

THSRC not only wholeheartedly creates a complete and safe travel service for passengers, but also determined to participate in the localization of Taiwan’s railway industry. With regard to the Company’s goal of “assisting domestic railway industry and developing local technological capabilities,” THSRC actively cooperates with the government to promote the “Project for Forward-Looking Infrastructure” and collaborates with the National Chung-Shan Institute of Science and Technology to jointly build the first locally developed “High Speed Train Driving Simulator,” as well as smoothly promotes the “Domestic Train Manufacturing Localization” policy through the “Bogie Running Tester and Diesel-Hydraulic Locomotive” project in cooperation with units such as the Industrial Technology Research Institute. Moreover, THSRC works with local manufacturers to facilitate the birth of the new-generation smart “HSR Passenger Information System.”

In addition to promoting industry-academia collaboration and the localization of Taiwan’s railway industry, THSRC’s innovations are also reflected in “offering travel services with smart technology to the public.” In March 2019, we launched the ticket pick-up service for senior and disabled concession tickets on our mobile ticketing app and from automatic ticketing machines, as well as the “Online Ticketing Service on Facebook Messenger,” to improve the quality and convenience of services through the digitalization of ticketing channels. With the efforts and endeavor to promote information technology innovation, we have not only been honored with the “6th National Industrial Innovation Award - Outstanding Enterprise Award,” but also completely replaced communication equipment with information and communications technology security concerns to ensure that all equipment at the Company are not exposed to information security risks, with a view to enhancing information security and protecting the cumulative results of technological innovation.

In the future, we will continue to promote the 4T sustainability strategy blueprint by actively improving travel quality, smart maintenance, and innovative services, in order to realize the Company’s vision, lead our partners in the industry chain, and jointly create new opportunities for sustainable transportation with all our stakeholders.

President *James J*



Performance Highlights for 2019

Transportation Professional Transportation



- ▶ Since THSRC commenced operations in 2007, punctuality rate and reliability have always been above 99%.
- ▶ In 2019, punctuality rate was 99.9%, whereas average delay time was only 0.069 minutes.
- ▶ Since the commencement of operations in 2007, THSRC continues to achieve excellent operational safety performance, resulting in ZERO casualties among passengers due to traffic accidents.
- ▶ In 2019, passengers' satisfaction toward our overall services was 96%.
- ▶ Starting from July 1, 2019, eight additional train services were added weekly; which brought the total to 1,016 train services every week after the additional train services provided.



Technology Innovative Technology

- ▶ In October 2017, THSRC launched the TGo member, which accumulated 1.28 million registered members at the end of 2019.
- ▶ In March 2019, THSRC launched the "Online Ticketing Service on Facebook Messenger," thereby becoming the first railway operator in Taiwan to provide voice reservation using Messenger.
- ▶ In 2019, THSRC's Facebook Page garnered 386,000 fans cumulatively, and received a total of 89,000 new fans within the year, while post reach on THSRC's Facebook Page was 66.73 million people, with 1.80 million interactions on these posts.



Taiwan Enhancing Local Connection

- ▶ In 2019, the number of travelers recorded by THSRC was 3.17 million passengers, surpassing the originally set target of 3 million passengers, and this figure increased by approximately 500,000 passengers compared to last year.
- ▶ THSRC shared its experiences and achievements in transportation operations. Since 2006, we have organized a number of visitations. In 2019, THSRC welcomed 32 delegations from Europe, the US, Japan, and Taiwan, comprising a total of 916 counts of visitors.
- ▶ THSRC facilitated the localization of procurement to enhance Taiwan's industrial supply capabilities. In 2019, local procurement of labor services by THSRC exceeded 96%, whereas local procurement of materials exceeded 70%.
- ▶ THSRC collaborated with the National Chung-Shan Institute of Science and Technology to create the first locally developed "High Speed Train Driving Simulator" to enhance development of Taiwan railway industry localization.
- ▶ From 2011 to 2019, there have been a total of 112 alternative materials-developing manufacturers, with a saving up to NT\$2.252 billion.

Touch Sustainable Care



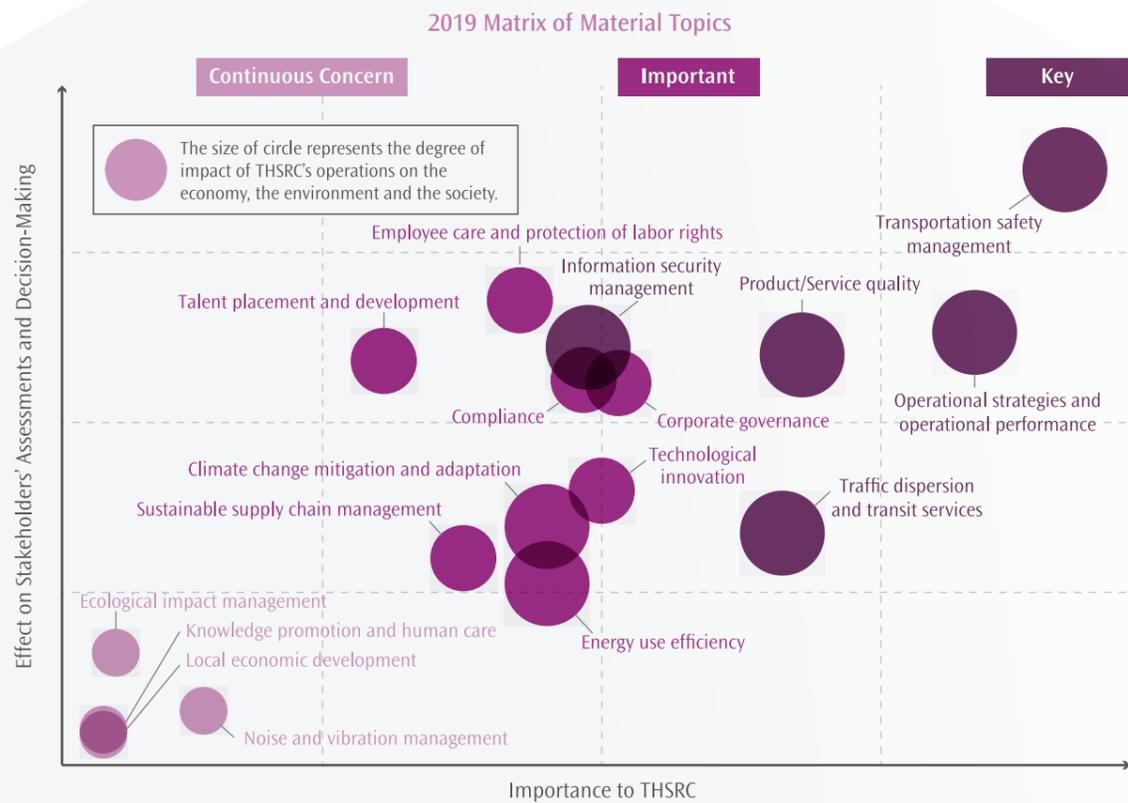
- ▶ THSRC was selected as a constituent of the "Taiwan Sustainability Index" for the second time after 2018, and ranked among the top 5% in the Corporate Governance Evaluation for the second year in a row in 2019 after participating in this evaluation for the first time in 2018.
- ▶ Based on the calculation of passenger-kilometer, compared to passenger cars, HSR significantly reduced carbon dioxide emissions by 971,551 metric tons in 2019, which is equivalent to the carbon uptake of 3,274 Da-An Forest Parks.
- ▶ In 2019, THSRC trained a total of 72 qualified internal lecturers. As of 2019, THSRC has trained a total of 822 main lecturers, with each teaching an average of 105 hours.
- ▶ The "Art for All, Station Art Performance" in 2019, 113 sessions were organized at nine HSR stations in 2019, involving a total of 3,718 performers.
- ▶ More than 53,000 visitors have visited the THSR Museum since its official opening on January 2017 till the end of 2019.
- ▶ In 2019, THSRC raised nearly NT\$8 million for the "The High-Speed Educational Endowment Program," approximately 3,000 disadvantaged children and children with developmental delays.
- ▶ In 2019, the THSRC Smiling Train Charity Program provided assistance to 786 disadvantaged groups and was participated by 140,851 individuals.
- ▶ In 2019, THSRC organized 12 batches of "HSR Camps," with a total of 4,646 people signed up for these camps, out of which 360 people participated in this activity.
- ▶ THSRC participated in efforts to conserve pheasant-tailed Jacanas in Guantian, Tainan in order to fulfill our commitment to environmental protection. In 2019, the population of pheasant-tailed Jacana was 1,741. Since its establishment in 2007 till 2019, the "Jacana Ecological Education Park" has been visited nearly 230,000 times.

Material Topics and Stakeholders

Identification of Stakeholders

THSRC refers to the AA1000 Stakeholder Engagement Standard to carry out identification of stakeholders through open discussion, and finally selects eight important stakeholders.

The eight important stakeholders are passengers, community residents, the media, employees, shareholders and investors, partners (including non-governmental organizations and schools), suppliers and contractors, as well as government and competent authorities.



Note: After discussing and confirming the matrix of material topics, we classified the above mentioned 17 sustainability topics into five key topics, eight important topics and four topics of continuous concern according to the effects of three areas provided by internal and external stakeholders. "Key topics" and "important topics" form the scope of materiality disclosures in this report. On the other hand, items in "topics of continuous concern" are regarded as non-material topics, where in principle, these items will not be disclosed in this report. However, non-material topics which significantly impact material topics, will still be properly explained and disclosed in this report.

Identification and Responses to Material Topics

THSRC prepares its Corporate Social Responsibility reports in compliance with the GRI Standards published by the Global Sustainability Standards Board, and conducts analysis of material topics according to the following four steps to confirm the scope of report disclosure and comprehensively examine the effectiveness of sustainable management.

01

Identification

01

In order to ensure the objectivity, completeness, and inclusiveness of material topics, we not only examine important topics of leading domestic and international peers, the sustainability requirements of international sustainability ratings such as Dow Jones Sustainability Index and Sustainability Accounting Standards Board, and the content of indicators disclosed by GRI, but also review the matrix of material topics in previous reports. Besides, we adjusted the 24 sustainability topics in 2018 to 17 sustainability topics as the scope for the identification of material topics in the report by deleting, splitting, combining, and merging topics. The adjusted sustainability topics are listed as follows: "Corporate image," "Product price," and "Transparency of information disclosure" were deleted; "Safety management" was split into "Transportation safety management" and "Information security management;" "Operational strategies" and "Operational performance" were combined to form "Operational strategies and operational performance;" "Climate change mitigation strategies" and "Climate change adaptation strategies" were combined to form "Climate change mitigation and adaptation;" and "Employee care" and "Protection of labor rights" were combined to form "Employee care and protection of labor rights;" "Disaster prevention and major incident countermeasures" was merged into "Transportation safety management," while "Passenger rights" was merged into "Product/Service quality."

02

Prioritization

02

We analyze the materiality of each topic according to each topic in three major areas of "effect on stakeholders' assessments and decision-making," "impact of the enterprise on the economy, the environment and the society," and "importance to business operations," for preliminary sorting. We also collected a total of 109 completed questionnaires from internal and external parties, including employees (31 questionnaires) and external parties comprising eight important stakeholders (78 questionnaires), and identified the effect and impact of various topics through statistical and quantitative analysis to generate the preliminary matrix of material topics.

03

Validation

03

In order to ensure the results of material topic identification meets the principles of completeness and stakeholder inclusiveness in GRI, THSRC's Corporate Governance Promotion Committee examines the results of preliminary material topic identification, and enhances the materiality of five topics, namely "employee care and protection of labor rights," "technological innovation," "climate change mitigation and adaptation," and "energy use efficiency," with regard to the importance to business operations or the impact on the economy, the environment and the society based on factors such as international benchmark analysis, sustainability trends, and THSRC's development strategies. The results obtained after adjustment are also submitted to the Chairman and the President for review and approval.

04

Review

04

We will continue to practice sustainability, while maintaining two-way and real-time channels of communication with stakeholders. During the publication of the next report, we will re-examine the matrix of material topics, and plan further communication with stakeholders as appropriate to confirm whether adjustments are required.

Comparison between Material Topics and Topics in GRI Standards

● denotes that this node may lead to impact resulted from material topics on the left.
 For details regarding related management approaches, please refer to the page numbers for the corresponding chapters or subchapters.

Materiality	Material Topic	Meaning of Materiality	Corresponding to GRI Topic	Corresponding SDGs	Corresponding to Chapter or Subchapter	Page No.	Impact Boundary of Each Topic						
							Occur Directly in THSRC	Occur through THSRC's Commercial Relationships		Occur through THSRC's Other Direct Relationships			
							THSRC	Passengers	Suppliers and Contractors	Shareholders and Investors	Partners	Government and Competent Authorities	
Key Topic	Transportation safety management	Establish and manage train transportation safety-related mechanisms to ensure that customers can enjoy products and services of high safety level	GRI 416: Customer Health and Safety	SDG 9	Safety Services and Responsible Transportation	18	●		●				●
	Operational strategies and operational performance	Implementing operational strategies and improving operational performance are the foundation for the sustainable operation of the Company, so as to create an economic distribution that is beneficial to key stakeholders	GRI 201: Economic Performance	SDG 8	Operational Performance and Sustainable Practices	15	●						●
	Product/Service quality	Develop high-quality products and services to consolidate business performance, market competitiveness, and corporate reputation	Customized material topic	SDG 8 SDG 9	Smooth Travel in Adherence to Commitment	24	●		●				
	Information security management	Keep abreast of the effectiveness of information security management and monitoring mechanisms, in order to ensure that customers' personal privacy and other related information are properly protected	GRI 418: Customer Privacy	SDG 9	Convenience, Attentiveness, and Maintaining Relationships	29	●						
	Traffic dispersion and transit services	Plan train runs and transits at stations and local transportation bases for passengers during festive periods, in order to increase customer satisfaction toward the Company's products and services	Customized material topic	SDG 9	Smooth Travel in Adherence to Commitment	15	●		●				
Important Topic	Compliance	Focus on high degree of compliance, in order to prevent the negative impact of non-compliance incidents on the environment and society as identified by the laws and regulations	GRI 307: Environmental Compliance GRI 417: Marketing and Labeling GRI 419: Socioeconomic Compliance	SDG 16	Sustainable Governance and Ethical Corporate Management	40	●		●	●	●	●	●
	Corporate governance	Pay attention to ethical governance and responsible business practices that comply with market and international regulations and that are expected by stakeholders, in order to prevent losses to the Company or penalties imposed by competent authorities on the Company due to unethical conduct	GRI 205: Anti-corruption GRI 405: Diversity and Equal Opportunity	SDG 16	Sustainable Governance and Ethical Corporate Management	40	●		●	●			
	Employee care and protection of labor rights	Plan physical and mental health protection mechanisms, reasonable salary and welfare measures, protection of labor conditions, and communication and grievance mechanisms for employees, in order to retain employees and ensure the Company's continuous growth momentum	GRI 201: Economic Performance GRI 401: Employment GRI 402: Labor/Management Relations GRI 403: Occupational Health and Safety GRI 404: Training and Education GRI 407: Freedom of Association and Collective Bargaining	SDG 8	Operational Performance and Sustainable Practices Nurturing Talent and Value Cultivation Protection of Rights and Considerate Care	15 50 53	●						●

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Materiality	Material Topic	Meaning of Materiality	Corresponding to GRI Topic	Corresponding SDGs	Corresponding to Chapter or Subchapter	Page No.	Impact Boundary of Each Topic					
							Occur Directly in THSRC	Occur through THSRC's Commercial Relationships		Occur through THSRC's Other Direct Relationships		
							THSRC	Passengers	Suppliers and Contractors	Shareholders and Investors	Partners	Government and Competent Authorities
Important Topic	Climate change mitigation and adaptation	Improve the ability of the transportation system to respond to climate change and its readiness to cope with climate disasters, in order to ensure the safety and resilience of HSR transportation	GRI 305: Emissions	SDG 13	Low-Carbon Train Operation and Environmental Sustainability	44	●		●			
	Technological innovation	The ability to provide innovative products and services, in order to enhance customer satisfaction toward the Company and its own market competitiveness	Customized material topic	SDG 9	Technology — Innovative Technology	27	●		●			
	Sustainable supply chain management	Formulate good supply chain management strategies and mechanisms, in order to keep abreast of the management performance of different types of suppliers in various aspects of sustainability such as governance, environment, and society	GRI 204: Procurement Practices GRI 414: Supplier Social Assessment	SDG 8 SDG 17	Partner Relationship Management and Local Supply	35	●		●			●
	Energy use efficiency	Improve energy and resource use efficiency in train driving, station, and company operations, in order to prevent the continuous deterioration of climate change and reduce risks arising from the Company's reliance on fossil energy	GRI 302: Energy GRI 303: Water GRI 306: Effluents and Waste	SDG 7 SDG 12	Low-Carbon Train Operation and Environmental Sustainability	44	●	●				
	Talent placement and development	Develop a complete talent development system that can help the Company accumulate transformation and innovation capabilities, in order to enhance its positive benefits in employees' career development	GRI 202: Market Presence GRI 401: Employment GRI 404: Training and Education	SDG 4 SDG 8	Nurturing Talent and Value Cultivation	50	●					
	Topics of Continuous Concern	Noise and vibration management	Manage noise and vibration produced during train operation, in order to effectively reduce its impact on the environment, residents, and passengers	GRI 413: Local Communities	SDG 9	Smooth Travel in Adherence to Commitment	24	●				
Ecological impact management		Monitor and maintain ecological and conservation mechanisms around operating facilities and railway tracks, in order to prevent its negative impact on environmental quality	GRI 304: Biodiversity	SDG 11	Carrying for Society and Developing Local Area	56	●					●
Local economic development		Develop sightseeing tours around the country and sell products from small farmers or specialty stores around the country on trains or at stations, in order to promote local prosperity and maintain a harmonious relationship with local communities	GRI 203: Indirect Economic Impacts GRI 413: Local Communities	SDG 8 SDG 17	Partner Relationship Management and Local Supply	35	●		●			
Knowledge promotion and human care		Promote knowledge of Taiwan's railway system, invest in arts, and promote the development of local culture in Taiwan, in order to deepen the connection between the Company and the public	GRI 203: Indirect Economic Impacts	SDG 4	Carrying for Society and Developing Local Area	56	●					●

Performance of Communication with Important Stakeholders

In 2019, THSRC and the eight major stakeholders stimulated different results and diversified social values through a diverse range of periodic and non-periodic communication channels, as shown in the following table.

Stakeholder	Communication Channel	Communication Frequency	Communication Performance for 2019
 Passengers	<ol style="list-style-type: none"> 1. Customer feedback system 2. THSRC's Facebook Page 3. Company website and app 	<ol style="list-style-type: none"> 1. Non-periodic 2. Non-periodic 3. Non-periodic 	<ol style="list-style-type: none"> 1. Overall Passengers' Satisfaction Rate: 9.6 points (out of 10 points) 2. In 2019, THSRC's Facebook Page garnered more than 380,000 fans
 Community Residents	<ol style="list-style-type: none"> 1. Noise investigation 2. Telephone or visit various community development associations and local opinion leaders 	<ol style="list-style-type: none"> 1. Non-periodic 2. Non-periodic 	<ol style="list-style-type: none"> 1. Conducted 26 noise investigations with the public along the HSR line to effectively communicate the principles of noise prevention measures, where there was no case requiring further improvement on noise prevention 2. Conducted charity train ride events, the "Art for All, Station Art Performance," the "THSRC Bring Warmth to Winter: Donate Blood, Give Love," and the "Travelling with Saplings" program every year to fulfill corporate social responsibility and maintain good local relations
 The Media	Issue press releases and news bulletins, organize press conferences and media events, clarify erroneous reports, handle media inquiries, produce feature reports, and contact the media	Non-periodic	Issued 107 press releases and news bulletins, organized 16 press conferences and media events, clarified erroneous reports 13 times, handled 143 media inquiries, published 41 feature reports, and contacted the media 23 times in 2019
 Employees	<ol style="list-style-type: none"> 1. Labor-management meeting 2. Environmental protection training 3. Corporate ethical management course 4. Quality Month 5. Town Hall Meeting 	<ol style="list-style-type: none"> 1. Every quarter at each business premise 2. Four times a year 3. Once a year 4. Once a year 5. Quarterly or monthly 	<ol style="list-style-type: none"> 1. Convened 48 labor-management conferences at 12 HSR stations, with an issue resolution rate of 100% 2. Employee satisfaction: 10 points (out of 10 points) 3. Employee satisfaction: 4.28 points (out of 5 points) 4. Conducted Quality Month in November, including proposal improvement awards, as well as preliminary rounds and one final round in the Quality Control Circle 5. Conducted once every quarter at 12 HSR stations, with a total of 48 sessions throughout the year; conducted twice every month at each operations section (only once in February due to Lunar New Year), with a total of 69 sessions throughout the year
 Shareholders and Investors	<ol style="list-style-type: none"> 1. Shareholders' meeting 2. Annual report 3. Investor conference 4. Market Observation Post System (MOPS) 5. Company website - Investor Relations section 6. Spokesperson mailbox 7. Shareholder contact mailbox 	<ol style="list-style-type: none"> 1. Once a year 2. Once a year 3. Quarterly 4. Non-periodic 5. Non-periodic 6. Non-periodic 7. Non-periodic 	<ol style="list-style-type: none"> 1. Shareholders' Meeting on May 30, 2019 2. Investor Conference on March 27, 2019 Investor Conference on May 14, 2019 Investor Conference on June 27, 2019 Investor Conference on September 5, 2019 Investor Conference on December 5, 2019
 Partners (Including Non-Governmental Organizations and Schools)	<ol style="list-style-type: none"> 1. Quality Society 2. International exchange activities 	<ol style="list-style-type: none"> 1. Once a year 2. Once a year 	<ol style="list-style-type: none"> 1. Completed version 3.0 of the Carbon Footprint of Products - Product Category Rules for "Passenger Transport Services (Land or Water Transportation)" 2. Invited the Quality Society to participate in the Quality Month in November 3. In 2019, THSRC sent two train masters, three train attendants, two driver management personnel, three train drivers, and four control personnel to attend an observation visit to JR Kyushu in Japan, while five train attendants, four driver management personnel, and two control personnel from JR Kyushu attended an exchange session in Taiwan
 Suppliers and Contractors	<ol style="list-style-type: none"> 1. Monthly work progress report 2. Market security report (financial security report) 3. Annual damage prevention survey 4. Insurance workshop (training/seminar) 5. Loss survey 6. Insurance claims meeting 	<ol style="list-style-type: none"> 1. Once a month 2. Four times a year 3. Twice a year 4. Non-periodic 5. Non-periodic 6. Non-periodic 	<ol style="list-style-type: none"> 1. Suppliers/contractors completed work according to the contract period 2. Published four market security reports 3. Conducted two annual damage prevention surveys 4. Organized two insurance workshops 5. Conducted ten loss surveys 6. Conducted two insurance claims meetings
 Government and Competent Authorities	<ol style="list-style-type: none"> 1. Gender Equality Task Force, Railway Bureau, Ministry of Transportation and Communications (MOTC) 2. Business visit 3. Annual regular HSR operation inspection by the MOTC/Railway Bureau 4. Railway Safety Seminar 	<ol style="list-style-type: none"> 1. Quarterly 2. Non-periodic 3. Once a year 4. Non-periodic 	<ol style="list-style-type: none"> 1. Communicated project content and completed project goals 2. Reviewed and approved THSRC's environmental impact analysis report 3. Ministry of Transportation and Communications (MOTC)/Railway Bureau organized one annual regular HSR operation inspection 4. On September 4, 2019, THSRC organized the Railway Operation Security Experience and Security Practice Workshop, where not only railway institutions were invited but also the Railway Police Bureau, National Police Agency (Criminal Investigation Corps), Railway Police Bureau, National Police Agency (Taipei Branch), and the Railway Bureau, in order to achieve the goal of enhancing awareness of railway operations and overall safety through discussion, exchanges, and experiential learning



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About Taiwan High Speed Rail Corporation

Subchapter Title	Material Topic	Management Purpose	Management Method	Assessment Mechanism	
Management Approach	Operational Performance and Sustainable Practices	Operational strategies and operational performance	<ul style="list-style-type: none"> Achieve the goals formulated by the organization and ensure that all relevant operations are carried out in order. Manage and optimize THSRC's financial structure to lay the foundation for sustainable management, and seek maximum benefits for employees, shareholders, and creditors. At the same time, design a logo according to THSRC's corporate culture, philosophy, and spirit, demonstrate the corporate image of THSRC through visual communication, and to be the platform for advancement and enjoyment. 	<ul style="list-style-type: none"> Adhere to the five core values of "Discipline, Integrity, Efficiency, Innovation, and Sensibility," and pursue the four attributes of "Real, Progressive, Passionate, and Premium" as we strive for sustainable management and innovation, in order to implement the vision and mission of THSRC. Specify a clear dividend policy in the Articles of Incorporation in accordance with the relevant laws and regulations. Distribute the profits generated by the management team and employees at THSRC in daily operations to shareholders, so that shareholders are willing to hold THSRC shares. Manage the status of assets, liabilities, and equity by having certified public accountants to review first-, second- and third-quarter financial statements, as well as audit and attest fourth-quarter financial statements every year. 	<ul style="list-style-type: none"> Develop four major sustainability strategies, draw up corresponding short-, medium-, and long-term goals and actions plans, and track issue development and solution performance through the relevant assessment mechanisms. Develop the strategic planning procedure and budget management rules, and track the progress of each unit on a quarterly basis based on THSRC's future strategies. Dividends distributed according to the surplus distribution plan submitted by the Board of Directors and approved by the shareholders' meeting to meet the requirements of the dividend policy specified in the Articles of Incorporation. The status of assets, liabilities, and equity disclosed in the financial statements attested or reviewed by certified public accountants serves as the basis for management.

Operating Bases and Services

The THSRC commenced operation since 2007, headquartered in Nangang, provides transportation services to major cities in western Taiwan.

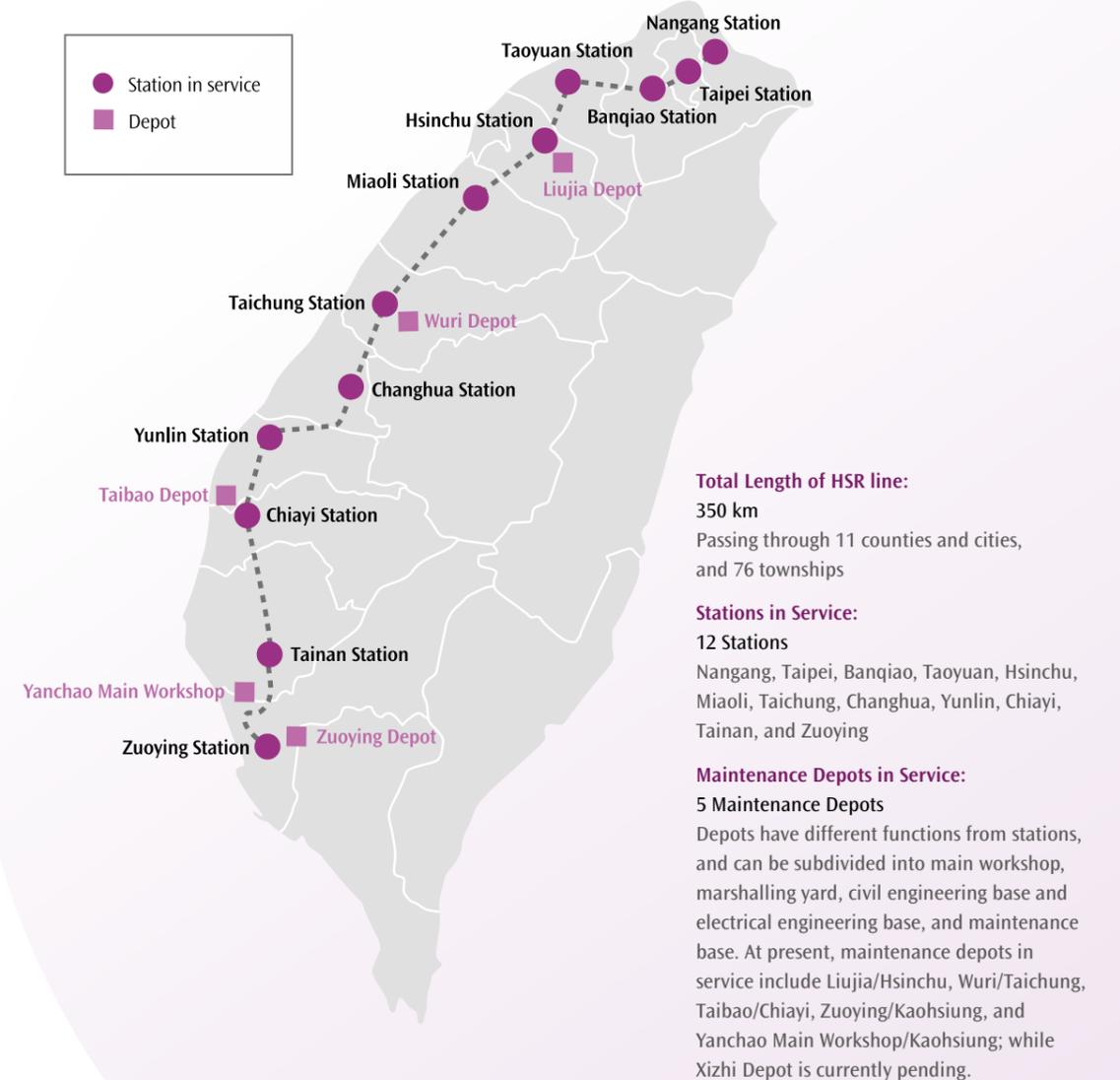
Our upstream industries mainly provide train carriages, construction services, track services, and other services related to the manufacturing and maintenance of service facilities and equipment. Midstream industries include the power supply industry, support activities for transportation related to train preparation, and operators related to the provision of transfer services, including the parking lot management industry, the freeway bus industry, the car rental industry, and the taxi industry. Downstream industries comprise THSRC passengers or travel agencies which provide T Holiday packages.

In 2019, upon review and approval from the Board of Directors, the original "Public Affairs Office" was renamed "Public Affairs Division" and three units, namely the "Customer Relations Department," the "Media Relations Department," and the "Public Relations Department," were added under the Public Affairs Division in the organizational structure of THSRC, so as to integrate internal and external communication resources, strengthen the efficiency of corporate message transmission, and enhance overall human resource management. Furthermore, units under the Human Resource Division were adjusted and included the "Learning Development Department," the "Recruitment and Appointment Department," the "Salary and Welfare Department," and the "Employee Relations Department."

Business Scope of THSRC

Item	Content
 <p>High Speed Rail Passenger Transportation Service</p>	Fast, convenient and comfortable rail transport service, while offering different types of train services, including direct train, semi-direct train, and stopping train to meet the needs of the public.
 <p>Operation of Affiliated Services</p>	Retail space leasing (e.g., convenience stores, food and beverage, and service counters), parking lots at stations, advertising sales (e.g., lightboxes, column space, wall space, product displays, and train decorations), retail, trolley sales, and others.

Note: For details regarding rail transport service, please refer to the subchapter titled "Quality Services and Intelligent Transportation." 



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Sustainability Strategies and Goals

Spirit of High Speed Rail and Mission of Sustainability

THSRC adheres to five core values of Discipline, Integrity, Efficiency, Innovation, and Sensibility, as the guiding principles for sustainable management and development. In addition to formulating the strategic planning procedure, and the development of the Company based on the Company's future development strategies, we have always adhered to the concept of "Go Extra Mile," thereby continuously improving quality and safety.

The external benefits generated from the operations of THSRC are well reflected economically, socially, and environmentally. Economically, we shorten travel time between the north and the south, and enhance time and cost benefits, while increasing the value of land use. We also foster the development capability of the local rail industry through operational activities and services in order to promote local and overall economic development. Socially, we provide a highly safe mode of transportation, which reduces social expenditures resulted from traffic accidents and brings people closer together. Environmentally, we have various characteristics, including low carbon, low pollution, and high efficiency, and reduce the impact of the public space of HSR stations on the environment by integrating green buildings.

With increasing emphasis on sustainable management internationally, external stakeholders are paying more attention to companies in the governance, social, and environmental aspects. THSRC is Taiwan's first public listed company in the railway transportation industry. In 2018, THSRC was selected and listed as a constituent in the FTSE4Good Emerging Index and the Taiwan Corporate Governance 100 Index, demonstrating that THSRC has gained recognition from domestic and international investors in terms of operational performance, corporate governance, and corporate social responsibility. We will strive to practice sustainability in the provision of safe and high-quality transportation service, create value through a continuously optimized business model, and focus on the pursuit of long-term interests and sustainable management, with a view to establishing a sustainable momentum for local development in Taiwan.

THSRC Sustainability Strategy Blueprint

In 2017, THSRC developed the sustainability strategy blueprint, with 4Ts, including Transportation - Professional Transportation, Technology - Innovative Technology, Taiwan - Enhancing Local Connection, and Touch - Sustainable Care, as the guiding strategies for sustainable management. In pursuit of better sustainable practices, we re-examined our sustainability strategy blueprint and adjusted the goals and directions of our sustainability strategy blueprint based on our operational strategies and future outlook in 2019, so as to enhance its consistency with the direction of our core businesses.

Our sustainability strategy blueprint corresponds to eight UN Sustainable Development Goals (SDGs), thus setting the direction of deepening and practicing sustainability at THSRC. In the future, we will continue to draw up short-, medium-, and long-term goals and action plans based on the four major sustainability strategies by referencing international developments and local needs, and regularly track issue development and solution performance through the relevant assessment mechanisms, with a view to effectively promoting and implementing the concept of sustainability at THSRC. The goals of each sustainability strategy and its implementation measures in 2019 are listed as follows. The relevant details are described in the following chapters and subchapters.

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► THSRC Sustainability Strategies, Goals, Implementation Measures in 2019 and Corresponding SDGs

4T Component	Goal	Implementation Measures in 2019	Corresponding SDGs	
			17 goals	169 targets
 <p>Transportation</p>	<p>Continue to improve operational safety, actively face the impact of climate change on transportation, establish relevant early warning mechanisms, develop relevant response measures in collaboration with the government, and actively interact with residents along the HSR line to create positive values for the outside world.</p>	<ul style="list-style-type: none"> Continued with three levels of safety committee to ensure operational safety, and a safe, hygienic and healthy workplace. Continued to promote the employee proposal improvement system and quality control circle activities, where proposals with the most outstanding improved performance in 2019 were "Improvement on the Discontinued Direct-Line PC Service Module" and "Extension of Service Life of Lever Arm." 		<p>8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.</p> <p>8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, particular women migrants, and those in precarious employment.</p>
		<ul style="list-style-type: none"> Continued to examine the weatherability of stations, equipment and routes, improved design thresholds in a timely manner and conducted drills: Learning from the flooding incident caused by typhoon and torrential rain at the Hokuriku Shinkansen Vehicle Depot in Japan on October 13, 2019, we once again reviewed our flood control standards and flood warning and evacuation plans to ensure that the HSR train parking areas meet high flood control safety standards. 		<p>9.1 Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.</p>
		<ul style="list-style-type: none"> Continued to improve services, software, hardware, and packages for the convenience of specific groups, such as passenger guidance and disability access ticket purchase service for elderly or disabled passengers traveling alone, where the installation of electric wheelchair charging sockets for 34 trains were completed at the end of 2018. 		<p>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.</p>
		<ul style="list-style-type: none"> Continued to operate early warning systems for slope safety, strengthen protection of tunnel portal slopes, conduct risk assessment and protection designs for scoured cross-river bridges, and implement other adaptation measures. 		<p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.</p>
		<ul style="list-style-type: none"> Sales executives at each station participated in activities non-periodically, and continuously interacted with residents and organizations along the HSR line. 		<p>17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.</p>
 <p>Technology</p>	<p>Actively innovate and enhance technical capabilities, adopt new technologies and promote intelligent transportation, continue to improve operations, services, safety and the efficiency and quality of emergency response, as well as adopt big data and digitalization to optimize customer experience and create a more convenient life.</p>	<ul style="list-style-type: none"> Monitored train running status in real time via Internet-of-Things facilities. 		<p>9.1 Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.</p>
		<ul style="list-style-type: none"> Successfully provided ticket purchase services for senior and disabled concession tickets via each ticket sales channel to provide passengers with a diverse range of ticket purchase and pick-up channels. 		<p>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.</p>
		<ul style="list-style-type: none"> Launched the "Online Ticketing Service on Facebook Messenger," in which passengers can complete ticket booking via instant messaging software, Facebook Messenger and voice or text input on mobile phones, and also check booking records and make ticketing inquiries. With regard to ticket sales channels, we continued to enhance the scope of use of mobile payment via e-wallets. As of the end of 2019, the percentage of tickets purchased using mobile payment services via the T-EX mobile ticketing app was 33%. According to statistics from ticket sales channels, the percentage of paperless tickets used was 27.5%. 		<p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources.</p> <p>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.</p>

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4T Component



Taiwan



Touch

Goal	Implementation Measures in 2019	Corresponding SDGs	
		17 goals	169 targets
Actively cultivate local talents and establish industry-academia collaboration, strive to create opportunities for diverse products and different industries through our business model, become the platform for local life enjoyment and promote the prosperity and development of local industries by fostering the development capabilities of the local railway industry. At the same time, establish a sustainable supply chain management mechanism, and become the leader which guides the railway industry to sustainability.	<ul style="list-style-type: none"> Established collaboration with colleges and universities, and promoted talent cultivation in Taiwan's railway industry through industry-academia collaboration and internship programs, where a total of 50 station interns and 16 maintenance interns were accepted into our "College Summer Internship Experience Program" in 2019, and a total of 30 station interns and 37 service interns were accepted into our internship program for the academic year. 		4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.
	<ul style="list-style-type: none"> Actively promoted local supply and enhanced the capabilities of local vendors. Provided equal employment opportunities through talent recruitment and development. Enhanced the professional competencies of personnel based on assessment and training. Launched a series of products and promotional activities related to the "Journey with THSR, Discover Taiwan" initiative and promoted local culture and tourism in cooperation with the government, travel agencies, hotels, MRT, freeway bus operators, and event organizers, in order to activate local business opportunities and develop the tourism industry, thus driving overall performance growth. 		8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services. 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. 8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training. 8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.
	<ul style="list-style-type: none"> Marketed various attractions in Taiwan through HSR to promote tourism benefits and the development of local tourism industry, reaching a total of 3.17 million passengers. 		12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.
Comprehensively improve the corporate social responsibility governance mechanism, and strengthen the integration of governance and sustainable development by incorporating the corporate social responsibility vision into corporate culture. In addition, promote employee development, implement energy conservation and carbon reduction to create positive environmental benefits, and actively support charity events, arts, and ecological development as an important platform for strengthening the cohesion of Taiwan's society.	<ul style="list-style-type: none"> Conducted exchanges and visits with domestic and international transportation operators by welcoming 32 delegations, comprising a total of 916 counts of visitors, in 2019. Organized observation and exchange activities with JR Kyushu Railway Company (JR Kyushu). Joined the International Union of Railways and tracked weather items on the NAZCA platform under the International Union of Railways and the United Nations Framework Convention on Climate Change. 		17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology, and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.
	<ul style="list-style-type: none"> Organized the "High-Speed Educational Endowment Program" in collaboration with the "Down Syndrome Foundation R.O.C." by inviting HSR passengers and the public to pay high attention to early intervention for developmentally delayed children in rural areas, as well as spreading warmth and care to every corner of Taiwan through love garnered at HSR trains and stations. 		4.1 By 2030, ensure that all girls and boys complete free, equitable, and quality primary and secondary education leading to relevant and effective learning outcomes.
	<ul style="list-style-type: none"> Leased out the rooftop of maintenance depots to energy suppliers for the installation of solar power equipment in line with the government's effort to promote renewable energy, thereby generating 6,543 MWh of electric power in 2019. Installed solar panels at HSR stations to generate electric power for use by HSR stations. In 2018, completed application for Renewable Electricity Certificate for solar power generation systems at Miaoli, Changhua, and Yunlin Stations, which were approved by the Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs. In 2019, a total of 188 MWh of electricity were generated and 188 renewable energy certificates were obtained. 		7.2 By 2030, increase substantially the share of renewable energy in the global energy mix. 7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries and small island developing states.
	<ul style="list-style-type: none"> Continued to promote the operation of the "Corporate Governance Promotion Committee" to develop strategies for optimizing corporate governance systems and functions, and review Corporate Social Responsibility policies. Continued to organize "Taiwan High Speed Rail Opening Year of Arts," and implemented the "Dissemination Plan" at the second stage and the "Internalization Activity" at the third stage in 2019 to exert the influence of HSR and support the development of arts in Taiwan. 		8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.
	<ul style="list-style-type: none"> Established collaboration with education and charitable organizations in order to help disadvantaged groups fulfill their dreams of taking the HSR train for free, where a total of 786 disadvantaged groups and 140,851 people have participated in the THSRC Smiling Train Charity Program so far. 		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.
	<ul style="list-style-type: none"> Continued to improve and management operational energy efficiency through trains energy-saving driving and equipment settings. Monitored weather information in collaboration with the government and professional organizations. 	 	9.1 Develop quality, reliable, sustainable, and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities. 13.2 Integrate climate change measures into national policies, strategies, and planning.
	<ul style="list-style-type: none"> Reduced the impact of public transportation on the environment through energy management and waste recycling mechanisms. Increased the procurement of eco-friendly products to reduce the impact of supply chain on the environment. 		12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse. 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.
	<ul style="list-style-type: none"> Continued to develop relevant early warning and response measures in collaboration with the government, such as "Memorandum of Cooperation on Cross-border Disaster Prevention." 		17.14 Enhance policy coherence for sustainable development.

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Operational Performance and Sustainable Practices

Financial Performance

Item	Unit	2017	2018	2019
Sales Volume (Rail Transport)	thousands of passenger-km	11,103,359	11,558,787	11,994,453
Sales Value				
Rail Transport	NT\$ thousands	42,221,888	44,098,796	46,107,656
Sales Revenue	NT\$ thousands	189,262	208,683	210,947
Other Income such as Rent	NT\$ thousands	1,023,892	1,107,528	1,188,787
Operating Ratios				
Rail Transport		97.21%	97.10%	97.05%
Sales Revenue		0.43%	0.46%	0.45%
Other Income such as Rent		2.36%	2.44%	2.50%
EBITDA and EBTDA ^(Note)				
EBITDA	NT\$ thousands	31,657,691	32,921,179	34,513,097
EBTDA	NT\$ thousands	24,290,438	26,409,766	28,221,173
Turnover and Profitability				
Operating Revenue	NT\$ thousands	43,435,042	45,415,007	47,507,390
Gross Profit	NT\$ thousands	18,821,397	20,333,613	21,744,703
Net Operating Margin	NT\$ thousands	17,754,984	19,144,964	20,511,953
Net Income before Tax	NT\$ thousands	6,478,500	7,311,823	7,775,108
Net Income after Tax	NT\$ thousands	5,339,905	10,696,381	8,007,033
Assets, Liabilities and Equity				
Total Assets	NT\$ thousands	440,060,457	433,057,069	443,059,602
Total Liabilities	NT\$ thousands	377,042,108	363,644,056	371,982,333
Total Shareholders' Equity	NT\$ thousands	63,018,349	69,413,013	71,077,269

Note: 1. EBITDA: Earnings before interest, taxes, depreciation and amortization

2. EBTDA: Earnings before taxes, depreciation, and amortization

Economic Value Distribution

Unit: NT\$ thousands		2017	2018	2019
 Operating Costs	Operating costs (total)	24,613,645	25,081,394	25,762,687
	Operating expenses (total)	1,066,413	1,188,649	1,232,750
Cash outlays that occur outside the organization for the purchase of raw materials, product parts, site facilities, and services				
 Employee Salaries and Benefits		4,361,246	4,650,413	4,960,132
		Including total salary, as well as payments, periodic contributions, and other employee subsidies made to the government		
 Dividend Payout		4,221,220	6,303,688	6,810,797 ^(Note 1)
		Dividends paid to all shareholders		
 Interest Payment		7,463,329	6,618,272	6,454,624
		Interests paid to lenders		
 Payments to the Government	Taxes ^(Note 2)	1,930,247 ^(Note 3)	2,078,937	2,253,961
	Feedback fund ^(Note 3)	3,180,612	647,850	731,182
	Rental expenses ^(Note 3)	831,722	835,601	834,382
All taxes and penalties paid at international, domestic, and regional levels				
 Community Investment		4,784	11,758	16,905
		Voluntary donations and investments whose target beneficiaries are non-organizational external units		

Note: 1. It refers to the amount proposed by the Board of Directors. The Company's surplus distribution plan for 2019 was approved in the annual shareholders' meeting convened on May 21, 2020.

2. Government tax payments include business tax, profit-seeking enterprise income tax, and other taxes.

3. It is the amount paid by THSRC in accordance with the "Taiwan North-South High Speed Rail Construction and Operation Agreement" signed with the Ministry of Transportation and Communications (MOTC).

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Government Subsidies

Unit: NT\$ thousand

Type	Purpose/Description	2017	2018	2019
Tax Deduction and Credit 	Tax credit applicable to capital expenditures invested in personnel training specified in Article 29 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects" (Note 1)	4,351	3,687	3,829
	Five-year tax exemption specified in Article 28 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects" (Note 2)	1,264,751	2,841,765	3,119,694
Investment Subsidies, Research and Development Subsidies, and Other Related Subsidies 	Subsidy for the "2016 Upgrade Plan for Highway Public Transportation - Taiwan High Speed Rail Multi-Card Ticket Integration Transfer Service Project" issued by the Bureau of High Speed Rail, Ministry of Transportation and Communications (MOTC)	3,930	-	-
	Subsidy Program for 4G Smart Broadband Application in Cities (Taiwan High Speed Rail iTaiwan Application Service Project) - High Speed Rail Wi-Fi Smart Application Project issued by the Industrial Development Bureau, Ministry of Economic Affairs	-	24,094	-
	Subsidy Program for Smart Urban and Rural Life Applications (Innovative Service Program) - High Speed Rail Wi-Fi Service Experience Improvement Project issued by the Industrial Development Bureau, Ministry of Economic Affairs	-	-	933

Note: 1. The amount of deductible tax return in 2017 and 2018 have been verified by Certified Public Accountants (CPAs), whereas the amount of deductible tax return in 2019 is yet to be verified by CPAs.

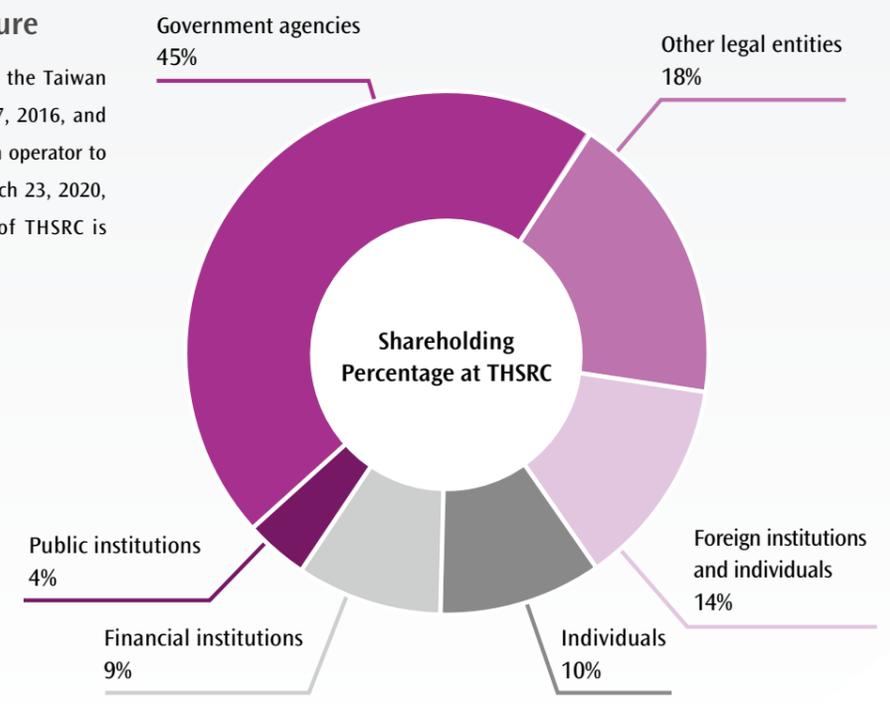
2. The Company applied for five-year exemption from profit-seeking enterprise income tax in accordance with Article 28 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects." On April 13, 2018, exemption from profit-seeking enterprise income tax for this case was approved by the Ministry of Finance, and the scope of tax exemption was determined in accordance with ticket fare income for passenger transit and transportation charge income for cargoes specified in Subparagraph 1, Paragraph 1, Article 3 of the "Regulations Governing Application of Profit-seeking Enterprise Income Tax Exemption to Private Institutions Participating in Transportation and Communication Infrastructure Projects." In addition, the Company has chosen to delay the start of the tax exemption period to January 1, 2017 for exemption from profit-seeking enterprise income tax for five consecutive years within the scope of statutory tax exemption in accordance with Paragraph 2, Article 28 of the "Statute for Encouragement of Private Participation in Transportation Infrastructure Projects."

Operational Performance

Indicator	Unit	2017	2018	2019
Number of Train Services	times	51,751	52,437	53,727
Passenger Volume	thousands	60,571	63,963	67,411
Punctuality Rate (Arrival Within Five Minutes of Scheduled Time, excluding Delays due to Force Majeure)	%	99.78	99.76	99.90
Reliability Rate (excluding Delays due to Force Majeure)	%	100	100	100
Average Delay Time for Arrival at Terminal Station	minutes	0.102	0.170	0.069

Shareholding Structure

THSRC was officially listed on the Taiwan Stock Exchange on October 27, 2016, and was the first rail transportation operator to be listed in Taiwan. As of March 23, 2020, the shareholding structure of THSRC is shown as right:



Financial Performance in 2019

THSRC continues to optimize its financial structure as its operating profit continues to grow. Due to the financial, profitability, and corporate governance performance, THSRC has been successively included as the constituents of indices, including the MSCI Taiwan Index, the FTSE TWSE Taiwan 50 Index, the TWSE Corporate Governance 100 Index, and the FTSE4Good Emerging Index. In 2019, THSRC was once again selected as the constituent of the FTSE4Good TIP Taiwan ESG Index and awarded an exclusive seal of the index. We conduct assessments and decision-making with regard to governance, operations, and development planning from the perspective of sustainable management. We are also committed to improving the performance of the implementation of sustainable development and actively practicing corporate social responsibility.

Performance Highlights



In 2019, our cumulative revenue was NT\$**47.51 billion**, an increase of **4.6%** from the previous year. Meanwhile, our net income before tax was NT\$**7.78 billion**, an increase of **6.3%** from the same period last year, and our net income after tax was NT\$**8.01 billion**.

Action Plan



- THSRC successfully reduced interest rates of syndicated loans through negotiations with bank consortiums to save on interest expenses.
- In July 2018, THSRC once again repaid the principal for Tranche A Facility of syndicated loan totaled NT\$**10 billion** in advance. From 2016 to 2018, THSRC has settled the principal for long-term syndicated loans up to NT\$**72.2 billion**.
- In 2019, THSRC completed the issuance of 30-year unsecured corporate bonds worth NT\$**8 billion** at a fixed annual interest rate of **1.6%** to reduce the risk of interest rate volatility and diversify funding channels, so as to provide THSRC with long-term, stable, and low-interest funds, thereby creating greater shareholder value.
- THSRC successfully obtained the "**five-year tax exemption**" from the government.



Transportation

▶▶▶ Professional Transportation

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Transportation >>> Professional Transportation

Management Approach	Subchapter Title	Material Topic	Management Purpose	Management Method	Assessment Mechanism
Management Approach	Safety Services and Responsible Transportation	Product/Service quality	<ul style="list-style-type: none"> In view of the diversity and variability of the transportation market, maintain the quality of products and services at a stable and high level through a management system and a periodic review mechanism, in order to ensure that the content of products can meet passengers' needs, and the service system can keep pace with the times. 	<ul style="list-style-type: none"> Implement the ISO 9001 Quality Management System, and establish quality policy. 	<ul style="list-style-type: none"> Each unit has established Quantitative Quality Performance Indicators (QKPI) for quality goals including safety, reliability, efficiency, and customer satisfaction, and developed a review mechanism for regular review, discussion, and examination. Track and understand passengers' feelings about product and service quality through annual passenger satisfaction survey reports.
		Transportation safety management	<ul style="list-style-type: none"> Ensure the safety of every passenger, employee, and other public users. 	<ul style="list-style-type: none"> Establish the Safety Committee covering different levels and functions to manage issues such as reviewing safety performance, verifying the implementation of safety management, etc., and regularly supervise, review, and manage abnormal events in train services due to natural disasters. 	<ul style="list-style-type: none"> Perform audit to examine whether the implementation of safety management meet specific standards, assess whether each unit has fulfilled its safety responsibilities and carry out its functions according to the relevant regulations, and confirm whether the system is continuously operating in an effective manner.
	Disaster Prevention with Professional Response	<ul style="list-style-type: none"> Ensure that the safety and quality of HSR train services are not affected by natural disasters and man-made disasters. 	<ul style="list-style-type: none"> Establish internal plans, regulations, and standard operating procedures for disaster responses in accordance with the laws and regulations related to disaster prevention and fire prevention, and formulate the "Taiwan High Speed Rail Overall Disaster Prevention and Response Plan" to establish an overall framework for natural disaster and man-made disaster management. 	<ul style="list-style-type: none"> Formulate training programs every year to conduct drills regularly and without warning for various hypothetical scenarios, and assess how familiar our employees at all levels are with various emergency procedures and the effectiveness of related plans and regulations. 	
	Smooth Travel in Adherence to Promises	Traffic dispersion and transit services	<ul style="list-style-type: none"> Maximize capacity and efficiency with flexible train schedule and train stopping patterns, as well as planning of transit and train services between stations and important transportation hubs, in order to satisfy the travel needs of all types of passengers. 	<ul style="list-style-type: none"> Formulate each traffic dispersion plan through rigorous internal procedures, and implement them after being submitted to the Ministry of Transportation and Communications (MOTC) for future reference. 	<ul style="list-style-type: none"> Periodically track and observe the status of train reservation during traffic dispersion periods, discuss the need and feasibility of additional train runs, and reserve spare trains for ad hoc scheduling.

Safety Services and Responsible Transportation

THSRC celebrated its 12th anniversary of operation in 2019. With an average daily ridership over 185,000 passengers, we bear the responsibility of ensuring the safety of every passenger and providing high-quality travel. THSRC still maintains zero operational accident so far. In 2019, THSRC's Punctuality Rate was 99.9%, with an average delay time of only 0.069 minutes; thus, THSRC has demonstrated performance of international level in the railway industry.

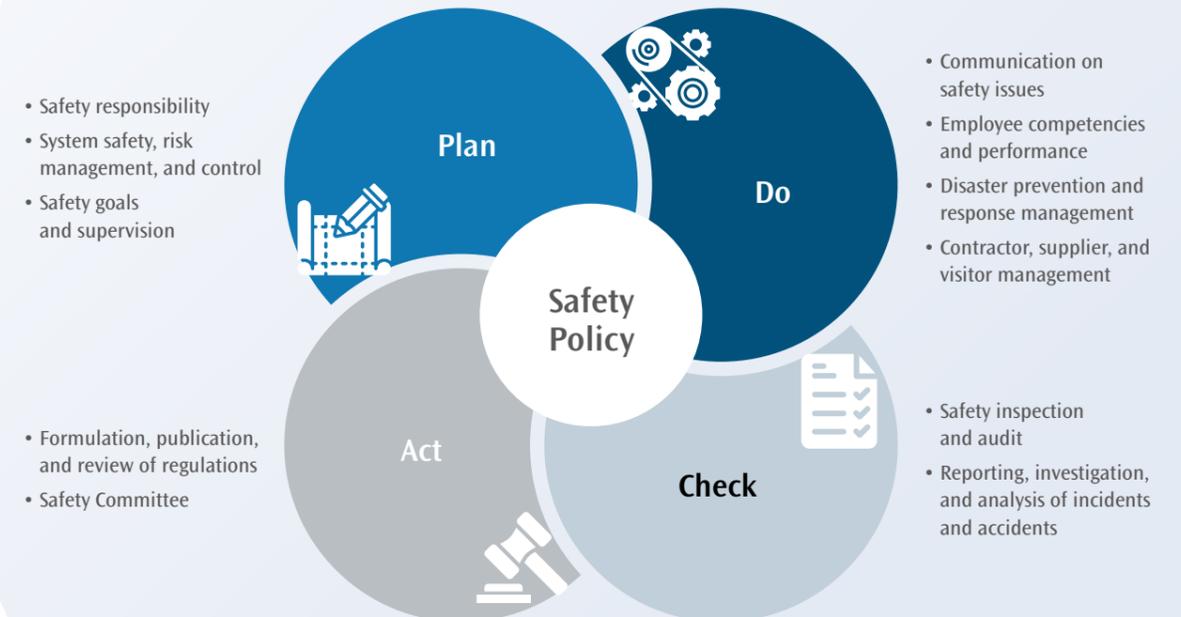
Safety Management and Culture

Having an operational safety management mechanism with risk management as the backbone, THSRC properly applies internationally recognized risk assessment and safety management methods, and implements risk prevention and full personnel participation. Each section must follow the relevant operating procedures to ensure operational safety and maintain a high-quality safety culture.

Spirit of Safety Service

The "Operational Safety Plan" is adopted as the highest level of safety regulations for safety management at THSRC. The plan combines railway operations and maintenance, high speed rail systems and related new businesses, development, and implementation, as well as integrates the principles of Plan-Do-Check-Act (P-D-C-A), thereby effectively achieving the strategies and goals of THSRC through the implementation and continuous improvement of 12 safety management elements.

Safety Management System - Operational Safety Plan



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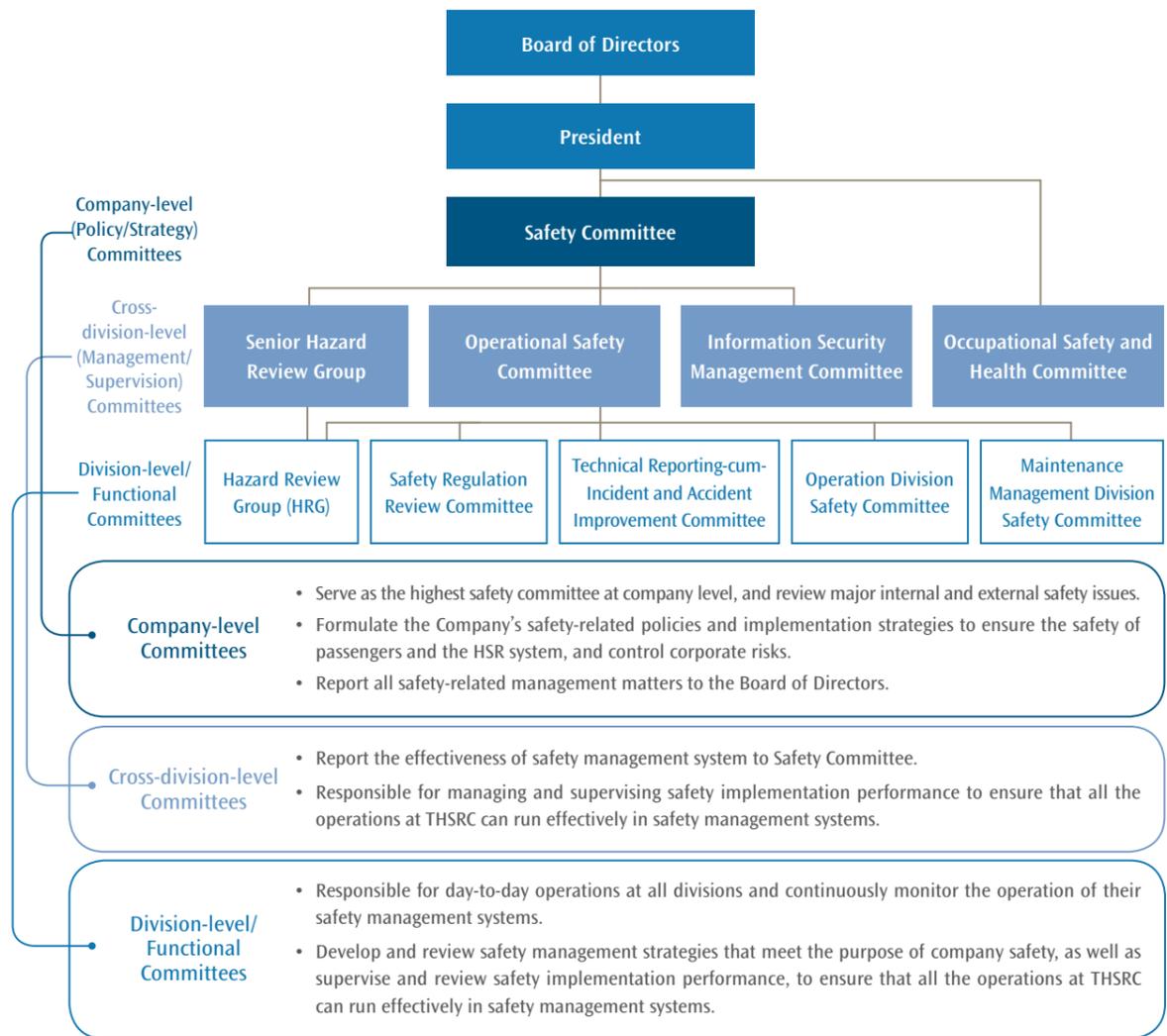
Dedicated Safety Management Framework

In order to ensure operational safety and workplace safety and health, we have established three levels of safety committees to implement full personnel participation and serve as a platform to jointly learn about the implementation of safety management and relevant improvement measures.

According to the safety and health policy of THSRC, every employee is responsible for maintaining his/her personal safety, and protecting the safety of service targets and HSR assets for which he/she is responsible. Furthermore, our employees are given the appropriate management or execution responsibilities according to their positions as indicated in their work instructions, in order to fully implement safety management.

To provide our passengers and employees with a safety first operational environment, we carry out safety policy planning with the most meticulous attitude, as well as formulate strategies and supervise the implementation of these strategies through safety committees at various levels, so that every employee understands and adopts THSRC's safety regulations.

Organizational Structure of Safety Committees in 2019



Note: 1. The Company-level Safety Committee convenes a meeting every six months. The Occupational Safety and Health Committee, as well as the Operational Safety Committee and the Information Safety Management Committee at cross-division-level convene a meeting every quarter. The Operation Division Committee and the Maintenance Management Division Safety Committee at division-level convene a meeting every month. The HRG, the "Safety Regulation Review Committee," and the "Technical Reporting-cum-Incident and Accident Improvement Committee" decide whether to convene meetings according to the occurrence of incidents, with no fixed frequency of such meetings.

2. The Occupational Safety and Health Committee is parallel to other safety committees, and is tightly connected to employee safety. For more details, refer to the subchapter titled "Protection of Rights and Considerate Care."

Safety and Quality Services

Providing safety and quality services is an important mission of THSRC. We promote our quality policy from top to bottom, extending from the Quality Management Committee chaired by the President to all employees, with a view to internalizing quality into our operational culture.

Safety and Quality Management System

THSRC's quality management system is built on the requirements of ISO 9001 Quality Management System, and ensures the implementation of quality policies through regular meetings.

Quality Review Mechanism

Annual Quality Management Review Meeting	This meeting is convened annually, hosted by the President, and participated by the head of each division and office at THSRC.	It serves to review the implementation of THSRC's quality management system and the continued applicability of THSRC's quality management system.
Quarterly Quality Representative Meeting	This meeting is hosted by THSRC's quality representative (Head of Quality Assurance Office), and participated by quality representatives designated by each unit.	It ensures the implementation of quality policy from top to bottom.

To ensure full implementation of quality management, we continuously and strictly control and inspect the quality of internal operations in three major areas of "operations," "maintenance," and "customer service." Each opportunity for improvement is regularly tracked, reviewed, improved, and concluded so as to provide travel service with "safety," "reliability," "efficiency," and "customer satisfaction" to the public. From the perspective of life cycle, THSRC regularly examines the configuration of operation-related facilities, equipment, and related system hardware and software components to ensure that passengers can enjoy safe and quality services when trains are traveling on the track at high speed.

Configuration Identification

Item	Content
Main Categories	Core, trackside equipment, track, closed circuit television, facility, station, maintenance depot, and depot equipment
Total Monitored Items	34,960
Percentage of Configuration Monitored Items	80.79%
Verification Method/Frequency	Internal verification by the Quality Assurance Office/once every quarter

In 2019, THSRC appointed a third party to conduct certification on overall core business covering "HSR management, maintenance and passenger service" according to the new version of ISO 9001 published by the International Organization for Standardization (ISO) in 2015, in order to ensure that THSRC's quality management system keeps pace with the times, and continuously enhance the quality of operations and maintenance. No non-compliance was found in this round of certification; thus, THSRC successfully passed this round of certification renewal. In addition, the government also plays a supervisory role in external quality assurance, while the Railway Bureau, Ministry of Transportation and Communications (MOTC) conducts regular inspection, as well as temporary inspection and other items as needed on HSR operations every year.

External Quality Inspection Items

External Unit	Item	2017	2018	2019
Certification Company	Certification of ISO 9001	Routine audit	Transition of ISO 9001 certification	Renewal of ISO 9001 certification
Government Units	Annual regular operational inspection and temporary inspection	4 times	Once	Once

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To ensure that our services can better meet customer needs, THSRC launched the employee proposal improvement system to encourage active employee participation. We also incorporated Quality Control Circle activities to drive toward continuous improvement of quality, safety, and operational efficiency, which not only improves the timeliness of overall operations, but also achieves positive benefits such as lowering operating costs.

In addition, in order to improve the overall safety awareness toward domestic railway operations and encourage horizontal exchanges and experience sharing in the industry, THSRC organized the “Railway Operation Security Experience and Security Practice Workshop” on September 4, 2019, and invited supervisors and managers from various domestic railway operators to share management experiences on related issues. In this seminar, a total of eight topics related to railway operational safety experience and security practices were presented, in hopes of improving the quality of passenger, public and operational safety while promoting the safety culture of teamwork through exploration, exchange, and experiential learning.

**The most outstanding unquantifiable improved performance in 2019 -
Extension of Service Life of Lever Arm**

The epoxy protective coating of lever arm was repaired to extend the service life of lever arm.

**The most outstanding quantifiable improved performance in 2019 -
Improvement on the Discontinued Direct Line Telephone Maintenance PC**

As Neumann, the original manufacturer, discontinued the production of the direct line telephone maintenance PC, we replaced them with locally-made equipment and saved a total of NT\$5,254,000 in cost.



1	2
3	

1. THSRC Chairman Chiung Yao-chung personally presented the flag to the members of “OCC Leading” during the launch of the Quality Month
2. The Chairman of the Taiwan Continuous Improvement Awards presented the first prize (Golden Tower Award) to THSRC
3. Group photo of all the participants during the Seminar on Railway Operational Safety Experience and Security Practices in 2019

Quality Advancement Direction and Review

Since 2008, THSRC has facilitated internally and established Quantitative Quality Performance Indicators (QKPI) to continuously improve various operations, as well as to track the implementation status of these indicators every quarter to truly review and improve on related operations that are yet to meet targets. Continuing from THSRC's excellent operational safety performance, no accidents or injuries to passengers or to the general public were caused by train service operations in 2019. Along with the efforts of our employees, we also successfully met the targets of performance indicators (passenger injury rate) associated with passengers.

Quality Performance Indicators

Area	Item	Formula	2017		2018		2019	
			Target/Estimated Value	Achieved Value	Target/Estimated Value	Achieved Value	Target/Estimated Value	Achieved Value
Safety	Passenger injury rate (severe injury and death)	Passenger injury (severe injury and death) per million trips	0	0	0	0	0	0
	Passenger injury rate (minor injury and medical treatment)	Passenger injury (minor injury and medical treatment) per million trips	<0.04	0	≦ 0.04	0.03	This item was canceled in 2019 (Note 2)	
	Passenger injury rate (minor injury)	Passenger injury (minor injury) per million trips	<0.10	0.08	≦ 0.10	0.06	≦ 0.08	0.06
Reliability	Five-minute punctuality rate	Number of train runs with delays within five minutes of scheduled time/Total number of train services	>99.1%	99.78%	> 99.5%	99.8%	> 99.5%	99.9%
	Automatic Fare Collection System (AFCS) station equipment availability rate	[(Total operating time of main equipment every season - Total downtime of main equipment every season)/Total operating time of main equipment every season]*100%	99.90%	99.99%	This item was canceled in 2018 (Note 1)		-	-
Efficiency	Customer comments & suggestions achievement rate	Number of cases replied within seven days/Total number of cases	≧ 99%	100%	≧ 99%	100%	≧ 99%	100%
Customer Satisfaction	Overall service satisfaction	Number of respondents giving 5 points and 4 points in the customer satisfaction category/ Total number of respondents	≧ 94%	95%	≧ 95%	96%	≧ 95%	96%

Note: 1. THSRC re-examines the Key Performance Indicators (KPIs) of each item every year, and revises as appropriate. The maintenance of the AFCS was originally outsourced, but has been taken over by THSRC since 2018 and placed under the maintenance of information systems at THSRC. Since the statistics on the maintenance of the AFCS equipment was not listed separately, this KPI was removed in 2018.

2. Minor passenger injuries must be reviewed and actions must be taken to make the necessary improvements. However, “minor passenger injury and medical treatment” is often determined based on passengers’ subjective judgment. Therefore, this KPI was removed in 2019, and its removal was approved by the 62th Operation Safety Committee and the first Safety Committee.

Station and Route Safety and Risk Management

After daily train operations, railway maintenance personnel conduct routine inspections to ensure the safety of rail tracks and civil works. In 2019, a total of 1,800 turnouts were inspected, while routine rail track inspections and rail track irregularity inspections were completed over a distance of 8,389 km. In addition to rail track maintenance, daily inspection and maintenance of HSR facilities, including stations, trains, mechanical and electrical facilities, civil structures, route safety, etc., include safety inspection of various facilities.

Inspection and Maintenance Performance for 2019

Category	Cycle	Number of Trainsets Maintained
Daily Inspection	Every 2 days	5,066 trainsets
Monthly Inspection	Every 30 days or 30,000 km	673 trainsets
Bogie Inspection	Every 18 months or 600,000 km	32 trainsets
General Inspection	Every 36 months or 1.2 million km	15 trainsets

The hazard management mechanism is a mandatory part of safety management at THSRC, so as to effectively manage possible hazards arising from operations, maintenance, and engineering projects. THSRC's Hazard Review Group (HRG) is an independent group whose members originate from different professional fields. The group convenes regular meetings every month to review reported hazard information and the appropriateness of related risk assessment, as well as whether hazard controller proposes mitigation in compliance with proper procedures and techniques, so that risks can be reduced to the As Low As Reasonably Practicable level (ALARP). As of 2019, the hazard risk levels identified by the HRG meetings for three consecutive years have lain within the risk tolerance range.

Disaster Prevention with Professional Response

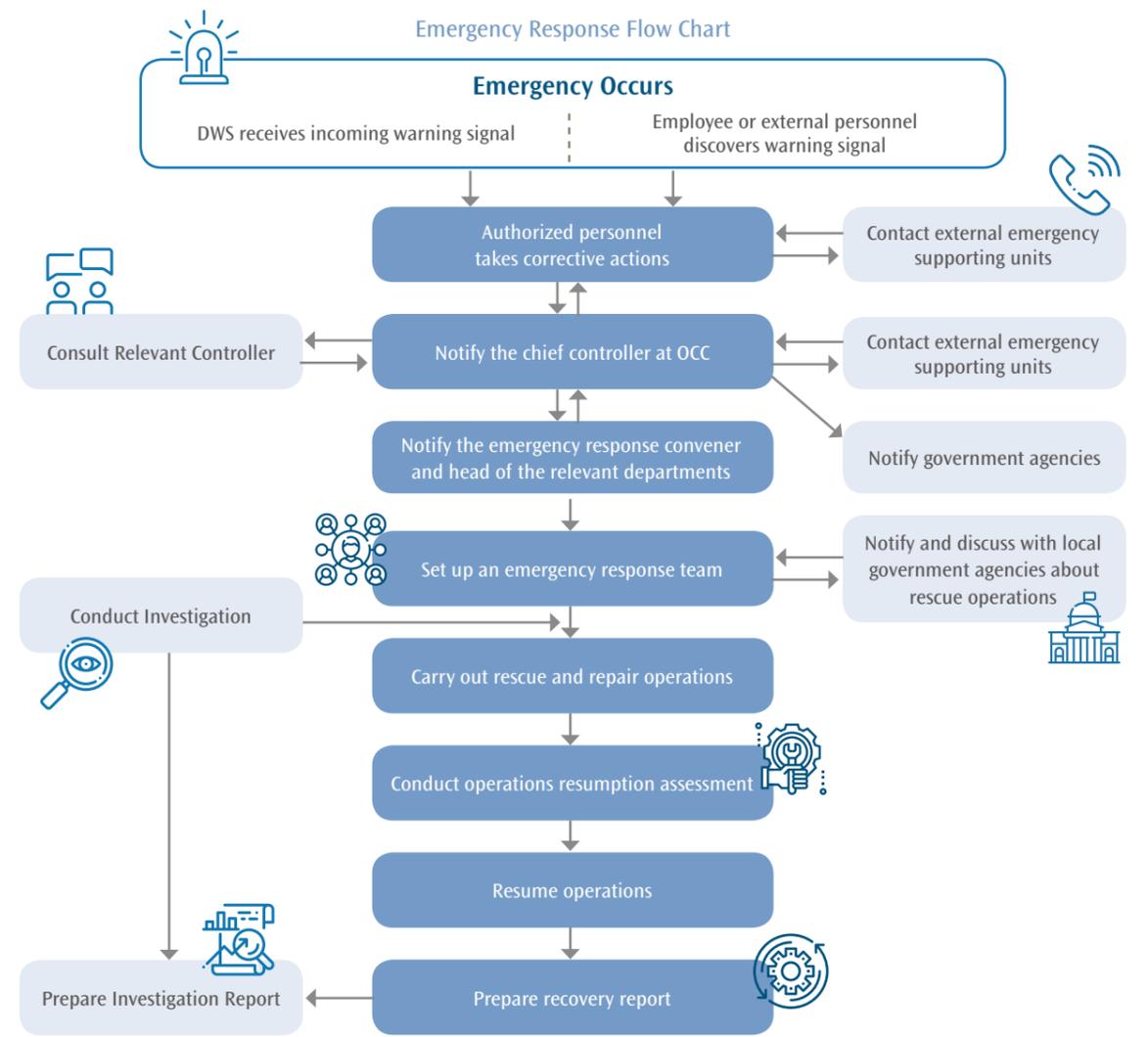
Train Safety and Disaster Prevention and Response

The risk factors affecting HSR train safety can mainly be divided into three types, namely natural disasters (e.g., earthquakes, typhoons, torrential rain, slope sliding, rockfalls, etc.), human factors (e.g., vandalism on equipment, arson, explosives, violent attacks, hostage taking, etc.), and equipment anomalies (e.g., signaling system failures, turnout failures, train bogie failures, power line sag, etc.). We plan overall prevention and response measures by placing passenger and personnel safety as primary considerations according to the three types of risk factor. During emergency repair of equipment, we try to avoid damages or delays from spreading as the priority.

We formulate training programs every year to conduct drills regularly and without warning for various hypothetical scenarios, and disclose our prevention and response measures via this report and our corporate website, so that our employees at all levels are familiar with various emergency procedures. Besides, in order to keep train operations in a safe state at all times, we have built a train safety system of high standards while monitoring the operating status of trains at all times using advanced track technology and ensuring the safety of each passenger using safety technology.

Natural Disaster Warning Mechanism

THSRC has formulated internal plans and regulations in accordance with regulations related to disaster prevention and fire prevention, and promoted various disaster prevention works at all stations and depots according to requirements. Standard operating procedures for various disaster responses are examined independently by international experts at the stage of government inspection, which adequately responds to various possible disasters that may affect the safety of passengers and HSR.



Natural Disaster Prevention Measures

Type of Prevention	Passive Prevention	Predicted or Knowable Disaster Prevention	Detection and Prevention along Operating Routes	Earthquake Prevention for Civil Structural Facilities
Position of Prevention	Station facilities and operating trains	HSR operation sites and operating trains	Operating trains	Elevated bridges, tunnels, and flat sections
Content of Prevention Measures	Construct station facilities and operating trains using fire-retardant, fire-resistant, low-smoke, and non-toxic materials according to fire prevention and environmental protection regulations, as well as regulations of the US National Fire Protection Association.	<ul style="list-style-type: none"> Initiate typhoon/rain prevention preparations in advance through interpretation of typhoon/torrential rain warnings and weather information. Formulate the "Overall Disaster Prevention and Response Plan for Taiwan High Speed Rail Traffic Accidents" with the Ministry of Transportation and Communications (MOTC), and establish supporting and assistance mechanisms with central and local rescue units. 	Install natural disaster warning detectors along the HSR line, which are directly connected to the Automatic Train Control (ATC) System and can automatically stop trains immediately if there are earthquakes, slope sliding, and rockfalls which directly affect train safety.	Civil structural facilities can still resume safe operation after earthquakes under the impact of structures equivalent to earthquakes with a 950-year return period.

Although Taiwan is located in the Pacific Rim which results in high incidence of earthquake, THSRC fully considers the earthquake resistance of civil facilities according to national specifications and standards at the beginning of the design and construction of the HSR system, and has established corresponding response methods for natural disasters, such as earthquakes, typhoons, and torrential rain. In addition, THSRC possesses the ability to quickly integrate the mobilization and recovery of domestic and foreign resources. During an unexpected dramatic change, THSRC is able to quickly resume operation to reduce inconvenience caused to passenger. Learning from the flooding incident caused by typhoon and torrential rain at the Hokuriku Shinkansen Vehicle Depot in Japan on October 13, 2019, we once again reviewed our flood control standards and flood warning and evacuation plans to ensure that our HSR train parking areas meet high flood control safety standards. Information on the natural disaster events affecting operations in 2019 is listed in the following table:

Natural Disaster Events Affecting Operations		
Event	2019	Response Methods
Earthquakes ^(Note)	April 18 and August 8	The main earthquake detector was activated, and the system set a temporary speed limit of zero along the affected sections. Thereafter, the Operational Control Center (OCC) and the relevant units gradually increased train speed until normal operation was resumed after carrying out train patrol operations in accordance with standard operating procedures.
Typhoons and torrential rain	May 20 and August 9	According to warning messages from wind and rain detectors, the OCC set a temporary speed limit along the affected sections according to the relevant procedures. As no anomalies were reported from trains passing through the affected sections, the OCC lifted the temporary speed limit thereafter.

Note: For THSRC's earthquake response plan and passenger response, please refer to THSRC's "High Speed Rail Encyclopedia - High Speed Rail Earthquake Prevention and Response."

Man-made Disaster Prevention Mechanism

At the beginning of the construction of HSR, the HSR police force was set up to assist in maintaining order and train safety at HSR stations with help from the Ministry of Transportation and Communications (MOTC) and the Ministry of the Interior, while security companies were also commissioned to assist in maintaining order, equipment, and train safety at HSR stations. At the same time, closed-circuit televisions were installed in vital maintenance facility rooms or tunnels at all stations along the HSR line, while dedicated personnel was deployed to conduct monitoring. Moreover, THSRC has also established implementation and response plans for disaster prevention and security. For details regarding security management, refer to the subchapter titled "Partner Relationship Management and Local Supply" in this report.

In addition, we have reviewed our standard operating procedures for responding to man-made hazardous disasters and events that endanger HSR safety. We also conduct safety inspections on various scenarios, including at HSR stations, on trains which are parked at stations, and on trains which are traveling between stations, as well as include the relevant key prevention points in the planning drills, in order to ensure the safety of HSR facilities and the public.

All-day Monitoring and Safety First - Operational Control Center (OCC)

The command hub for the overall system of THSRC is located in the automated and computerized OCC at the Taoyuan Operation Management Center Building, and is equipped with route control, signaling and safety interlock, power control, communication, data transmission or monitoring and warning equipment required for system operation scheduling. We have designated controllers specializing in operations and maintenance to serve in the OCC to monitor the status of operation and night maintenance along the entire HSR line in real time all day long, while maintaining close contact with station control centers, depot control centers, and external emergency supporting units, in order to maintain normal system operations and implement passenger safety.

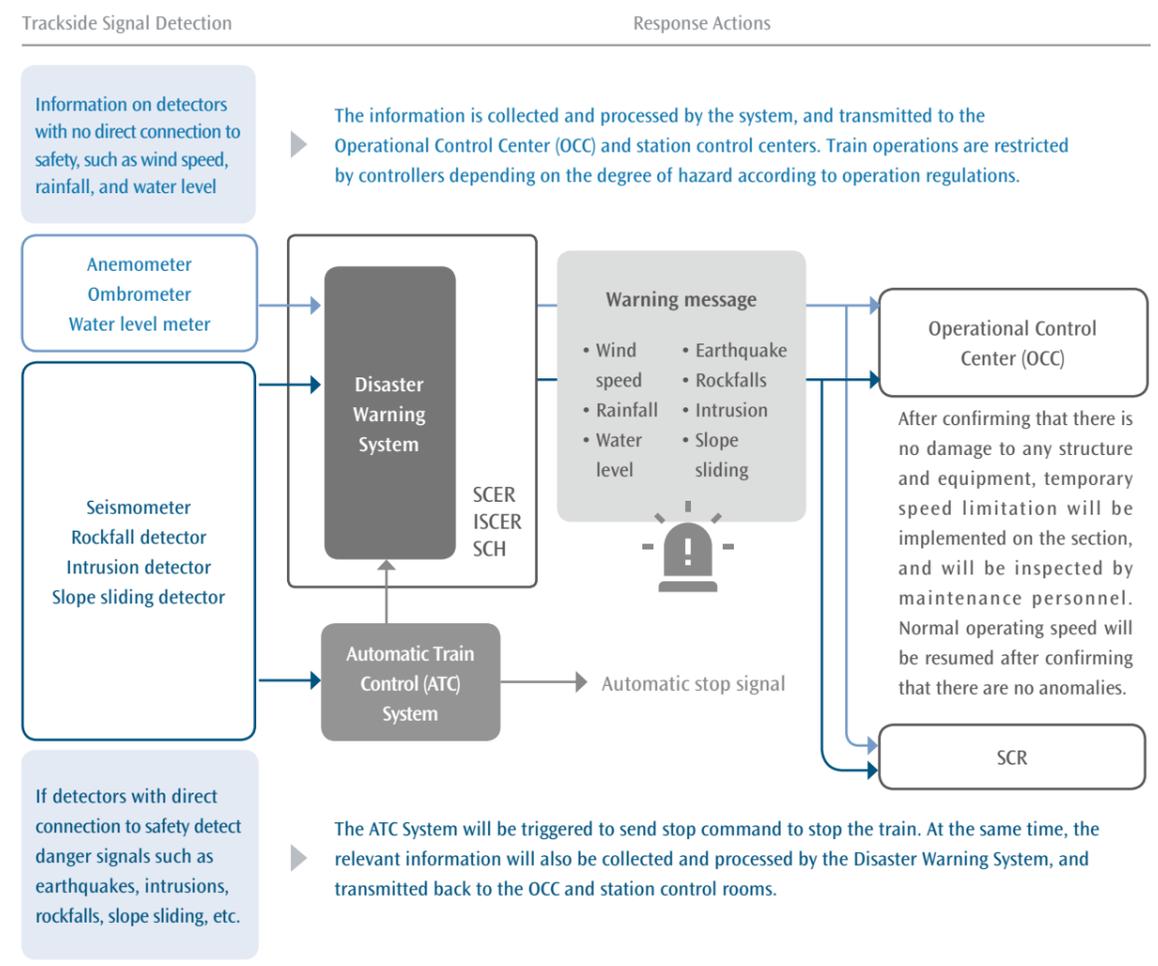


THSRC Operation Control Center

Real-time Detection and Disaster Prevention - Disaster Warning System (DWS)

THSRC has installed the "Disaster Warning System" in train operations along the HSR line, including detection facilities for strong winds, torrential rain, floods, earthquakes, intrusion of foreign bodies, slope sliding, and rockfalls, in order to reduce the threat of natural disasters and external factors to train safety, and prevent such incidents and interruption of operations. If earthquakes, intrusion of foreign bodies, slope sliding, rockfalls, and other danger signals which are directly related to safety are detected, the Automatic Train Control (ATC) System, will be triggered to send a stop command to stop the train. THSRC continues to improve equipment quality by adding earthquake detectors under the Disaster Warning System framework to rapidly monitor the range of regional earthquakes in a more accurate manner, and enhance earthquake early warning capabilities along the HSR line.

Disaster Warning System Framework

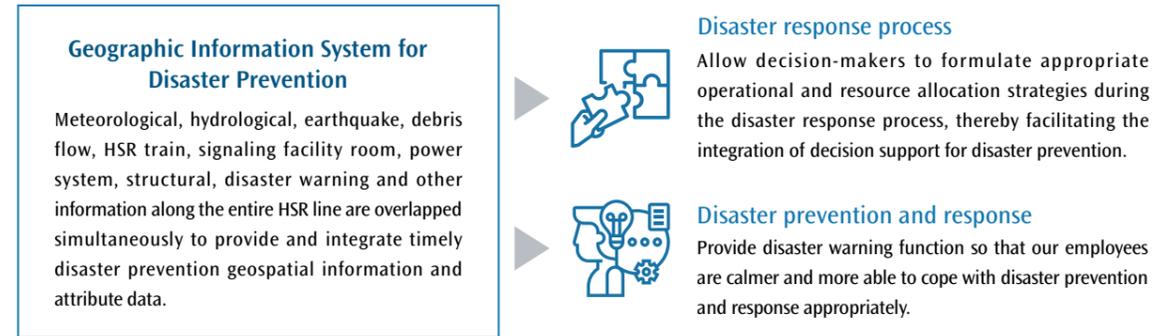


Note: 1. SCER: Signaling and Communication Equipment Room
 2. ISCER: Intermediate Signaling and Communication Equipment Room
 3. SCR: Station Control Room
 4. SCH: Signaling and Communication Hut

Disaster Prevention and Response Information System

The THSRC disaster prevention and response information system includes Train Operation Management Information System, disaster warning information system, real-time disaster investigation system, and disaster prevention geographic information system. The disaster database is usually used to collect disaster information and assist personnel in simulation training. Once a disaster occurs, this database is used as a source of reference for rescue and repair units. In 2019, THSRC's existing disaster prevention and response management mechanism is continuously advanced and enhanced on the existing basis.

Application Process of Geographic Information System for Disaster Prevention



Safety Training

In order to ensure and enhance operational safety, we continuously refer to domestic and international experiences in various railway incidents and the "Taiwan High Speed Rail Overall Disaster Prevention and Response Plan" approved by the Central Disaster Prevention and Response Council, Executive Yuan, plan and launch various types of disaster prevention training and rescue drills with external supporting units to familiarize with the joint command response mechanism and improve on-site rescue capabilities, and carry out various types of preparations for disaster prevention. In 2019, the operating mechanism for THSRC's disaster prevention and response management is continuously advanced and enhanced based on the existing foundation. A total of 81 disaster prevention drills and training activities were completed in various locations, including stations, depots, and routes.

Safety Training in 2019

<p>Internal Training for Site Commanders and Disaster Relief Engineers</p> <p>A total of 32 site commanders and disaster relief engineers completed internal training.</p>	<p>Disaster Prevention and Response Mechanisms Seminar</p> <p>On November 5 and 14, various external supporting units along the HSR line (including the Toxic and Chemical Substances Bureau under the Environmental Protection Administration, firefighters, police, health units, environmental protection units and Northern, Central and Southern medical response centers) were invited to attend the seminar on HSR disaster prevention and response mechanisms. A total of 79 people participated in this seminar.</p>	<p>Disaster Prevention Drills and Training</p> <p>THSRC invites various external supporting units and emergency shuttle bus transport operators to jointly survey the 184 emergency escape exits along HSR line once every six months, in order to continuously familiarize with the disaster relief routes and emergency escape routes along the HSR line.</p>
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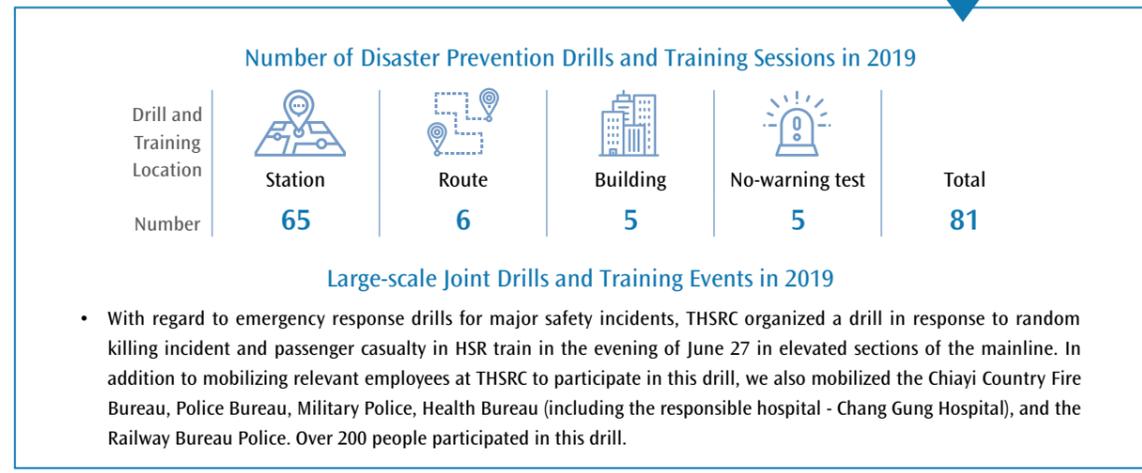


Photo of the drill in response to random killing and passenger casualty



THSRC personnel carried out deep disinfection of trains using mechanical sprayers

THSRC's COVID-19 Epidemic Prevention Measures in 2020

As the spread of COVID-19 epidemic reached its peak from January to April 2020, THSRC actively complied with the government's epidemic prevention policies by establishing the "COVID-19 Epidemic Prevention Response Team" to regularly review epidemic prevention work. Since the end of January, we successively set up multiple epidemic prevention measures "way in advance" and also required all departments to formulate "business continuity plan" in order to cope with all possible changes in the future.

At present, the COVID-19 epidemic has no significant impact on THSRC's operations. We face this epidemic crisis with comprehensive epidemic prevention measures, and safeguard passengers' health and safety with the most cautious attitude as we seek to fulfill our responsibilities in maintaining Taiwan's excellent epidemic prevention performance. THSRC's important epidemic prevention measures are explained as follows:

- ▶ **Transparent communication**
 Set up the "COVID-19 Epidemic Prevention Section" on our corporate website to communicate the latest epidemic prevention measures at HSR stations and in HSR stations and our operations, as well as ticketing-related instructions and other related news to the public.
- ▶ **Trains**
 - Implement "social distancing seating" for ticket booking and seat allocation for "one-to-two person business class compartment" and "one-to-three person standard compartment for reserved seat ticket" to scatter seating arrangements during off-peak hours.
 - Prohibit eating and drinking in train compartments and suspend train catering and vending machine sales services. Increase the volume of water flowing out of faucets in toilets on HSR trains in response to passengers' cleaning needs.
 - Disinfect trains with alcohol after each return trip, and clean HSR stations and depots with bleach after the end of train operations every day.
- ▶ **Stations**
 - Equip stations with medical-grade infrared temperature screening devices and forehead thermometers, where passengers must pass through temperature screening devices before entering the station gate and passengers whose body temperature exceeds 37.5 degrees are not allowed to board the train.
 - Set up "social distancing" markers at various locations, including ticket counters, ticket vending machines, chairs in waiting areas, and shuttle bus queuing areas.
 - Strengthen efforts to educate passengers that it is mandatory to wear mask on HSR trains and passengers who violate this rule will be reported to the police in accordance with the law.
 - Prepare 75% alcohol-based hand sanitizers at stations for use by passengers and our employees.
 - Suspend the use of water dispensers at stations.
 - Disinfect stations every two hours during operating hours and clean stations with bleach after operating hours.
- ▶ **Train Service**
 - The HSR train which has carried a confirmed COVID-19 case must be fully cleaned and disinfected at depots, including wiping all equipment in the train compartment with bleach or hypochlorous acid water. Replace the seat cushion cloth used by the passenger, and replace the air intake filter, air circulation filter, and air outlet filter in the train compartment.
 - Implement seat reservation for all train runs during traffic dispersion of holidays, including Tomb-Sweeping Day (April 1 to April 6), Labor Day (April 30 to May 3), Mother's Day (May 8 to May 10), and Dragon Boat Festival (June 24 to June 28), and suspend the use of periodic tickets, multi-ride tickets, Co-branded EasyCard/iPASS Co-Brander Card to reduce the risk of infection.
 - Arrange work shifts for our employees by group and area according to the "epidemic prevention schedule" to minimize the risk of cross-infection among our employees, and ensure that HSR travel services are not interrupted due to escalation of the epidemic. Also, provide supporting measures such as advance leave arrangements to minimize the impact of schedule adjustments on our employees' lives and families.

Note: Please refer to the COVID-19 Epidemic Prevention Section for the latest epidemic prevention measures. 

Smooth Travel in Adherence to Commitment

Scheduling Policy and Traffic Dispersion

THSRC's traffic dispersion plans are drawn up based on rigorous internal procedures, and are implemented after being submitted to the Ministry of Transportation and Communications (MOTC) for reference. At present, THSRC can provide up to 34 trainsets for operational services. Train schedules are planned to meet travel needs at different time periods. THSRC makes the best attempt to maximize trainsets for passenger transportation, thereby providing maximum operating capacity to meet travel needs via HSR.

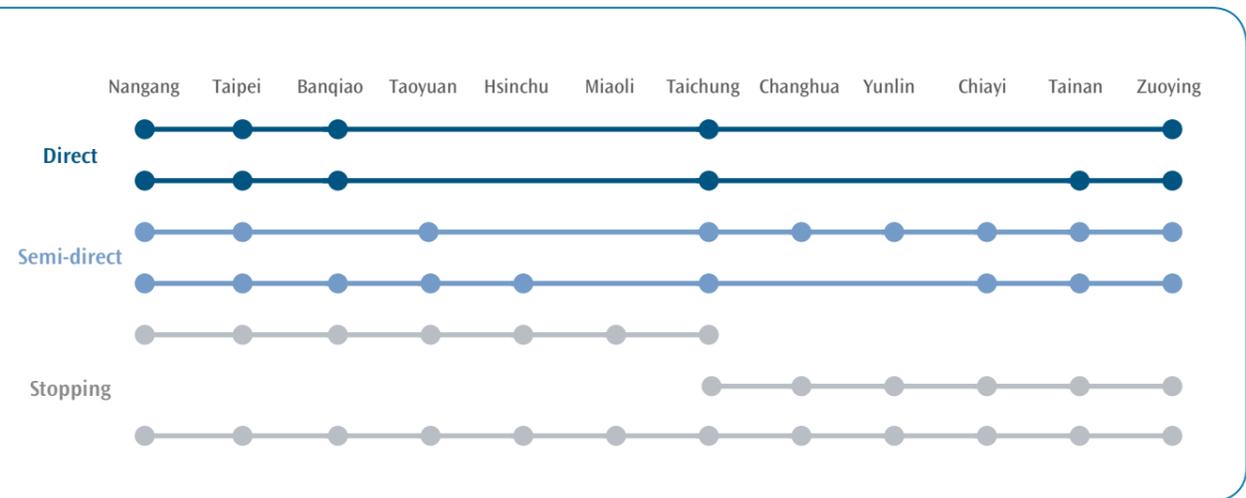
Traffic Dispersion Scheduling Measures

Occurrence Period		Traffic Dispersion Scheduling Measures
Weekdays	(Mondays to Thursdays)	Temporarily increase the number of trains according to the number of passengers on the current day.
Peak weekend periods	(Fridays to Sundays)	Move part of the maintenance operations to weekdays, which has increased the number of usable trains during holidays, and temporarily increase the number of trains on the current day according to the number of passengers on the current day during the peak weekend period.
Traffic dispersion during long holidays	(e.g., Lunar New Year, Tomb-Sweeping Day, etc.)	Control maintenance operations and provide maximum operating capacity to meet transportation demand, and temporarily increase the number of trains according to passenger demand on the current day during the traffic dispersion period for long holidays, in order to disperse large numbers of passengers.

In response to the continuous growth of ridership, we have added 18 train runs per week (9 southbound train runs and 9 northbound train runs) starting July 1, 2019 upon review of passenger needs and train operation status. These include 8 train runs (5 southbound train runs and 3 northbound train runs) to serve commuting and business needs on weekdays, as well as 10 train runs (4 southbound train runs and 6 northbound train runs) to serve passengers' needs during weekends and holidays and for returning home early. Starting July 28, one northbound train run has been added every Sunday, where a total of 1,016 train runs has been provided every week after the addition of train runs.

In response to the travel needs of long-, medium-, and short-haul passengers, HSR train stopping patterns are categorized into three types, namely "direct train," "semi-direct train," and "stopping train." "Direct train" can meet demand for fast and convenient travel among long-haul passengers, whereas "semi-direct train" can closely satisfy demand for travel between different departure and destination stations among medium- and long-haul passengers. On the other hand, "stopping train" can fulfill demand for travel between stations among medium- and short-haul passengers at all stations.

Train Stopping Patterns Plan



Note: For the latest information on HSR train services, please visit the webpage <http://www.thsrc.com.tw/tw/TimeTable/SearchResult>, or use the search service on the "T Express" mobile app.

Transit Service

THSRC offers transit services in collaboration with various modes of public transportation and provides passengers with shuttle services at various operating locations, such as free shuttle bus, TRA train, MRT, public bus/express bus, taxis, parking lots, car rental, as well as pick-up and drop-off services for the disabled. Moreover, THSRC has also prepared transit maps at each HSR station and established transit information system, while providing transit information for each HSR station on our corporate website.

"Love without Barriers" - THSRC Disability Access Services

THSRC is committed to providing a passenger-friendly and disabled accessible riding environment, and also plans comprehensive service plans so that disabled passengers can also enjoy convenient, warm, and thoughtful travel services, just like other passengers. In order for senior or disabled passengers to enjoy a smooth HSR ride, we offer passengers with guidance service to assist them when entering HSR stations to take HSR rides and leaving HSR stations. In addition, passengers using wheelchairs or with reduced mobility can book wheelchair-accessible seats via our customer service hotline or by visiting ticket windows at HSR stations personally. Each HSR station is equipped with elevators and parking lots to make it convenient for passengers to take HSR rides. In addition, in order to help achieve Taiwan's sustainable development goals of "building affordable, safe, environmentally friendly, resilient, and sustainable transportation," we completed the installation of electric wheelchair charging sockets for 34 trains at the end of 2018, in order to continuously improve the quality of disability access services.

"Love without Barriers" - THSRC disability access services



Sustainability Commitment

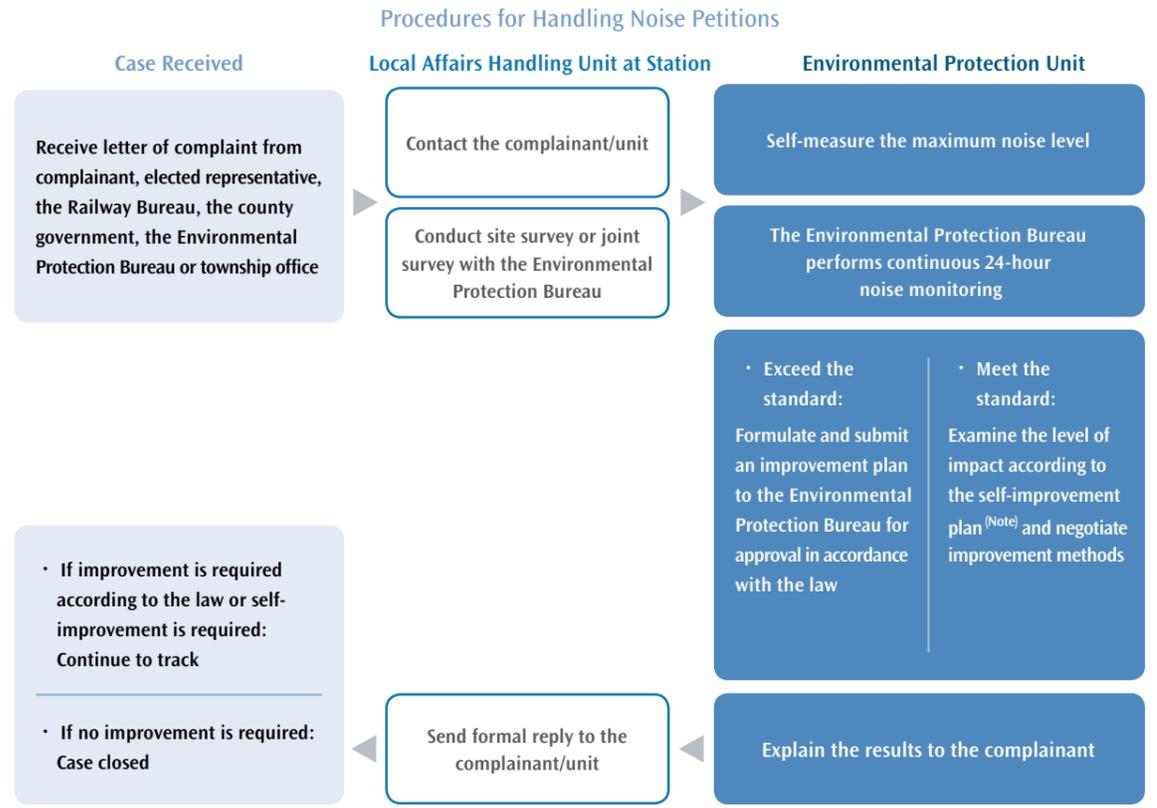
Neighboring Care

We care about the land of Taiwan and the residents along the HSR line. Sales executives at various stations participate in activities from time to time in order to establish communication with local opinion leaders and residents. Facing different needs of community residents, we have established different management regulations and established effective communication and tracking, in hopes of achieving win-win results.

We continue to implement environmental monitoring and environmental protection works through environmental management systems, so that our environmental protection projects comply with the relevant laws and regulations. With regard to the current environmental and noise problems under HSR bridges, which are most frequently reflected by residents along the HSR line, THSRC periodically organizes environments and waterway facilities under these bridges, and implements improvement measures such as installing soundproof doors and windows at homes or building soundproof walls to reduce the impact of noise. At the same time, we have established the “High Speed Rail Noise Improvement Plan,” the “Work Plan for Noise Prevention and Improvement among Sporadic Households along the High Speed Rail Line,” and the “Noise & Vibration Petition Treatment for HSR During Operation.” Moreover, we have also formulated the “High Speed Rail Noise Case Handling Process” to handle improvement needs (of dense settlements or sporadic households), as well as to decide on improvement solutions (building soundproof walls or installing soundproof doors and windows at homes) and related costs. In 2019, we handled 26 cases of HSR noise problem reported by residents along the HSR line. There was no need for further noise prevention measures to be implemented and no noise prevention and improvement expenses were required for the remaining cases.

Number of Noise Petitions and Related Handling Statuses in the Three Most Recent Years (2017 to 2019)

Year	Number of Cases	Need to be Improved	Remarks
2017	26	1	The improvement plan was approved by the Department of Environmental Protection, Taoyuan City Government on September 22, 2018. Improvements are expected to be completed in Q1 2021.
2018	19	1	Improved
2019	26	0	—
Total	71	2	—



Note: The level of impact is determined in accordance with the technical specifications for environmental impact assessment set by the Environmental Protection Bureau.





Technology

▶▶▶ Innovative Technology

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Technology ▶▶▶ Innovative Technology

Management Approach	Subchapter Title	Material Topic	Management Purpose	Management Method	Assessment Mechanism
	Quality Services and Intelligent Transportation	Technological innovation	<ul style="list-style-type: none"> Continue applying new technologies in order to improve the convenience of ticketing services, the smoothness of ticket purchase channels, and the efficiency of train operations, while deepening customer relationships through digital innovation and strengthening communication. 	<ul style="list-style-type: none"> For medium- and long-term strategic planning, the responsible units are in charge of collecting and evaluating real-time information on market development for communication technologies or products, and provide the relevant information to sales units to implement the application and strategies for technological innovative services, in order to integrate the technical and application aspects of these plans. 	<ul style="list-style-type: none"> Establish the “Origination Process of Business Process Computerization Regulation” and the “Acquisition of IT System and System Development Regulation” to ensure that collaborative operations among all units can smoothly promote innovative services.
	Convenience, Attentiveness, and Maintaining Relationships	Information security management	<ul style="list-style-type: none"> Provide passengers with safe, convenient, and reliable information services, including the collection, processing or utilization of passengers’ personal information, in order to ensure internal and external stakeholders’ trust in THSRC’s information environment. At the same time, learn about customer feedback and suggestions through periodic customer satisfaction survey, in order to improve service quality and maintain customer relationships. Moreover, ensure product safety by inspecting products sold at HSR stations and on trains to protect passenger rights. 	<ul style="list-style-type: none"> Establish the ISO 27001 Information Security Management System, and formulate the “Information Security Policy” to supervise our employees and vendors in implementing information security protection. Implement regular audit to examine whether the implementation of information security system is up to standards, and evaluate whether each unit performs its information security responsibilities and matters related to the relevant regulations. 	<ul style="list-style-type: none"> Formulate the procedure for the “Plan of Security Measures for Personal Information File,” and set up the “Personal Information Protection Implementation Group” to hold regular meetings and to conduct regular training sessions on personal information awareness every year; and personal information inventory audit twice a year to ensure that internal employees have adequate awareness towards information security.

Quality Services and Intelligent Transportation

In order to practice intelligent transportation, THSRC continues to apply the latest technologies to optimize operational efficiency and service quality in recent years. Passengers can fully enjoy convenient, comfortable, and safety of high quality services brought by “intelligent transportation” throughout the journey, ranging from ticket reservation, ticket purchasing and boarding to subsequent transit and shuttle services. This year, we even sponsored the “2019 Annual Meeting of Intelligent Transportation Society of Taiwan and Symposium on ITS Applications” to promote intelligent transportation with practical action.

THSRC ITS Smart Railway Services System



Ticketing Services

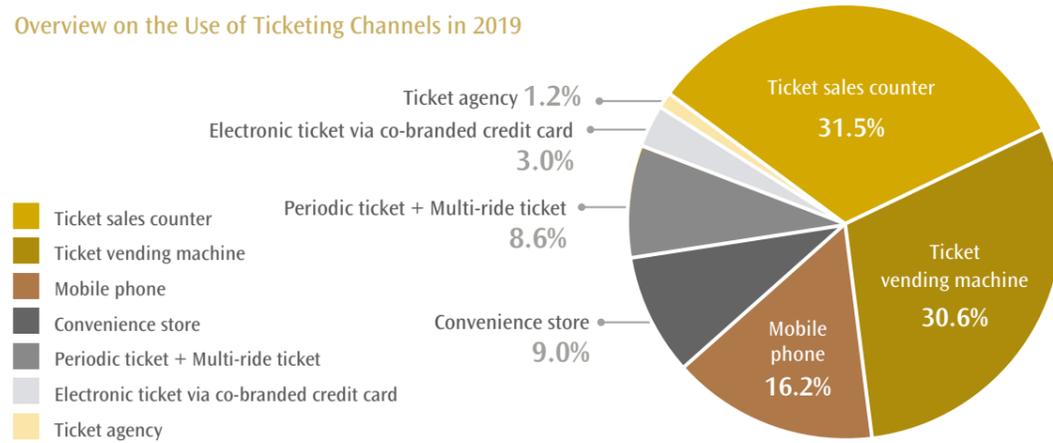
THSRC continues to expand the diversity of ticket sales channels. In addition to ensuring the smooth operation of conventional ticket purchase channels, we also respond to mobile payment and expand payment methods to optimize the convenience of ticketing services. Furthermore, in order to ensure the fairness of ticket purchase transactions, THSRC has introduced mechanisms to prevent bots from snatching huge numbers of tickets. Any abnormal situation found will be dealt with by taking appropriate blocking measures against specific sources. In the near future, THSRC will continue to optimize and set up relevant blocking mechanisms through system monitoring.

Ticket Purchase Channels

<p>HSR Stations</p> <p>Ticket Sales Counter Ticket Vending Machine</p> <ul style="list-style-type: none"> Add seat information displays for reserved seat tickets to ticket vending machines in March 2019, in order to improve passenger satisfaction with ticket purchase. Incorporate self-verification service after registering senior or disabled concession tickets in March 2019. 	<p>Gate (Mobile Payment)</p> <p>Co-branded EasyCard iPASS Co-brander Card</p> <ul style="list-style-type: none"> Using Co-branded EasyCard/iPASS Co-Branded Card to purchase tickets for non-reserved seats enables passengers to board HSR trains without having to store and purchase tickets in advance. In 2019, a total of 1.98 million passengers purchased electronic tickets for non-reserved seats using co-branded credit card, an increase of 12% from 2018. 	<p>Smartphone</p> <p>T Express Mobile APP</p> <ul style="list-style-type: none"> Incorporate self-verification service after registering senior or disabled concession tickets in March 2019. In 2019, a total of 11.54 million mobile tickets were issued, a significant increase of 34% from 2018. 	<p>Smartphone</p> <p>Online Ticketing Service on Facebook Messenger Combine with Facebook via real-time messaging software Messenger</p> <ul style="list-style-type: none"> Passengers can book HSR train tickets, check seat booking records, and make ticketing inquiries via Messenger.
<p>Convenience Store</p> <p>Convenience Store Ticketing Service</p> <ul style="list-style-type: none"> Incorporate senior or disabled concession ticket collection service without identification documents in October 2019. Provide passengers with convenient ticket purchase/ collection services 24 hours a day, all year round, at over 11,300 convenience stores (President Chain Store, Family Mart, Hi-Life, and OK Mart) nationwide. A total of 7.78 million HSR tickets were sold at convenience stores in 2019. 	<p>Website</p> <p>Online Reservation System</p>	<p>Telephone</p> <p>Voice Reservation System</p>	<p>Others</p> <p>Customer Service Center Reservation for group tickets (including ticket sales counters at HSR stations, fax, and online booking) THSR+Airline/Hotel Combo Ticket Booking System Agent Ticketing Management System</p>

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Overview on the Use of Ticketing Channels in 2019



Ticket Types and Promotions

THSRC not only actively improves service convenience, but also plans multiple types of tickets base on customer needs. Besides, we review the fares of existing ticket types based on prices approved by the Ministry of Transportation and Communications (MOTC) and report to the MOTC upon discussion and approval by the Board of Directors every year. In addition to the usual types of tickets and discounts, we also launch a wide variety of marketing programs, products, and services to meet the needs of different passengers.

In order to strengthen the tourism environment, THSRC manages the “Journey with THSR, Discover Taiwan” tourism market and expands its market share through various sales channels, including travel agency, airline/hotel reservation webpages, and our corporate website, using a diverse range of products and collaboration with other industries. For overseas markets, passengers can purchase “Taiwan High Speed Rail Pass” through overseas travel agency or via THSRC’s corporate website. For more details, please refer to the subchapter titled “Connecting with Local Area.”

In order to fully communicate the nature of products and ensure passenger rights, we clearly present the content and description of ticket types and discount products, fare discounts, ticket sales channels, changes and cancellation rules, as well as other notices via our corporate website. We will continue to maximize our resources through the development and design of ticketing products and services, as well as discounts and promotions, with a view to achieving maximum revenue.

Passenger Services

Strengthening Customer Relationships with Beautiful Experience

THSRC has designed a diverse range of product choices and is committed to providing customers with the most thoughtful services. THSRC launched the TGo membership program in October 2017, enabling customers to purchase tickets as members and accumulate points to redeem HSR tickets or enjoy discounts. The membership program was a hit among consumers as the cumulative number of registered members reached 1.28 million people as of the end of 2019. For discounts and rights related to the TGo membership program, visit our corporate website.

Promotional Visual for the TGo Membership Program



Innovative, Digital, and Real-time Communication

We have installed passenger information displays in the lobby and waiting areas at HSR stations to announce operation information, notices and precautions in real time, as well as promotional videos for HSR service. We have also set up our own Facebook Page to provide the latest product, service or brand information. In 2019, THSRC’s Facebook Page garnered 386,000 fans cumulatively, and received a total of 89,000 new fans within the year, while posts reach on THSRC’s Facebook Page was 66.73 million people, with 1.80 million interactions on these posts.



With regard to the enhancement of digital communications, THSRC not only offers professional personalized ticketing services through the T-EX App, but also launches the Taiwan High Speed Rail App, which mainly focuses on multi-functional travel services, to provide customers with more comprehensive digital services. As of the end of December 2019, the Taiwan High Speed Rail app has been downloaded by more than 630,000 times, and registered with over 510,000 TGo members.



In 2019, THSRC was not involved in any non-compliance events, such as penalties, resulted from violation of regulations related to marketing and labeling of products and services.

Passenger Information Services

THSRC not only establishes marketing collaboration with local transport operators around each HSR station to provide free shuttle buses, but also collaborates with MRT operators, regional rail transport operators, and regional bus and taxi operators to provide seamless access to and from certain stations, in hopes of reducing passengers’ waiting time and increasing tourism benefits. Moreover, in order to provide passengers with smart access and transfer information, HSR stations are also equipped with the dynamic bus information system for passengers to access relevant information.

Smart Train Operation Management

THSRC continues to use the “Train Operation Management Information System” for effectively integrate information, such as train number, travel position, train schedule, etc., in order to provide downstream management needs for involving trainset utilization, HSR routes, and train personnel service. Furthermore, THSRC incorporates data visualization and cross-search functions into various systems to enhance the efficiency of train operation management and improve passengers’ travel experience with intelligent transportation.

Smooth 4G Communications Along the Entire HSR Line

As HSR travels at a max. speed of 300 km/h on complex terrains along the entire line, passengers often encounter interruption of mobile network connections while traveling on HSR. In order to improve this scenario and improve the quality of HSR travel, we have overcome construction time constraints and difficulties, and successfully launched 4G networks along the section north of Hsinchu before the Taipei 2017 Universiade, so that international athletes and passengers can enjoy free WiFi services while traveling on HSR. On February 15, 2018, THSRC, along with various government agencies and institutions, five major telecom operators, and first-line construction employees, jointly completed the setup of 4G network communications along the entire HSR line, which enables passengers to enjoy free 4G connection at 12 stations and on 408 train compartments along the entire 350 km of operating route HSR line throughout the year and all the time, thus achieving our ideal goal of “high speed travel with uninterrupted on-board connection.”

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Convenience, Attentiveness, and Maintaining Relationships

Information Security Management

THSRC not only strives to provide the safest travel service, but also spares no effort to protect information security. Since the construction period, THSRC has set up an overall information security management system based on the ISO 27001 Management System and successfully passed the ISO 27001 third-party re-certification in 2019, in order to provide passengers with convenient, safe, and reliable information services. In addition, we regularly review and publish the "Information Security Policy" so that each employee inculcates awareness of information security into daily operations, continue to enhance internal control mechanisms, and supervise the implementation of information security protection among our employees and vendors.

In order to ensure complete protection of personal information, we have formulated the procedure for the "Plan of Security Measures for Personal Information File," and set up the "Personal Information Protection Implementation Group" with regular meetings. Moreover, we regularly organize training sessions on personal information awareness, and perform personal information inventory audit twice every year. Furthermore, we conduct related training sessions for all employees and new employees to enhance awareness of personal information protection at THSRC. In 2019, a total of 4,543 employees attended related training (where calculation was made based on Q3 2019 and did not include new employees and employees on long-term sick leave), with a 100% completion rate.

With regard to customer information protection, THSRC adopts high standards to protect customers' rights and interests. Taking the TGo Membership Program as an example, member information is encrypted before being transmitted, whereas anti-theft mechanism is applied during the transmission process. Besides, the system imposes access control based on the business scope of internal units, where certain services can only be accessed using member card number, to effectively reduce the use of information on identity card. On the other hand, strict rules on member information and rights have been established through the "Terms of Use for TGo Membership Service" published on our corporate website. We have also set up the "Personal Information Protection" section on our corporate website, published the "Personal Information Protection Policy" and the "Rights and Interests Regarding Customer Information Protection" to ensure the security of personal information of all customers. In 2019, THSRC received no customer complaints regarding infringement of customer privacy or loss of customer information.

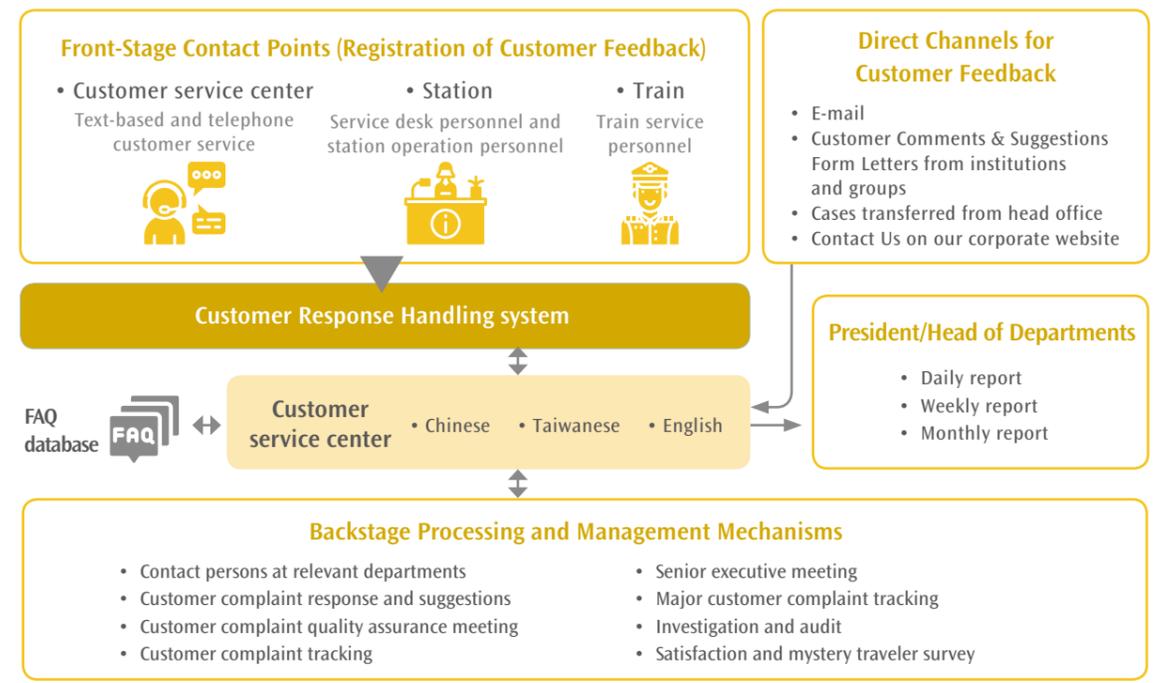
Implementation of Safety Maintenance Measures

Safety Maintenance Measures for Personal Information Protection Management	Status of Implementation
 Establish a management organization and allocate considerable resources	Department representatives formed the "Personal Information Protection Implementation Group" (attended by 22 personal information representatives in November 2019)
 Define the scope of personal information	Conduct personal information inventory audit twice every year, and update the "Personal Information File Inventory" every year
 Risk assessment and management mechanism for personal information	Adopt three-level management based on the level of personal information file security
 Accident prevention, notification, and response mechanisms	Establish the "Personal Information Security Incident Response Team"
 Information security management	Implement control procedures based on three forms, namely written forms, electronic files, and system files
 Awareness promotion and training	Conduct annual training for new employees
 Equipment safety management	Implement safety protection management on terminal equipment (including personal computers, notebook computers, and mobile devices) and various types of servers according to the relevant regulations at THSRC
 Overall continuous improvement of personal information security maintenance	Continuous improvements through audit, regular reviews during meetings, and training

Customer Relationship Management

THSRC is committed to providing passengers with thoughtful services. In order to collect and reply passengers' expectations and feedback, we have also set up a dedicated department for handling and managing customer feedback to strengthen customer relationships, with a view to improving overall service quality. In addition, we have also established a diverse range of channels to actively respond to customer feedback, such as answering services in Chinese, Taiwanese, and English and text-based customer service response in real time at customer service centers, as well as comment section on our corporate website, in order to meet passengers' needs.

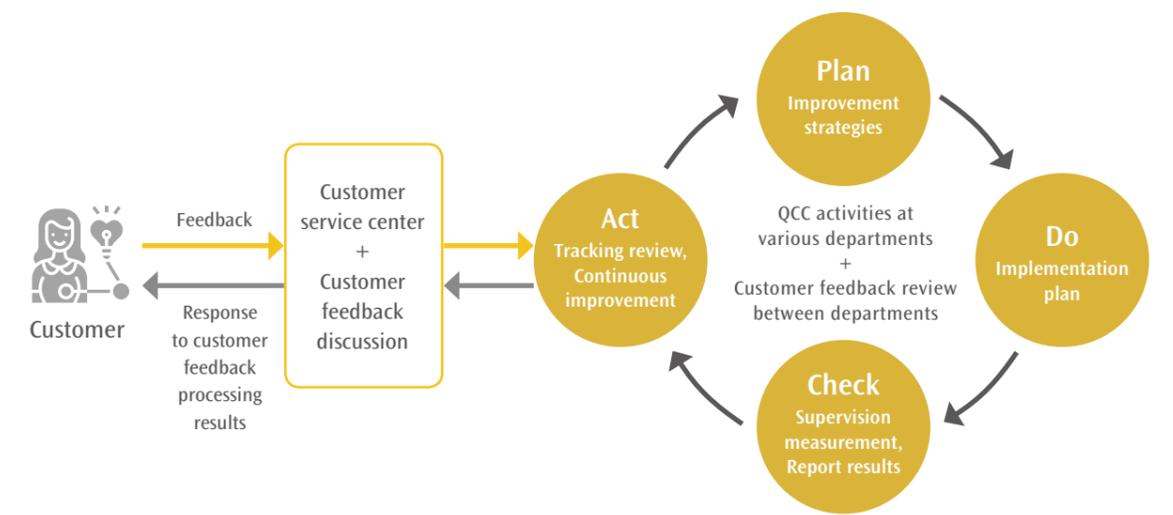
Current Feedback Collection Channels and Customer Service Operations System



THSRC Corporate Website | www.thsrc.com.tw
 Customer Service Center Hotline | 4066-3000; Miaoli, Taitung, Kinmen, Matsu areas and mobile phone: 02-4066-3000; Calls are not toll-free

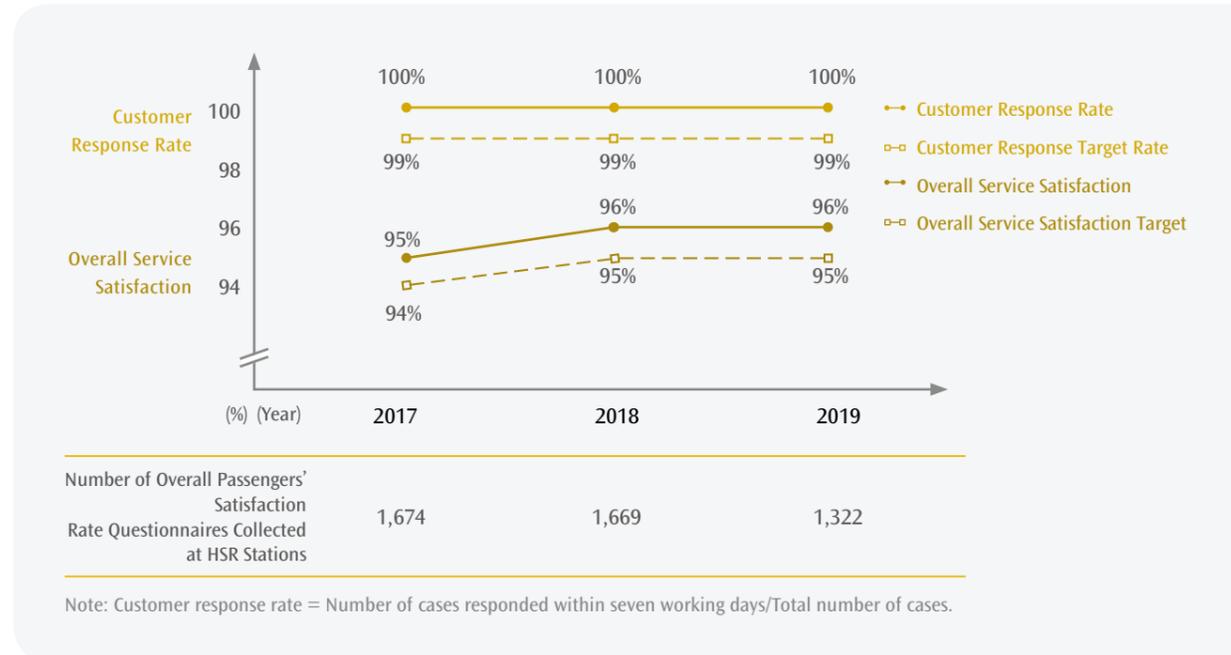
Continuing our passenger complaint resolution mechanism at THSRC in 2019, we not only provide immediate consolation and attention, but also submit customer feedback to the quality management process at each department and customer feedback review meetings among departments, so as to truly incorporate customer feedback into management and implement improvements. In 2019, our customer service centers handled approximately 20,000 customer feedbacks, and answered approximately 640,000 customer inquiries, which were mainly about ticketing and promotions.

Current Customer Complaint Resolution Mechanism



Customer Affirmation

Customer service is one of the three areas of quality management at THSRC. We commission third parties to investigate customer satisfaction every year. In 2019, our questionnaire survey included four major areas, including “ticketing service,” “train equipment and services,” “station facilities and services,” and “train schedule planning.” According to the statistical results, the overall satisfaction toward THSRC services was 96%.



After conducting the 2019 customer satisfaction survey, we actively responded to customer needs and truly implemented optimization measures, the key points for improvement included the following:



A. Stations: Strengthen the proactivity of station personnel in service provision, fully update the fourth-generation ticket vending machines (which are able to return banknotes), as well as add instruction signs to save passengers' time when purchasing tickets, increase the frequency of toilet cleaning and inspection, adjust the types of stores and the configuration of commercial space at stations to meet passengers' consumption needs, and improve the comfort of space at stations (add ceiling fans, seats in waiting areas, ticket gates, sunshades, and rain covers for station plazas).



B. Train compartments: Continue to promote the concept of quiet train compartment (e.g., affix “Please keep quiet on the train” stickers to entrance doors, swing signboards when selling goods from train trolley in general compartments/business class compartments, and broadcast announcements to ensure quiet train compartments according to site conditions), adjust product items sold from train trolleys and arrange product promotional events from time to time, in order to meet the preference of most passengers.



C. Train schedule planning: Continue to analyze and assess the condition of passenger rides, congestion, and available trainsets, as well as continue to optimize train schedule to meet passengers' needs.

For more details regarding the quality management implementation framework and actions at THSRC, please refer to the section titled “Safety and Quality Services.”





Taiwan

▶▶▶ Enhancing Local Connection

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Taiwan >>> Enhancing Local Connection

Subchapter Title	Material Topic	Management Purpose	Management Method	Assessment Mechanism
Partner Relationship Management and Local Supply	Sustainable supply chain management	<ul style="list-style-type: none"> Avoid joint and several liabilities caused to THSRC and affect corporate image due to oversight of suppliers, while hoping to work toward a more sustainable partnership with suppliers and partners. Establish the railway industry localization project to further practice supply chain management policy, in hopes of improving the technical capabilities of local vendors. 	<ul style="list-style-type: none"> Include the requirements for the environment, society, and corporate governance into management mechanisms, such as supplier evaluation, visit and audit, commitment, etc. Indicate in each procurement case that suppliers may not violate national laws and regulations, including the Labor Standards Act and environmental protection-related laws. Formulate safety and health policies to be followed in procurement cases and require vendors to meet occupational safety and health requirements when performing contracts. Employees of contractors must not only complete training, but also obtain safety certification related to High Speed Rail Operations Regulations (HSROR) before carrying out operations at the workplaces of THSRC. 	<ul style="list-style-type: none"> Implementation of procurement process is participated by corresponding auditing units and provide grievance channels, for corresponding personnel to provide assistance to suppliers that have any doubts.

Glide through Taiwan and Stretch Global Wide

Connecting with Local Area

THSRC has launched the “Journey with THSR, Discover Taiwan” program in collaboration with the tourism industry by working with local tourism operators to promote travel packages which can be ordered, paid, acquired, and refunded electronically. These packages have not only increased sales volume, but also promoted local economic development and open up innovative forms of travel services. To promote travel products related to the “Journey with THSR, Discover Taiwan” program, we participated in the 2019 Taipei International Travel Fair, where we won the attention of the entire event and attracted media coverage.

Our travel products can be divided into different areas, including “T Holiday” planned by THSRC and sold through authorized travel agencies, as well as “THSR+Bus/MRT Combo Ticket,” “THSR+Hotel Combo Ticket,” and “THSR+Airline Combo Ticket,” which combine travel elements provided by hotels and travel agencies in cities and counties to meet the diverse needs of travelers.

In conjunction with the 2019 Spring Travel Subsidy Program introduced by the Tourism Bureau, THSRC launched the “Travel Assist Package” promotion, thereby bringing in nearly 60,000 passengers. During the promotion of autumn and winter domestic travel subsidies, we planned the “Love Taiwan Autumn and Winter Travel Festival” promotion and even launched our first ever “Journey with THSRC with Free Car Rental” promotion. Furthermore, THSRC launched the “Taiwan Small Town Ramble Buy One Package Get One NT\$1,000 Discount Coupon” promotion in conjunction with the Taiwan Small Town Ramble policy introduced by the Tourism Bureau, with the purpose of encouraging passengers to travel to small towns and experience the culture there.

In addition to continuously meeting local travel needs, THSRC also expands into and responds to international markets. International travelers can purchase “THSR Pass” on THSRC’s corporate website, or purchase “One-Way Ticket” through overseas travel agency to flexibly arrange their travel itineraries. We not only held joint press conferences with the Tourism Bureau and overseas travel agencies to enhance THSRC’s brand and product awareness, but also visited Bangkok in Thailand to promote related businesses to gradually get a foothold in the Southeast Asian travel market. In addition, we collaborated with the Tourism Bureau to launch the “Buy One Get One Free Pass Event for Foreign Travelers,” which attracted 65,000 international travelers, thereby driving remarkable performance in local business opportunities.

Before the fourth quarter of each year, THSRC plans annual marketing strategies and product contents using a variety of themed vacations based on extensive experiences in the tourism industry and keen sense of market preference and trend changes. We will continue to track the latest developments and hot topics in the travel market, and adjust travel plans to be smoother and more diversified accordingly. In 2019, the number of travelers taking THSR was 3.17 million passengers, which far exceeded THSRC’s originally set target of 3 million passengers, demonstrating an increase of approximately 500,000 passengers compared to last year.

THSRC’s Booth at the 2019 Taipei International Travel Fair



Major Travel Products

Self-Arranged	Early Bird Discounts	Group Ticket 25-people Group Travel, School Group Travel, etc.	THSR+Bus/MRT Combo Ticket Along with Kaohsiung MRT, Kaohsiung iPASS, Taipei MRT + Double Decker Bus, Taipei Fun Pass, Tainan iPASS, Tainan Land and Water Feast Combo Ticket (discontinued in October 2019), Xiaoliuqiu-Tungliu Route, Xiaoliuqiu-Pengliu Route (discontinued in December 2019), Taiwan Tourist Shuttle-Kenting, Tainan Anping Trip (discontinued in April 2019), Alishan, Sun Moon Lake, Xitou, Jiaoxi, and Dongshan River Route
	THSR+Airline Combo Ticket China Airlines, EVA Air, China Eastern Airlines	THSR+Event Combo Ticket Sport games, art festivals, concerts, etc.	
	THSR+Hotel Combo Ticket Over 150 hotels		
Ticket Agency	Group Ticket 25-People Group Travel, School Group Travel, etc.	T Holiday Enrich Tour, Individual Tour, and Easy Tour	Tours Organized by Travel Agency
	THSR Pass for Foreign Travelers 3-day Pass and Flexible 2-day Pass	Joint Pass for Foreign Travelers 5-day Standard Joint Pass and 5-day Express Joint Pass	One-Way Ticket for Foreign Travelers

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Promotion of the THSR+Bus/MRT Combo Ticket "Journey with THSRC, Discover Tainan in Spring" Program



Promotion of the Buy One Get One Free Pass Event for Foreign Travelers



Technical Exchanges

To maintain good interactions with the transportation and railway industries and take into account of business needs, THSRC joined as members of 19 trade organizations and associations in 2019 (please refer to Appendix Table 1). [+](#)

Technical Visitations

In order for representatives from the industry, the government, and the academia, as well as transport operators from all over the world to learn about THSRC's operations, services, and innovations through observation and study, THSRC has organized visitations and guided tours at various locations, including HSR stations, maintenance depots, the Operational Control Center (OCC) building and THSR Museum. In 2019, companies and groups, such as leaders of the state assembly of the northeastern states from the United States, Academy for the Judiciary under the Ministry of Justice, Taoyuan Metro Corporation, the System Operation Control Division of China Airlines, West Japan Railway Company, East Japan Railway Company, and Hokkaido Railway Company, visited THSRC. In 2019, we welcomed a total of 32 groups and 916 visitors.

Representatives during Technical Exchanges and Visitations in 2019



International Exchanges

To ensure that passengers can enjoy high-quality travel services, THSRC has continuously cooperated with the Japan Kyushu Railway Company (JR Kyushu) for the "Train Attendant Job Observation and Experience Exchange Program" to learn different passenger service skills through on-train learning since 2013. Due to good exchanges and cooperation between personnel from both sides, controllers from the OCC have also joined these exchange activities since 2018, and the participants of these activities have also been expanded to include train drivers in 2019.

In October 2019, THSRC sent two train masters, three train attendants, two driver management personnel, three train drivers, and four control personnel to attend an observation visit to Kyushu, Japan, while five train attendants, four driver management personnel, and two control personnel from JR Kyushu attended an exchange session in Taiwan from November to December the same year. Both sides learned each other's driver management training system, system features, and emergency response skills through experience sharing and interactive discussion, as well as engaged in good railway cultural exchanges and established a steady friendship with each other. Furthermore, THSRC joined the International Union of Railways and continues to track weather items on the NAZCA platform under the International Union of Railways and the United Nations Framework Convention on Climate Change.

Exchanges and Visits between THSRC and Kyushu Railway Company



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Local Industry-Academia Collaboration to Nurture Talents

In order to enhance the understanding of HSR among college students, cultivate talents in the railway industry, and promote interactions and exchanges between the industry and the academia, we have actively launched a number of collaboration projects as explained below:

► College Student Summer Internship Experience Program

THSRC has long been organizing the “College Student Summer Internship Experience Program,” where a total of 50 station interns were accepted in 2019. These interns acquired a diverse range of knowledge and attended practice courses during the two-month summer internship program.

Moreover, in order to assist students in understanding the railway industry and attract outstanding maintenance professionals, THSRC, along with national universities, jointly launched summer maintenance internship programs since July 2017, enabling students to participate in project planning, integration, and implementation, as well as learning about on-site maintenance procedures. A total of 16 students were accepted into the program in 2019.

Opening Ceremony of the College Student Summer Internship Experience Program



Activity during the Summer Maintenance Internship Program



Graduation Ceremony of the Summer Maintenance Internship Program



► Academic Year Internship Program

We have established long-term collaboration with numerous technical institutions, such as National Kaohsiung University of Science and Technology, National Taipei University of Technology, National Yunlin University of Science and Technology, and Oriental Institute of Technology, to launch and promote the maintenance internship program, assisting a total of 15 students in exploring their future careers in 2019. Besides, we also provide one-year internship opportunities in the areas of station operations and services to final-year students from main collaborating universities, including National Kaohsiung University of Hospitality and Tourism, Overseas Chinese University, China University of Science and Technology, Vanung University, Shu-Te University, Wenzao Ursuline University of Languages, and Chang Jung Christian University. A total of 30 station attendant interns and 37 train attendant interns were accepted into the program in 2019.

► Railway Equipment Laboratory

In order to promote technology upgrade in the domestic railway industry, THSRC and National Kaohsiung University of Science and Technology jointly established the Railway Equipment Laboratory in 2015, with over NT\$45 million in research and development funds invested; developed over 31 systems and 4 proprietary instruments; as well as planned to establish a railway-related certification center. In July 2019, National Kaohsiung University of Science and Technology continued the capability acquired from the “Phase 1 Railway Equipment Laboratory” established in collaboration with THSRC and officially opened the “Advanced Railway Mechanical and Electrical Talent Training Base.” In addition to teaching materials, we also continuously send our personnel to assist in practical teaching for the course titled “Introduction to Railway Technology,” with a view to connecting both industrial and talent development in the country.

► Memorandum of Industry-Academia Cooperation

THSRC has not only signed memorandum of cooperation with numerous universities in Taiwan, but also deepened and enhanced technologies through exchanges, project collaboration, and seminars.

Partner	
National Kaohsiung University of Science and Technology	THSRC has collaborated with the university in a total of 37 projects related to turnouts, rolling stocks, rails, electric power, overhead contact systems, etc. In addition, THSRC has worked with the university to run the HSR maintenance internship program, establish the Railway Equipment Laboratory, and conduct in-service programs.
National Taipei University of Technology	THSRC has collaborated with the university in a total of five projects related to engineering car, switches, and electric power equipment maintenance management. In addition, THSRC has worked with the university to run the HSR maintenance internship program.
Chung Hua University	THSRC has collaborated with the university in two projects including optimization of electric power demand and analysis of route inspection data.
National Cheng Kung University	THSRC has collaborated with the university in a total of four projects related to station scheduling, rails, switches, and overhead contact systems. In addition, THSRC worked with the university to run the HSR maintenance internship program.

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Partner Relationship Management and Local Supply

Since the official launch of the “Supply Chain Management Policy”  in 2017, THSRC has gradually included the requirements required to the environment, society, and corporate governance into management mechanisms, including supplier evaluation, visit and audit, commitment, etc., in hopes of working toward a more sustainable partnership with suppliers and partners. We continue to maintain communication with our partners in the supply chain, and to build a comprehensive supplier management system through review, management, and training mechanisms. In addition, localized supply is a goal to which we attach great importance in recent years, because it not only brings financial benefits to THSRC, but also indirectly helps Taiwan local vendors develop their capabilities in producing high speed rail materials and components of international quality.

Supply Chain Communication and Requirements

THSRC’s suppliers management require in three aspects, including social, safety and health, and environmental protection. Description is detailed in the table on the following page.

In 2019, THSRC maintained close dealings with 592 property suppliers (mainly comprising equipment, parts, and products sold from train trolleys) and 245 labor service suppliers. All operations are handled in compliance with THSRC’s contract management manual. Before the completion of each contract, we will comprehensively evaluation suppliers’ performance (including work and service quality, quality control and management, safety, schedule, liaison and coordination, cooperative attitude and management capabilities, etc.) in accordance with the contract management principles and precautions specified in the manual, with a view to reducing the impact of human factors, demonstrating fairness, and increasing suppliers’ competitiveness. In the event of non-compliance, the suppliers involved will be kept in view and are required to make improvements within the specified time limit, or shall have their supplier qualifications canceled, or are even included in the list of debarred suppliers and have their contracts terminated.

Since August 2019, we require bidding vendors to commit to THSRC’s Corporate Social Responsibility regulations and sign the corporate social responsibility commitment. In addition, we also regularly convene project team meetings to review the self-assessment forms returned by contracting vendors and conduct site inspections in the event of major or abnormal cases. As of the end of December, a total of 122 corporate social responsibility commitments and two vendor’s corporate social responsibility commitment self-assessment forms were collected.

Anti-discriminatory Practice and Labor Conditions

We pay high attention to the issue of anti-discriminatory practice (including discrimination against women, aborigines or members of disadvantaged groups). Vendors who are found to commit serious violations in such circumstances may be listed as debarred vendors and may not participate in THSRC’s tender projects for a specific time period. We also formulate individual contracts for suppliers, which specify that suppliers must pay their employees’ salaries not lower than a certain salary level, as well as provide supporting documents and regularly inspect the implementation of salaries, and stipulate that suppliers maintain good employer-employee relations and handle labor disputes in an appropriate manner. Should there be labor disputes, suppliers shall provide the relevant documents and explanations, and make improvements within the specified time limit.

Occupational Safety and Health

For all procurement cases, we have established the “Safety and Health Policy” to supervise and manage contractors and suppliers. All units at THSRC shall assess and control safety and health hazards and risks resulted from non-conforming machines, equipment, and materials before requisition, procurement (including leasing), and acceptance, as well as to avoid purchasing materials, tools, and equipment that are not eco-friendly or hazardous and dangerous, in order to reduce personnel injury and environmental damage. For tendering of engineering or service contracts, THSRC has listed safety plan as one of the tender documents to be submitted by bidding vendors, and requires vendors to comply with THSRC’s occupational safety and health requirements, including occupational safety and health regulations such as the “Occupational Safety and Health Management Plan,” the “Occupational Safety and Health Management Manual,” and the “Occupational Safety & Health Hazard Identification and Risk Assessment Procedure,” while performing such contracts. Furthermore, THSRC sets different targets for suppliers, and adopts periodic or non-periodic inspection and auditing mechanisms for active measurement and supervision to truly implement internal safety and health management mechanisms. We have also established a complete notification system to effectively handle occupational disasters when they take place, so as to reduce the negative impact of such disasters. For instance, THSRC has proper management and control mechanisms for deadly disasters involving more than 3 victims, and disasters involving at least 1 victim who also needs to be hospitalized.

In addition to including the appropriate “Occupational Safety and Health Provisions” as one of the attachments to contracts, we also stipulate that employees of contractors must not only complete training related to controlled areas, but also obtain safety certifications related to High Speed Rail Operations Regulations (HSROR certification) before carrying out operations at the workplaces of THSRC. Personnel of suppliers with longer working periods is required to complete retraining and to obtain qualification extension in accordance with the valid period for HSROR. At the same time, we have established the “Contract Management Plan” which is applicable to the entire company to facilitate the management of each contract execution unit, as well as require suppliers to provide relevant physical examinations to not only their general employees, but also other dispatched personnel (e.g., student workers, students in the cooperative education program, volunteers, etc.), where this requirement should be implemented accordingly.

Chemicals Management

THSRC requires all suppliers to truly manage and report hazardous chemicals in accordance with the “THSR’s Chemicals Management Regulations” to implement the requirements of the “Regulations for the Labeling and Hazard Communication of Hazardous Chemicals,” the “Implementation Regulations Governing Labor Environmental Monitoring,” the “Regulations Governing Assessment and Grading of Hazardous Chemicals,” and the “Regulations Governing Designating and Handling of Priority Management Chemicals” set forth by the Ministry of Labor.

Environmental Protection

In the aspect of environmental protection, THSRC requires suppliers to comply with environmental protection laws and regulations during operations and carry out treatment of waste produced in operations via legal processing procedures. Moreover, we prioritize the purchase of products which have less impact on the environment, such as products with the green mark, the energy label, the water label or the green building label. For details regarding related contents, please refer to the subchapter titled “Low-Carbon Train Operation and Environmental Sustainability.” 

Security Policy and Training

THSRC hires external professional security companies to take charge of security services, as well as clearly specifies the scope of duties for security personnel according to security policy, including maintaining order at stations and on trains, ensuring passenger safety, and maintaining safe train operations. Concerning service implementation, in addition to carrying out various security and safety checks, and observing suspicious items and events in surrounding areas, THSRC has also developed a customer-focused and service-oriented attitude. Any unlawful events will be dealt with in cooperation with police officers and handed in accordance with the law. Furthermore, we regularly conduct bimonthly meetings with security companies to ensure that security personnel can implement our security policy while on duty.

To avoid infringing the human rights of passengers or third parties, security personnel not only needs to receive professional training, such as patrol techniques, arrest techniques combined with boxing or self-defense techniques, investigation of abnormal records and incidents, but also has to attend legal training related to personal security and arrest of offenders, as well as customer service etiquette training.

THSRC attaches great importance to the quality of security personnel. When signing a contract with a security company, THSRC requires the company to provide information regarding complete education and training received by its security personnel in compliance with THSRC’s requirements and regulations, including legal, safety inspections, human rights, and service attitude while on duty. In 2019, all the security personnel underwent the relevant courses.

Security Personnel Training Content



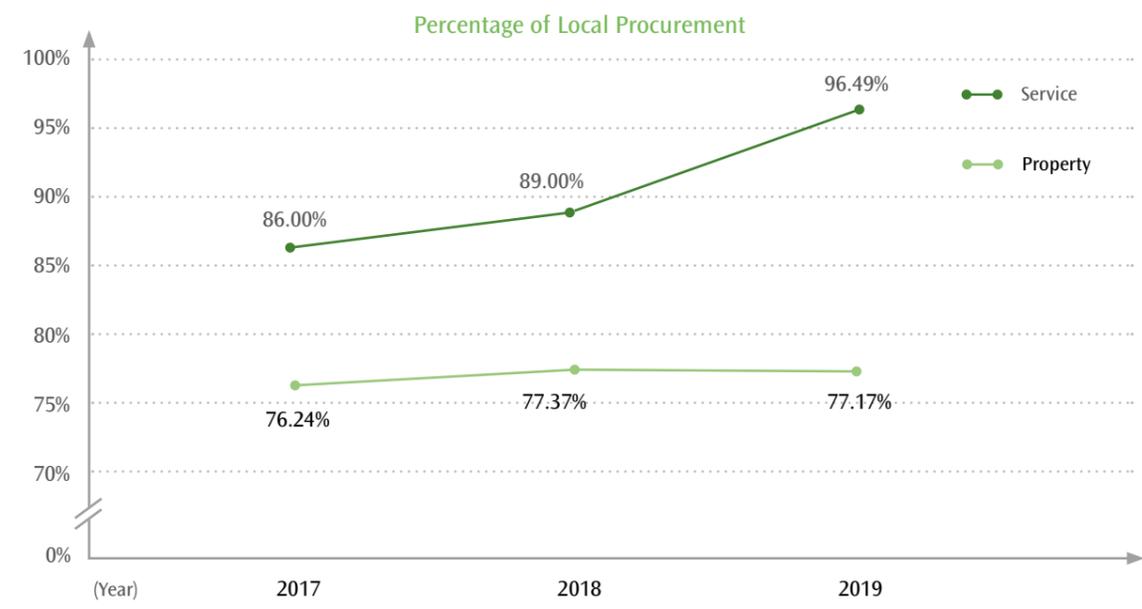
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Aspect	Required Item	Related Regulations	Specific Requirements
Society	 Labor rights	<ol style="list-style-type: none"> THSRC has established the "Procurement Regulations" and related sub-regulations and specified provisions related to aspects, such as basic wages, working hours and overtime hours, in tender instructions and related tender documents in accordance with the Employment Service Act and the Labor Standards Act. Labor service contracts stipulate that suppliers should maintain good labor relations with the personnel they hire, provide their business personnel with the necessary training, and comply with labor regulations and internationally recognized labor rights, such as prohibition of child labor and elimination of recruitment and employment discrimination. 	<ol style="list-style-type: none"> Personnel of suppliers provide THSRC with contract work in procurement cases cannot be child labor and may not provide differential treatment or show any form of discrimination due to race, status, language, belief, religion, political affiliation, ethnicity, place of origin, gender, age, marital status, appearance, facial features, disabilities, family status or union membership. THSRC requires suppliers to comply with national laws and regulations, including maintaining good employer-employee relations. Should there be labor disputes, suppliers shall provide the relevant documents and explanations, and make improvements within the specified time limit. THSRC requires suppliers to pay their employees' salaries in compliance with the minimum wage standards stipulated in the relevant laws and regulations in areas where their employees are located, as well as to offer statutory welfare benefits. Suppliers need to provide the relevant supporting documents too. THSRC requires suppliers to set working hours and overtime hours for their employees in compliance with the relevant laws and regulations in areas where their employees are located. Suppliers need to provide supporting documents and cooperate with THSRC to conduct regular inspections.
	 Occupational health and safety	<ol style="list-style-type: none"> THSRC has established the "Provisions for Approval of Entry into Controlled Areas." THSRC has established occupational safety and health regulations, such as the "Occupational Safety and Health Management Plan," the "Occupational Safety and Health Management Manual," the "Occupational Safety & Health Hazard Identification and Risk Assessment Procedure," and the "Regulations Governing Occupational Safety and Health Management for Transportation Maintenance," as well as attaches the "Occupational Safety and Health Terms and Conditions" and forms to tender documents for use during the actual performance of contracts. THSRC has established the "THSRC's Chemicals Management Regulations." 	<ol style="list-style-type: none"> THSRC requires personnel of suppliers to not only complete training, but also obtain safety certifications related to High Speed Rail Operations Regulations (HSROR) before carrying out operations at THSRC's controlled areas. Personnel of suppliers with longer working periods is required to complete retraining and obtain qualification extension in accordance with the valid period for HSROR. THSRC stipulates that the "Occupational Safety and Health Act" shall be included as one of the attachments to contracts for contractors which have to enter THSRC's workplaces. Before officially commencing work, contractors shall propose safety and health management plans, which shall at least include organizational structure and responsibilities for safety and health management, safety and health facility planning for hazard and risk control, pre-service safety meeting or toolbox meeting, autonomous management and audit and tracking improvement systems, as the basis for autonomous safety and health management for contractors. THSRC requires all suppliers to manage and report hazardous chemicals in accordance with THSRC's "Chemicals Management Regulations" to implement the requirements of the "Regulations for the Labeling and Hazard Communication of Hazardous Chemicals," the "Implementation Regulations Governing Labor Environmental Monitoring," the "Regulations Governing Assessment and Grading of Hazardous Chemicals," and the "Regulations Governing Designation and Operation Permit Management for Controlled Chemicals" set forth by the Ministry of Labor. All units at THSRC shall assess and control safety and health hazards and risks resulted from non-conforming machines, equipment, and materials before requisition, procurement (including leasing) and acceptance. THSRC specifies the safety and health requirements for high-risk machines, equipment, materials or labor services identified through risk assessment as the basis for procurement and acceptance. THSRC requires personnel of suppliers to implement contract works in accordance with THSRC's "Regulations Governing Occupational Safety and Health Management for Transportation Maintenance" and related regulations when conducting operations at THSRC's workplaces and has established the relevant penal provisions. THSRC requires suppliers to provide relevant physical fitness/health examinations and occupational safety and health training to not only their general employees, but also other dispatched personnel (e.g., student workers, students in the cooperative education program, volunteers, etc.). THSRC requires that different targets are set for suppliers and adopts periodic or non-periodic inspection and auditing mechanisms for active measurement and supervision to truly implement internal safety and health management mechanisms. Besides, THSRC has established a complete notification system to effectively handle occupational disasters when they take place, so as to reduce the negative impact of such disasters. THSRC has completed the establishment of an electronic "occupational safety and health management system for contractors" to control and inspect operations at all stages when contractors enter and leave work sites, as well as evaluate and compile overall safety and health requirements for contractors according to work progress, in order to enhance the promotion of autonomous safety management by the relevant units and contractors and serve as the basis for re-selecting contractors.
Economy	 Supplier bidding	<p>Tender instructions and related tender documentation and contracts stipulate the regulations related to bid rigging and recusal due to conflict of interests.</p>	<p>In order to maintain a normal trading environment, THSRC requires suppliers not to engage in bid rigging or other conduct which will affect the fairness of bidding, including the following:</p> <ol style="list-style-type: none"> Suppliers shall not engage in bid rigging or other conduct which will affect the fairness of bidding together with other vendors participating in bidding for the same procurement case. Suppliers shall not engage in bid rigging or other conduct which will affect the fairness of bidding together with other third parties participating directly or indirectly in bidding for the same procurement case. Suppliers shall not directly or indirectly influence or prevent other vendors from participating in bidding for the same procurement case. Suppliers shall not directly or indirectly influence or prevent any third party from participating in bidding for the same procurement case.
Environment	 Environmental protection	<ol style="list-style-type: none"> THSRC has established the "Procurement Regulations" and related sub-regulations, while specifying related provisions in tender instructions and related tender documentation. THSRC has established the management regulations in the "Environmental Management Manual," and announced the relevant regulations on our internal website. 	<ol style="list-style-type: none"> With regard to supply contracts for paper products, such as photocopy paper, sanitary, cleaning, and dormitory supplies, THSRC requires suppliers to products with the green mark. THSRC requires suppliers to comply with environmental protection laws and regulations during operations and carry out treatment of waste produced in operations via legal processing procedures. In response to the government's environmental protection policy, THSRC prioritizes the purchase of products which have less impact on the environment, in order to realize green consumption. THSRC requires all vendors to comply with reasonable and feasible environmental management procedures when undertaking all construction works, operations or activities related to THSRC. For works at each relevant unit that are commissioned to suppliers or contractors, these suppliers or contractors shall be required to conduct automatic inspection of environmental protection measures to supervise whether their employees have truly carried out works according to the relevant requirements. Such inspection results and improvement measures and results shall be recorded and submitted to the contract management unit for reference.

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Localized Supply Chain

To search for local alternative materials, THSRC actively visits Taiwan vendors to ensure that the quality of the materials comply with the specifications. In 2019, the total amount of property procurement conducted by THSRC was approximately NT\$6.6 billion, where the amount of procurement from local suppliers accounted for 77.17% of the total amount. Meanwhile, the amount of service procurement in 2019 exceeded NT\$5.3 billion, where 96.49% came from local service procurement, while the proportion of local service procurement in the three most recent years has exceeded 86%.



In addition, THSRC actively engages with the railway industry localization policy set forth by the Ministry of Transportation and Communications and is committed to the development of “replacing outsourcing with localization” or “replacing self-manufacturing with contract manufacturing.” Taking into consideration the need for maintaining high-quality train safety, shortening material preparation and delivery lead time, and reducing procurement costs, THSRC procures local materials, which can not only develop local suppliers, but also reduce reliance on supply of goods from overseas suppliers. As manufacturers can apply for the International Railway Industry Standard quality system certification based on the performance of collaboration, vendors can effectively enhance their corporate image and technical capabilities, as well as expand the local railway industry chain to the international stage. Based on such a win-win partnership, THSRC has successively attracted the participation of related local industries to promote the development of railway industry localization.

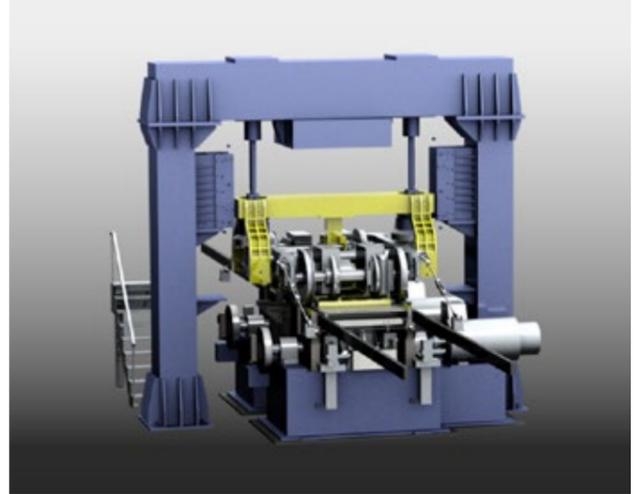
In order to establish our self-renewal capability and search for alternative materials, we visited local suppliers 365 times, and completed 51 alternative material development cases in 2019, where the quality of these alternative materials met THSRC’s requirements. From 2011 to 2019, there have been a total of 112 alternative materials-developing vendors, with a saving up to NT\$2.252 billion.

Localization of THSR

To support local small and medium businesses and promote products made from local raw materials, THSRC helps local businesses to set up HSR markets or local product stores with lower rents at Taoyuan Station, Hsinchu Station, Miaoli Station, Taichung Station, Changhua Station, Yunlin Station, Tainan Station, and Zuoying Station. We are committed to creating job opportunities for local small and medium businesses. Every month, approximately 80 service salespersons help to generate a total revenue of NT12 million for local small businesses.

In addition to visiting vendors, THSRC signed a contract with the Industrial Technology Research Institute and Taiwan Rolling Stock Co., Ltd. in July 2019 to jointly develop the “Bogie Running Tester” and the “Diesel-Hydraulic Locomotive,” thus advancing self-maintenance technologies for trains. Since September 2018, THSRC has collaborated with China Steel Corporation in the “Overhead Catenary System Maintenance Vehicle Localization” project to standardize the specifications of equipment components and suppliers, with a view to effectively reducing maintenance and inventory costs and improving maintenance quality. From July 2017 to April 2020, THSRC has collaborated with the National Chung-Shan Institute of Science and Technology in developing the “Locally-made Train Waving Automatic Measurement System” to gradually replace Japanese-made portable waving measurement equipment, as well as effectively integrating the functions of different systems and improving its measurement effectiveness. Another outstanding collaborative achievement was the first locally developed “New High Speed Train Driving Simulator” in Taiwan which offers a wider variety of emergency response scenarios for drivers, so as to enhance their ability to respond to emergencies and create safer travel services for passengers. In the future, THSRC will continue to advance our efforts in research and development and actively contribute to the development of localized rail transportation while providing high-quality travel services.

Bogie Running Tester





Touch

▶▶▶ Sustainable Care

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Touch >>> Sustainable Care

Management Approach	Subchapter Title	Material Topic	Management Purpose	Management Method	Assessment Mechanism
	Sustainable Governance and Ethical Corporate Management	Corporate governance	<ul style="list-style-type: none"> Enhance various corporate governance related measures and legal compliance systems to ensure the sustainable operation of THSRC and reduce the risk of violating of laws and regulations. 	<ul style="list-style-type: none"> Establish the Corporate Governance Promotion Committee, which is overseen by the Chairman and chaired by the President, whereas executives from managerial departments serve as members of this committee. This committee regularly reports to the Board of Directors regarding the overall promotion and implementation of corporate governance at THSRC every year. Establish the "Articles of Incorporation," the "Guidelines for Corporate Governance," the "Code of Ethical Conduct," and the "Code of Conduct." 	<ul style="list-style-type: none"> Establish the "Regulation of Self-evaluation of the Board of Directors," and implement internal self assessment of the Board of Directors at the end of each year in accordance with this regulation. In addition, conduct external assessment at least once every three years. Participate in the Corporate Governance Evaluation organized by Taiwan Stock Exchange Corporation, and also undergo external assessment. Regularly convene meetings for review and implementation based on internal and external assessment results.
		Legal compliance		<ul style="list-style-type: none"> Set up a legal compliance team in the Legal Office, require all units of department level and above to appoint a legal compliance representative, regularly convene a legal compliance representative meeting every quarter, and require the Legal Office to report the status of legal compliance at THSRC to the Audit Committee and the Board of Directors every year. Implement self-assessment annually based on internal control systems, and verify the status of legal compliance at THSRC upon review of relevant procedures. Establish legal compliance promotion plan, and keep abreast of changes in regulations accordance with management regulations to effectively improve compliance awareness and control the status of legal compliance at each unit. 	<ul style="list-style-type: none"> Require the Legal Office to formulate and review work plan items every year, as well as compile and manage penalty cases, and require penalized units to report the status of handling such cases and improvement measures during compliance meetings every quarter.
	Low-Carbon Train Operation and Environmental Sustainability	Climate change mitigation and adaptation	<ul style="list-style-type: none"> Enhance the ability of the transportation system to cope with climate change, and implement greenhouse gas reduction measures to reduce the risks and hazards that may be caused by climate change to THSRC's operations. 	<ul style="list-style-type: none"> In addition to establishing the Environment Management Committee, set up units mainly in charge of operational safety risks and environmental risks in accordance with THSRC's risk management policy to identify and manage climate change risks that may affect THSRC's operations, as well as promote relevant response mechanisms and measures. Promote greenhouse gas reduction policies or formulate emission reduction targets and needs for rail transportation and station operations in line with the relevant policies set forth by government agencies, including the Ministry of Transportation and Communications and the Ministry of Economic Affairs. 	<ul style="list-style-type: none"> The Environmental Management Committee regularly reviews the accomplishment of short-, medium-, and long-term environmental management goals and strategies, assess the gap between the goals set and the current situation, and review related mechanisms and measures.
		Energy use efficiency	<ul style="list-style-type: none"> Implement THSRC's energy management and carbon reduction policies to improve the service performance of green vehicles, and make substantial contributions to environmental protection while creating a green living circle and a sustainable environment with low-carbon transportation. 	<ul style="list-style-type: none"> Establish the Energy Conservation Project Team, continue to promote the four major energy conservation solutions, including "autonomous energy conservation management, reduce electricity consumption, transfer peak electricity usage, and use electricity reasonably" and related measures, as well as set energy conservation, electricity conservation, and water conservation management goals. 	<ul style="list-style-type: none"> The Energy Conservation Project Team regularly convenes the energy conservation meeting every quarter, as well as tracks and reviews the implementation of related measures.
	Nurturing Talent and Value Cultivation	Talent placement and development	<ul style="list-style-type: none"> Recruit suitable personnel in a timely manner based on business needs and manpower planning to ensure the knowledge, attitude, and skills of recruited employees meet job requirements. 	<ul style="list-style-type: none"> Establish regulations, including the "Manpower Planning and Management Regulation," the "Employees Recruitment Regulation," the "Employees Employment Regulation," the "Work Manual Management Principles," the "Principles Of Promotions," and the "Training Management Regulation" as the basis for planning for external recruitment and appointment, internal development and promotion, and related training programs. 	<ul style="list-style-type: none"> Review the suitability of the regulations above every three years, and examine whether recruitment operations meet planning and unit needs through regular reports and review meetings. Ensure that goals are met and close to the current status.
	Protection of Rights and Considerate Care	Employee care and protection of labor rights	<ul style="list-style-type: none"> Create a healthy and friendly workplace by establishing multiple grievance channels, ensuring the physical and mental health of employees, and reducing workplace hazards, with a safe, equal and high-quality work environment. 	<ul style="list-style-type: none"> Establish safety and health policies, and occupation disaster notification process, as well as regularly convene occupation safety and health committee meetings. Establish the "Mental Health Protection Regulation," as well as conduct multi-faceted mental health talks or training courses for employees, regularly impart mental health knowledge through electronic bulletin boards, or promote grievance and reporting mechanisms for employee mental health protection at various settings such as new employee training. Establish the "Sexual Harassment Prevention and Handling Regulation" (including grievance and reporting process), and enhance efforts to raise awareness toward the prevention of sexual harassment among employees in accordance with the Act of Gender Equality in Employment and by referencing the Regulations for Establishing Measures of Prevention, Correction, Complaint and Punishment of Sexual Harassment at Workplace. Ensure the basic labor conditions for employees are protected and communication mechanisms are implemented through different forms of meetings, such as departmental meetings, Town Hall meeting, conservation over tea and Be There with the Chairman Forum. Regularly convene labor-management meeting. Report any changes in labor representatives to the competent authority for reference in accordance with the law. THSRC set up Labor Union for discussing on various issues at to maintain a well establish labor-management relationship. Establish and implement the "Grievance Regulation" for employees to effectively implement management policies and maintain harmonious employee relations. 	<ul style="list-style-type: none"> Regularly inspect grievance and reporting mechanisms for employee protection, as well as feedback on mental health talks and training courses, to understand employee needs and develop relevant plans based on these needs. Set quantitative indicators and goals for occupational safety and health goals for employees, as well as measure and monitor them.

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Sustainable Governance and Ethical Corporate Management

Corporate Governance Framework

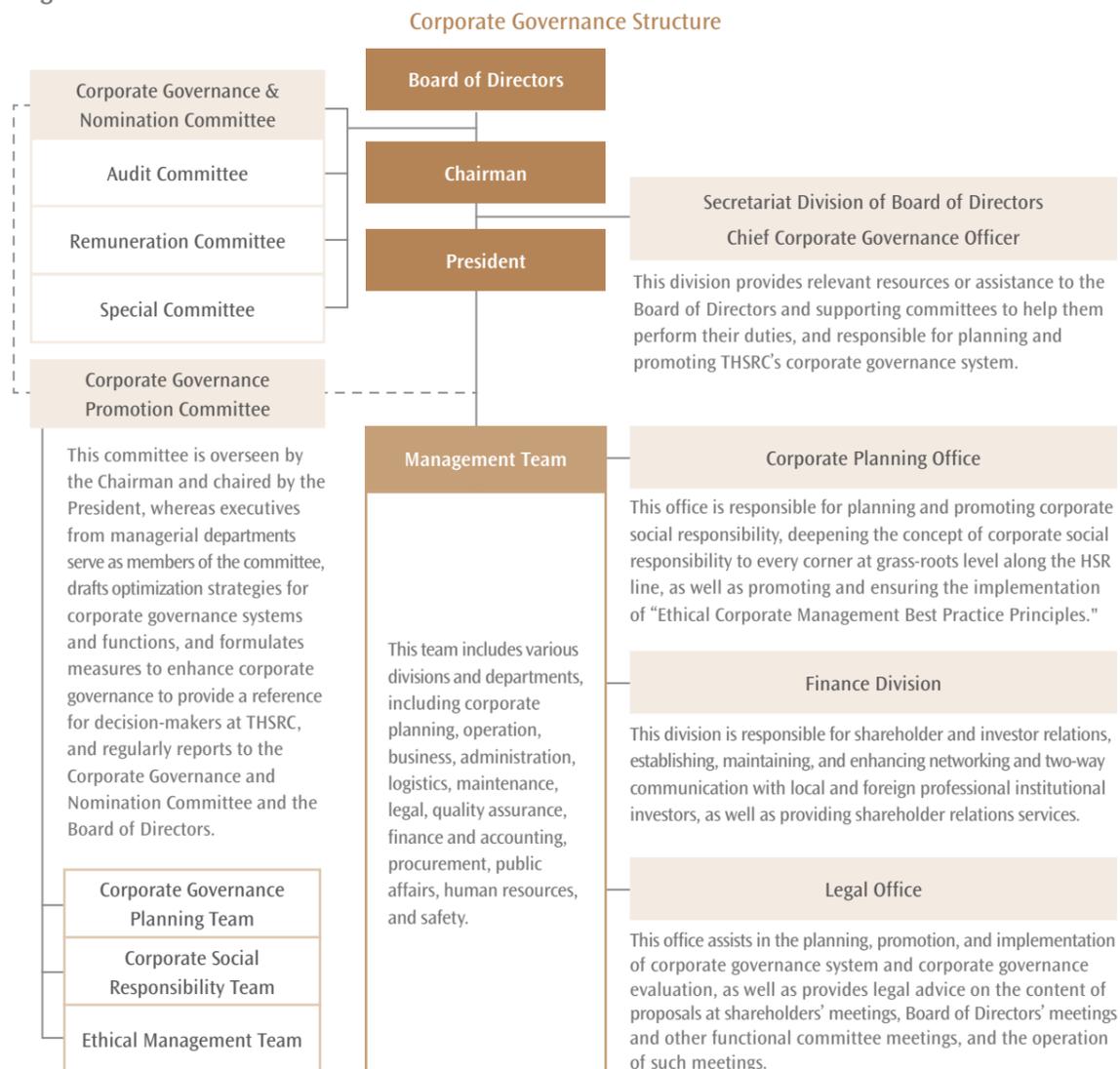
In order to drive a good corporate governance system, and implement the guidance outline of various governance measures, THSRC complies with related governmental regulations, and continues to review and improve our "Guidelines for Corporate Governance"  by referring to domestic and international standards.

In addition to having independent directors in place as specified in the Articles of Incorporation, THSRC has established functional committees, such as the Corporate Governance & Nomination Committee, Audit Committee, Remuneration Committee, and Special Committee under the Board of Directors. Moreover, THSRC also revises or amends the relevant chapters and regulations.  Specific results are currently shown in the following: functional committees have a duty of pre-assessment, independent directors exercise their independence and professionalism, and the management fully implements corporate governance and gradually enhances information disclosure.

THSRC has ranked among the top 5% of publicly listed companies in the 4th and 5th Taiwan Stock Exchange Corporate Governance Evaluation consecutively since the public listing of THSRC. To stabilize company operations and increase investor and stakeholder confidence, we will not only focus on the continuous fulfillment of functions by functional committees and independent directors, but also continue to inspect the basic corporate governance framework and various corporate governance mechanisms in adherence to the principles of enterprise autonomy.

For other details regarding corporate governance, please refer to THSRC's annual reports,  THSRC's corporate website  and the Market Observation Post System (MOPS). 

Organizational Structure



Information on Members of Governance Organization

At present, the Board of Directors consists of 12 members (including 3 independent directors), where the independent directors specialize in finance and accounting, law, industrial knowledge, and business management, while the non-independent directors specialize in marketing, technology, business management, industrial knowledge, and operational judgment. In the Board of Directors, male directors accounted for 75% (9 persons) and female directors accounted for 25% (3 persons), whereas directors aged 50 years old and above and under 65 years old accounted for 42% (5 persons) and directors aged 65 years old and above accounted for 58% (7 persons).

Members of the 8th Board of Directors was elected in the Annual General Meeting on May 24, 2017, and took office on the same day for a term of three years till May 23, 2020. For information on the members of the Board of Directors, please refer to Appendix Table 2.  For other related information, please refer to THSRC's annual report. 

Responsibilities of Governance Organizations

The Board of Directors is mainly responsible for formulating major financial, business, and operational decisions. The duties of the Board of Directors include reviewing important regulations, business plans, budget accounts, and important businesses, as well as supervising the performance of duties carried out by the management. Major resolutions by the Board of Directors are announced and disclosed on the Market Observation Post System (MOPS) in accordance with the rules and regulations. Each functional committee has a duty of pre-assessment, whereas independent directors exercise their independence and professionalism, which helps to enhance the quality and professionalism of Board of Directors' discussions.

According to THSRC's Corporate Governance Guidelines, the Board of Directors meets at least once every two months. In 2019, the Board of Directors convened 12 meetings, for details regarding directors' attendance, please refer to page 60 of our annual report. 



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Functional Committees

Economic	Financial and Management Issues
Environmental	Energy Saving, and Carbon Reduction, Renewable Energy Generation, Waste Disposal, Ecological Conservation, etc.
Social	Donations, Charity Activities, Ethics and Anti-Corruption, Community Communication, Labor Rights Issues, Employee Education and Welfare, Customer Safety and Health, etc.

		Economic	Environmental	Social	Certain Discussion Topics in 2019
Corporate Governance & Nomination Committee	<ol style="list-style-type: none"> 1. Review the professional knowledge, techniques, and experience required by independent directors, non-independent directors, and managers, and their diverse backgrounds such as gender and independent criteria, in order to search for, assess, and nominate director and independent director candidates and manager candidates 2. Verify the qualifications of independent directors and the composition of the Board of Directors and committees 3. Responsible for the nomination of directors, as well as the planning and assessment of potential director candidates 4. Review the performance of duties by all directors and supervisors, and the liability insurance for directors and managers 5. Responsible for the research and analysis, implementation, planning recommendations and effectiveness review of corporate governance system, as well as corporate governance regulations 6. Review succession planning for directors and managers 	✓	✓	✓	<ul style="list-style-type: none"> • Report on the operation and implementation of corporate social responsibility and ethical corporate management • Report on the implementation of corporate governance • Report on the review of THSRC's information disclosure system • Report on research and analysis, implementation, and planning recommendations of THSRC's corporate governance system • Report on the results of self-evaluation of the Board of Directors' performance • Appoint a chief corporate governance officer • Report on the self-assessment of corporate governance • Performance goal setting and evaluation result reporting for managers • Amend the "Charter of the Corporate Governance and Nominating Committee" (including succession planning for directors) • Succession mechanism for important levels of management
Audit Committee	<ol style="list-style-type: none"> 1. Formulate or amend procedures for handling internal control systems and significant financial practices in accordance with the Securities and Exchange Act 2. Review matters involving directors' own interests 3. Review major asset and derivative trading, loaning of funds, and provision of endorsements or guarantees 4. Review public offering, issuance or private placement of equity securities 5. Review annual, semi-annual, first-quarter, and third-quarter financial statements 6. Assess company risk management policies, metrics, and compliance 	✓	✓	✓	<ul style="list-style-type: none"> • Report on the implementation of corporate governance • Performance goal setting and evaluation result reporting for managers • Report on the legal compliance system and its implementation • Amend the "Internal Control System" and the "General-Rules of Internal Control Self-assessments" • Perform self-assessment of internal control system results • Establish the "Risk Management Regulation" • Report on the progress in the implementation of risk management • Report on the implementation of information security governance and management • Annual donation and sponsorship programs • Donation of rail scraps
Remuneration Committee	<ol style="list-style-type: none"> 1. Establish and regularly review policies, systems, standards, and structures of performance evaluation, salary, and remuneration for directors and managers 2. Regularly assess and formulate salary and remuneration for directors and managers 	✓		✓	<ul style="list-style-type: none"> • Report on research and analysis, implementation, and planning recommendations of THSRC's corporate governance system • Proposal for salary adjustment • Report on the results of self-evaluation of the Board of Directors' performance • Suggestions on the distribution of employee and director compensation • Performance goal setting and evaluation result reporting for managers • Suggestion on the distribution of performance bonus at THSRC • Suggestions on THSRC's practices after the implementation of amendments to the Labor Standards Act
Special Committee	<ol style="list-style-type: none"> 1. Provide counsel and suggestions on major legal or contractual disputes and important institutional changes as approved by the Board of Directors, and assist the Board of Directors in supervising functional managers to implement related decisions 2. Supervise procurement proposals that shall be made to the Board of Directors by functional managers, in accordance with regulations 3. Other duties as stipulated in the Articles of Incorporation, "Corporate Governance Guidelines," or the resolutions of Board of Directors 	✓		✓	<ul style="list-style-type: none"> • Proposal of material procurement strategy for periodic maintenance of rolling stocks • Proposal of tender for the manufacture, supply, and procurement of Bogie Running Tester • Advancement plan for HSR maintenance operation mechanism and maintenance procurement strategy

For details regarding the operations of each functional committee, please refer to the section titled "Operations of Functional Committees" on our corporate website. 

Corporate Governance Promotion Committee

Under the guidance of the "Corporate Social Responsibility Best Practice Principles"  approved by the Board of Directors in March 2016, we have included aspects such as corporate governance, sustainable environment, social welfare, information disclosure, and communication into our operational strategies and management objectives. In addition, we have also formed the "Corporate Governance Promotion Committee," where the corporate governance planning team, the corporate social responsibility team, the ethical management team, and the environmental sustainability team have been established under this committee. This committee is overseen by the Chairman and chaired by the President, whereas executives from managerial departments serve as members of the committee. It drafts optimization strategies for corporate governance systems and functions, formulates measures to enhance corporate governance,

and evaluate corporate social responsibility policy to provide a reference for decision-makers at THSRC. Every year, it reports the overall promotion and implementation of corporate governance to the Board of Directors.

In order to protect shareholders' rights and interests, as well as strengthen the functions of the Board of Directors, THSRC has approved the appointment of Chief Corporate Governance Officer during the 24th meeting of the 8th Board of Directors in 2019, where the head of the Secretariat Division of Board of Directors who is a qualified lawyer and has over three years of experience working as a manager at units related to legal affairs, stock affairs, and corporate governance in public companies, was appointed the Chief Corporate Governance Officer at THSRC. For details regarding other related operations, please refer to the section titled "Corporate Governance Framework" on our corporate website. 

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Management Principles

To practice the spirit of transparent governance, THSRC has established the “Ethical Corporate Management Best Practice Principles” to maintain fair business conduct, while the relevant whistleblowing system also ensures that our employees to supervise each other. Besides, THSRC has established the “Code of Conduct” to ensure our stakeholders know that our employees are aware of the ethical standards they should comply with when performing their duties, and that they shall be punished in accordance with the relevant rules and regulations if they violate this code. Furthermore, THSRC has also established the “Code of Conduct” which clearly states that a employee who discovers that he/she is involved in the violation of this code or reasonably suspect that other employees or units with which he/she has dealings, are involved in the violation of this code, shall be obliged to file a whistleblowing report by presenting the relevant supporting information.

In order to raise anti-corruption awareness at THSRC and enhance our ability to combat corruption, THSRC deepens the adoption of ethical management among all employees through education and training. As of 2019, a cumulative total of 4,603 existing employees have received anti-corruption policy training, accounting for 100% of all employees. New employee training also emphasizes THSRC’s value proposition, employee code of conduct and ethical conduct, so as to enhance compliance with anti-corruption policies among all employees. This category of training takes place for approximately two hours.

In addition, the number of participants and training hours in ethical management-related training sessions held in 2019 are listed as follows:

- ▶ 10 members of the Board of Directors received anti-corruption policy communication and training, accounting for 83% of all members of the Board of Directors.
- ▶ A total of 333 new employees received anti-corruption training, accounting for 7.2% of all employees.
- ▶ A total of 4,603 participants received ethical management training, which was conducted for all employees, and ran for a total of 2,301.5 hours.
- ▶ A total of 4,603 participants received insider trading prevention training, which ran for a total of 2,301.5 hours.
- ▶ In addition to the above mentioned online courses participated by all our employees, we also invited the Investigation Bureau, Ministry of Justice to conduct physical courses to enhance our employees’ awareness toward ethical corporate management. A total of 112 participants attended this course, which was conducted for senior executives and general employees, and ran for a total of 224 hours.

Education and Training Related to Ethical Management

Rank	Number of Trainees	Percentage of Trainees in Terms of Total Number of Employees	Class Hours
Vice President and above	10	0.2	10
Assistant Vice President	17	0.4	17
Manager and Deputy Manager	215	4.7	215
Section Chief	627	13.6	627
General employees	3,734	81.1	3,734
Total	4,603	100	4,603

As regards the grievance mechanism for ethical management, grievances are accepted via THSRC’s spokesperson mailbox, while the phone number is (02)8789-2000 ext.72710 and email address is Spokesman_MBOX@thsrc.com.tw. Internal employees who feel that their legitimate rights have been violated can send their grievances via email to our internal grievance mailbox: helpme@thsrc.com. We also offer related training, in hopes that all employees can adopt a righteous work attitude. The mechanisms above are also applicable to grievances related to social aspects.

Moreover, in order to implement ethical management policy and actively prevent non-ethical conduct, THSRC has established the “Regulation of Whistle-Blowing System for Unlawful, Unethical Conduct and Dishonesty Behavior,” and accepts reports regarding violations of THSRC’s “Code of Ethical Conduct” and “Ethical Corporate Management Best Practice Principles” or non-compliance with regulations and other internal rules filed by internal and external stakeholders, including shareholders, investors, directors, managers, and employees. Whistleblowing reports can be filed to THSRC’s Corporate Audit Office via the following methods:

- ▶ Hotline: 02-8725-1188
- ▶ Fax: 02-8725-1189
- ▶ Email address: ethics_MBOX@thsrc.com.tw
- ▶ Mailing address: 15th Floor, No. 66, Jingmao 2nd Road, Nangang District, Taipei City 11568

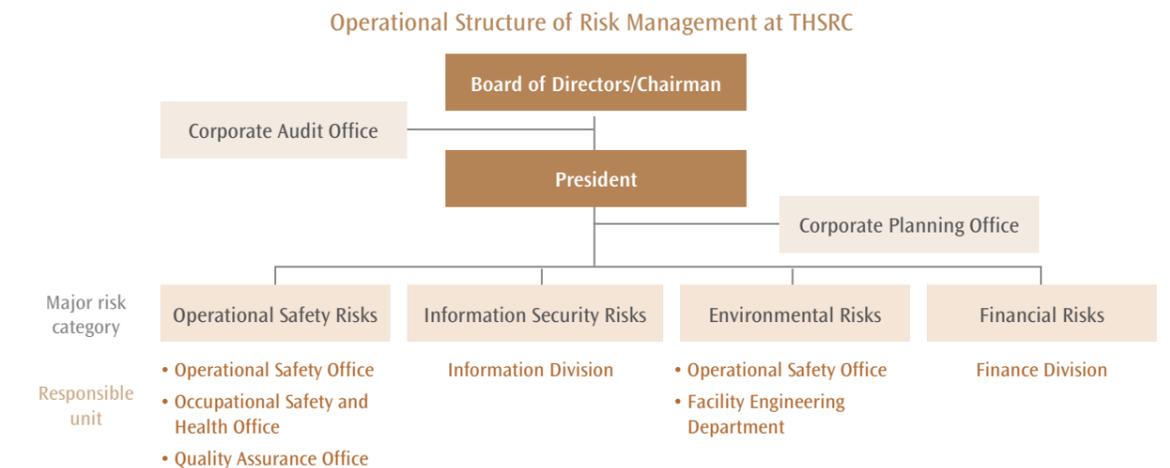
We internalize our corporate values in our rules and regulations, and implement ethical management in every section through our internal management mechanism. As of 2019, there were no penalties imposed on the relevant units due to major violations related to corruption and no related grievance cases.

Anti-competitive and Anti-corruption Practices

In order to enhance the management of ethical practices among suppliers, THSRC has established the “Principles of Handling Unusual Conduct Among Manufacturers,” the “Procurement Regulation,” and other related sub-regulations. THSRC also informs suppliers through tender instructions and related tender documentation that possible bid rigging behavior in each case must be reviewed. Besides, THSRC pays high attention to bidding behavior which affects the principles of fairness, justice, and transparency in procurement. THSRC also specifies anti-corruption policy and procedures in tender instructions to be communicated to suppliers. Manufacturers who are found to commit serious violations in such circumstances may be listed as debarred manufacturers. In 2019, THSRC handled a total of 892 procurement cases, which involved the promotion of anti-corruption policy, through open tender.

Sustainable Risk Management

Risk management is the key to the longevity of a company. A comprehensive risk management mechanism that covers the environment, society, and corporate governance is the driving force for the sustainable development of a company. In order to strengthen the effectiveness of corporate governance, determine risk response strategies, as well as effectively assess and monitor our risk-bearing capacity and compliance with risk management procedures, THSRC approved the establishment of the “Risk Management Regulation” during the Board of Directors’ meeting held on June 19, 2019 and established the “Risk Management Policy” in the following month to ensure that medium- and long-term strategies, plans, and goals are achieved. The operational structure of THSRC’s risk management mechanism is shown as follows:



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We consider various aspects related to company operations, such as business environment, operations, finance, and hazardous events, as well as review the integrity of corporate risk management and the effectiveness of risk control to stocktake and identify risks that may affect operations and profitability.

The identification results, relevant response measures and actions, as well as key performance indicators for major risk categories are listed as follow:

Topic	Major Risk Category	Risk Implications	Relevant Response Measures and Actions	Key Performance Indicators
Environment	Environmental Risks 	Various types of environmental events (e.g., greenhouse effect, extreme climate change, earthquakes, land subsidence, and new faults) may result in various risks, such as amendments to regulations, system damage, regional power outages, and water shortage, thus affecting service quality and leading to an increase in maintenance and operation costs	<ol style="list-style-type: none"> 1. Formulate environmental policies and manage them in accordance with environmental management manual, apply for the ISO 14001 Environmental Management Systems certification, and establish a compliant environmental management system 2. Identify climate change risks, forecast medium- and long-term climate change risks, formulate energy conservation plan and measures, and work with professional institutions to analyze and formulate adaptation strategies in response to climate change, in order to effectively reduce the operational impact of climate change on THSRC 3. Collaborate with professional institutions to establish an earthquake early warning system 4. Conduct assessment of land subsidence, new faults, flood control, and earthquake resistance capability, as well as study and plan for improvement needs 5. Keep abreast of the status of environmental disasters through the Disaster Warning System, as well as conduct disaster prevention audit and large-scale drills periodically and non-periodically every year 	Formulate indicators and goals related to environmental management, ecological conservation, waste management, energy management, water resource management, and greenhouse gas management (please refer to the table titled "Short-, Medium-, and Long-term Environmental Management Goals and Strategies" in the subchapter titled "Transportation and the Environment") 
	Operational Safety Risks 	In the HSR system, facility and equipment failure, human negligence, sabotage or other external factors may affect train safety and then cause harm to employees, passengers, contractors, and the public or result in delay or interruptions in railway operations.	<ol style="list-style-type: none"> 1. Formulate safety and health policy, corporate quality policy, and configuration management policy, as well as manage these policies in accordance with the Operational Safety Plan, the Occupational Safety and Health Management Manual, the Corporate Quality Manual, the HSR System Configuration Management Manual, the Corporate Reliability, Availability, Maintainability, and Safety Manual, the Railway Operation Security Management Plan, and the Corporate Safety Assurance Plan 2. Establish the Operational Safety Committee that meets regularly every quarter, and establish the Occupational Safety and Health Committee that meets every quarter 3. Perform internal audit and safety inspections of railway operation safety, occupational safety and health, quality management, configuration management, system assurance, etc. 4. Conduct railway safety training, occupational safety and health training, hazard management training, and disaster prevention and rescue drills and training 	<ol style="list-style-type: none"> 1. Percentage of configuration monitored items (please refer to the subchapter titled "Safety and Quality Management System")  2. Quality performance indicators in four major areas (please refer to the subchapter titled "Quality Advancement Direction and Review")  3. Inspection cycle and number of trainsets maintained (please refer to the subchapter titled "Station and Route Safety and Risk Management") 
Corporate Governance	Information Security Risks 	THSRC is Taiwan's key information infrastructure provider and is listed as an agency of cyber security responsibility Level A in Taiwan. Therefore, the confidentiality, integrity, availability, and legal compliance of the HSR information system are the key risk considerations for our information security.	<ol style="list-style-type: none"> 1. Formulate information security policy and computer software intellectual property protection policy, and manage them in accordance with the Information Security Management Manual 2. Establish the Information Security Management Committee and convene an information security management review meeting every six months 3. Establish a management operation system in accordance with the ISO 27001 Information Security Management Standards 4. Implement internal audit, drill assessment, information security diagnosis, penetration test, defense in depth, education and training with regard to information security in accordance with the requirements for agencies of cyber security responsibility Level A in Taiwan 	<ol style="list-style-type: none"> 1. Personal information inventory count 2. Number of related awareness programs and training sessions held and training completion rate 3. Review through regular meetings
	Financial Risks 	Changes in the economic and financial situation at home and abroad will affect THSRC's revenue, maintenance and operation costs, interest rates, and exchange rates, thereby affecting THSRC's profit or loss and cash flow.	<ol style="list-style-type: none"> 1. Comply with the relevant provisions of the "International Financial Reporting Standards," the "International Accounting Standards," and government regulations 2. The competent authority conducts regular annual financial review 3. Managerial departments review budgets every month and report them to the Board of Directors every six months 4. Regularly produce quarterly and annual financial statements 5. The Board of Directors reviews important financial activities in accordance with relevant laws and regulations and internal control systems 	<ol style="list-style-type: none"> 1. Cumulative revenue 2. Net income after tax

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Legal Compliance

All employees at THSRC shall truly carry out their duties in compliance with the laws and regulations, as well as THSRC's rules and regulations, which has already been stipulated in the Articles of Incorporation,  the Corporate Governance Guidelines,  the Code of Ethical Conduct, and the Employee Code of Conduct.  In order to ensure that our employees truly comply with the relevant rules and regulations, as well as continue the spirit of ethical management, we approved the "Promotion Plan for Legal Compliance" in 2016 to comprehensively manage compliance with laws and regulations, where the key points of this plan include formulating policies, implementing a sound legal compliance system framework, short-, medium-, and long-term goals and division of responsibilities, regulatory inventory and change management mechanisms, and legal compliance reporting framework.

In order to maintain a comprehensive legal compliance system, we include the implementation results of legal compliance system into our internal control system for self-assessment every year, where each unit assesses compliance risks and implementation effectiveness. In 2019, the average risk level at each unit was medium to high, and implementation effectiveness at each unit was 4 to 5 (based on a scale of 1 to 5 for effectiveness). Meanwhile, the implementation results of legal compliance system were examined by supervisors at each unit in accordance with our internal control review mechanism. Upon review by the Corporate Audit Office, the results were submitted to the Audit Committee and the Board of Directors for further review in February 2020.

THSRC has paid fines for the following penalty/punishment cases, completed improvements on these violations, and enhanced related management measures. However, these cases did not have a significant impact on THSRC's overall operations. The status of legal compliance at THSRC in 2019 is explained as follows:

- ▶ THSRC did not violate the laws and regulatory orders related to the "construction and operation of HSR" and "public companies."
- ▶ Laws and regulatory orders related to "economic and social aspects":
 - The National Taxation Bureau of Taipei imposed a fine of NT\$1,615 on THSRC arising from the violation of Paragraph 2 of Article 114 of the Income Tax Act due to our failure to file the non withholding tax statement before the expiration of the filing deadline. Based on THSRC's improvement solution, our financial unit has added system control mechanisms and adjusted operating procedures, so as to push the relevant personnel to complete the filing process within the duration prescribed by the law.
 - The Taoyuan City Government imposed a fine of NT\$20,000 on THSRC arising from violation of Paragraph 6 of Article 30 of the Labor Standards Act due to incorrect recording of workers' actual clock-out time. Based on THSRC's improvement solution, we have enhanced internal management, such as reiterating service rules and strengthening management of employees with abnormal attendance records. At the same time, we have optimized the system reminder to confirm whether employees have applied for overtime in advance, and required employees to take a rest for 30 minutes, so as to comply with the relevant provisions of the Labor Standards Act.
- ▶ Laws and regulatory orders related to "environmental aspect":
 - The Chiayi County Government imposed a fine of NT\$9,000 on THSRC arising from violation of Article 39 of the Building Act due to the contractor's failure to submit the building reinforcement plan to the competent authority for approval in accordance with the regulations before grouting. This case involves contractor negligence. Hence, the contractor was required to pay the fine and obtain the construction permit. Based on THSRC's improvement solution, we have sent a letter to remind the contractor to strengthen review of documents (including the completeness and compliance of the documents for application) and improve internal control, such as formulating standard operating procedures and strengthening education and training or case awareness, in order to avoid being fined again.

Low-Carbon Train Operation and Environmental Sustainability

Climate Change Adaptation

THSRC has set up a dedicated unit in charge of managing risks and opportunities related to climate change (for more details, please refer to the subchapter titled "Sustainable Risk Management").  As regards the effects of climate change on railways including "increase in rainfall and rainfall intensity, as well as increase in the frequency and intensity of extreme weather phenomena such as typhoons and cyclones," THSRC has built facilities for "flood prevention, earthquake prevention and wind damage prevention" in compliance with domestic and international regulations, so as to prevent the impact caused by serious climate events such as floods and wind disasters. In 2019, there were no damages caused by climate change to civil structures along the HSR line.

The operational insurance plan at THSRC has taken into account various risk effects in a reasonable manner, including natural disasters (e.g., earthquakes, typhoons, torrential rain, slope sliding, rockfalls, etc.), human factors (e.g., vandalism on equipment, arson, explosives, violent attacks, hostage taking, etc.), and equipment anomalies (e.g., system failures). In addition to taking out adequate operational asset insurance on important operational assets, THSRC also takes out business interruption insurance to reduce the financial impact of possible decrease in revenue and additional operating expenses resulted from damage to operating assets.

As for identifying, assessing, and managing climate-related risks, THSRC has also signed the "Memorandum of Cooperation on Cross-border Disaster Prevention" with the Central Weather Bureau, Ministry of Transportation and Communications to enhance meteorological interpretation capabilities through mutual cooperation, while serving as an important reference for THSRC to make traffic dispersion decisions and assess track safety during disasters. We also actively work toward the "Adaptation Strategy to Climate Change in Taiwan" and continue to assist the Institute of Transportation, Ministry of Transportation and Communications in conducting research related to climate change adaptation, participate in the development of the railway and highway climate change adaptation information platform and the expansion of its functions, and strengthen the analytical functions regarding vulnerability and risk of the information platform, with a view to supporting decision-making analysis of climate change by railway and highway competent authorities.

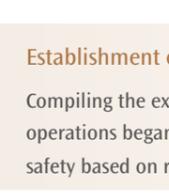
In addition, based on the "Research of Climate Change Adaptation Action Plan of Railway and Highway Systems" conducted by the Institute of Transportation, Ministry of Transportation and Communications, and the "Taiwan Climate Change Projection and Information Platform" executed by the National Science and Technology Center for Disaster Reduction, THSRC set climate change scenarios and analyze the recurrence period for climate change with different frequencies, in order to develop risk maps and examine adaptation gaps. We also identify high-vulnerability hotspots in the HSR system based on the "Research of Climate Change Adaptation Strategies and Vulnerability Assessment Indicators of Major Highway and Railways Constructions" conducted by the Institute of Transportation, Ministry of Transportation and Communications in 2015, as well as use existing monitoring and management mechanisms along the HSR line, including maintenance and protection of facility structure, Disaster Warning System (for more details, please refer to the subchapter titled "Real-time Detection and Disaster Prevention - Disaster Warning System (DWS)"), , and emergency response mechanism, and continue to inspect and review related events to keep abreast of the potential impact of climate change and respond to it.

THSRC's Climate Change Adaptation Measures (2018-2022)



Establishment of warning system for slope safety

Compiling the experience in slope management and prevention since operations began, and planning to construct a warning system for slope safety based on rainfall intensity.





Strengthen protection of tunnel portal slopes

Taking into account increasing frequency of extreme rainstorms in the future, inspection and protection works for HSR tunnel portal slopes along sections in Hsinchu and Miaoli will be strengthened in the future.





Risk assessment and protection designs for scoured cross-river bridges

Conducting risk assessment and protection of scoured cross-river bridges annually to ensure HSR facility and operational safety.



HSR core system has referenced past climate change data during the design stage, and has incorporated the relevant protection and monitoring devices into its overall design, in order to reduce potential damage to operations caused by climate change. We have also set specific indicators and goals to manage topics related to climate change (for more details, please refer to the subchapter titled "Transportation and the Environment"). 

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Transportation and the Environment

In order to implement overall environmental protection from construction to operation, THSRC continues to promote care for the environment in many aspects (including establishing an environmental management system, formulating environmental policies, establishing environmental management organizations, and assessing related goals and implementation strategies), while accepting relevant reviews and measurements from government agencies, such as the Ministry of Transportation and Communications and the Environmental Protection Administration, and formulating measures related to the reduction of environmental impact according to assessment results. In addition, we have established the Environmental Management Committee in 2019, which is responsible for supervising the implementation and regular review of environmental goals at each unit, as well as communicating operations related to the environmental management system.

Operation and Responsibilities of Environmental Management Organization



To examine the implementation effectiveness of environmental management, we perform internal environmental quality management audit according to the “Management System Internal Audit Regulation,” which scope covers all maintenance depots and stations. A total of seven audits were implemented in 2019, and two audits are expected to be performed in 2020. In addition, we track compliance with environmental regulations, as well as goal setting and achievement through the “Monthly Environmental Management Report” submitted by each unit every month. On the other hand, external inspections of wastewater and waste treatment implementation are carried out by local environmental protection units. In 2019, our total expenditure on environmental protection was NT\$65,763,000. For details regarding noise prevention, please refer to the section titled “Sustainability Commitment” under the chapter titled “Transportation.”

Environmental Protection Expenditure in 2019



In addition, we have formulated short-, medium-, and long-term environmental management goals and strategies as follows based on three winning principles of “safety and comfort, environmental protection, carbon reduction and energy conservation”:

	Short-Term (till 2020)	Medium-Term (till 2023)	Long-Term (till 2026)
Goal	<p>Environmental management</p> <ul style="list-style-type: none"> Comply with environmental protection and environment impact assessment regulatory requirements. Conduct training for environmental protection personnel. Ensure that our environmental management system passes the ISO 14001:2015 certification process. <p>Greenhouse gas management</p> <ul style="list-style-type: none"> Extend the validity period of the High Speed Rail Transportation Service Carbon Footprint. Successfully obtain the ISO 14064 Verification Opinion Statement for greenhouse gas emissions at HSR stations in 2019. <p>Ecological conservation</p> <ul style="list-style-type: none"> Carry out Jacana conservation work in Guantian, Tainan. <p>Waste management</p> <ul style="list-style-type: none"> Strengthen waste reduction, implement waste sorting, and actively recycle resources and waste. 	<p>Energy management</p> <ul style="list-style-type: none"> Promote energy conservation and carbon reduction measures at stations and maintenance depots, and set the annual electricity saving rate at greater than 0.86% as our energy conservation target using the average electricity consumption per passenger at stations (excluding public areas with Taiwan Railways Administration) and depots as an indicator. <p>Water resource management</p> <ul style="list-style-type: none"> Strengthen water conservation measures at stations and maintenance depots, and set the annual water saving rate at greater than 3.42% as our water conservation target using the average water consumption per passenger as an indicator. <p>Greenhouse gas management</p> <ul style="list-style-type: none"> Set annual carbon reduction rate at greater than 1.5% as our carbon emission target using the amount of carbon dioxide emission per passenger-kilometer as an indicator. <p>Environmental management</p> <ul style="list-style-type: none"> Implement the environmental management system and pass the ISO 14001 certification process again. Conduct environmental education and training for employees. <p>Waste management</p> <ul style="list-style-type: none"> Strengthen waste reduction, implement waste sorting, and actively recycle resources and waste. 	<p>Greenhouse gas management</p> <ul style="list-style-type: none"> Conduct company-wide greenhouse gas inventory audit and verification. <p>Environmental management</p> <ul style="list-style-type: none"> Promote the ISO 50001 Energy Management Systems certification. <p>Waste management</p> <ul style="list-style-type: none"> Strengthen waste reduction, implement waste sorting, and actively recycle resources and waste.
Environmental Management Strategy	<p>Environmental management</p> <ul style="list-style-type: none"> Implement environmental management, environmental monitoring, and environmental protection in compliance with the relevant laws and regulations. Conduct environmental protection training for environmental management representatives and related personnel at each unit, and strengthen their familiarity with environmental protection regulations and related execution capabilities. Undergo the ISO 14001:2015 certification process and establish an environmental management system that complies with international standards through performance assessment, management review, external audit, and continuous improvements. <p>Greenhouse gas management</p> <ul style="list-style-type: none"> Conduct HSR transportation service and product inventory audit and verification. Conduct greenhouse gas inventory audit and external verification at HSR stations in 2019. <p>Ecological conservation</p> <ul style="list-style-type: none"> Continue to sponsor the Jacana Ecological Education Park. <p>Waste management</p> <ul style="list-style-type: none"> Create awareness of the concept of circular supply and resource recycling, promote waste reduction at the source, and strengthen waste sorting and recycling. 	<p>Energy management</p> <ul style="list-style-type: none"> Continue to promote the four major energy conservation solutions, including “autonomous energy conservation management, reduce electricity consumption, transfer peak electricity usage, and use electricity reasonably.” <p>Water resource management</p> <ul style="list-style-type: none"> Conserve water, reduce the use of water, as well as recycle and reuse water. <p>Greenhouse gas management</p> <ul style="list-style-type: none"> Implement energy conservation measures, continue to increase passenger volume, and reduce the amount of carbon emission per passenger-kilometer. <p>Environmental management</p> <ul style="list-style-type: none"> Continue to formulate and implement management goals, check the results, and make improvements through the environmental management system. Conduct environmental education and training to enhance general employees’ sense of responsibility toward environmental protection and deepen the concept of sustainable development of the environment. <p>Waste management</p> <ul style="list-style-type: none"> Continue to create awareness of the concept of circular supply and resource recycling, promote waste reduction at the source, and strengthen waste sorting and recycling. 	<p>Greenhouse gas management</p> <ul style="list-style-type: none"> Establish THSRC’s “Greenhouse Gas Inventory List” to conduct total emission inventory audit and verification and emission reduction measures and priorities. <p>Environmental management</p> <ul style="list-style-type: none"> Establish the ISO 50001 Energy Management Systems to enhance energy management. <p>Waste management</p> <ul style="list-style-type: none"> Continue to create awareness of the concept of circular supply and resource recycling, promote waste reduction at the source, and strengthen waste sorting and recycling.

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Energy Conservation and Carbon Reduction for Energy Management

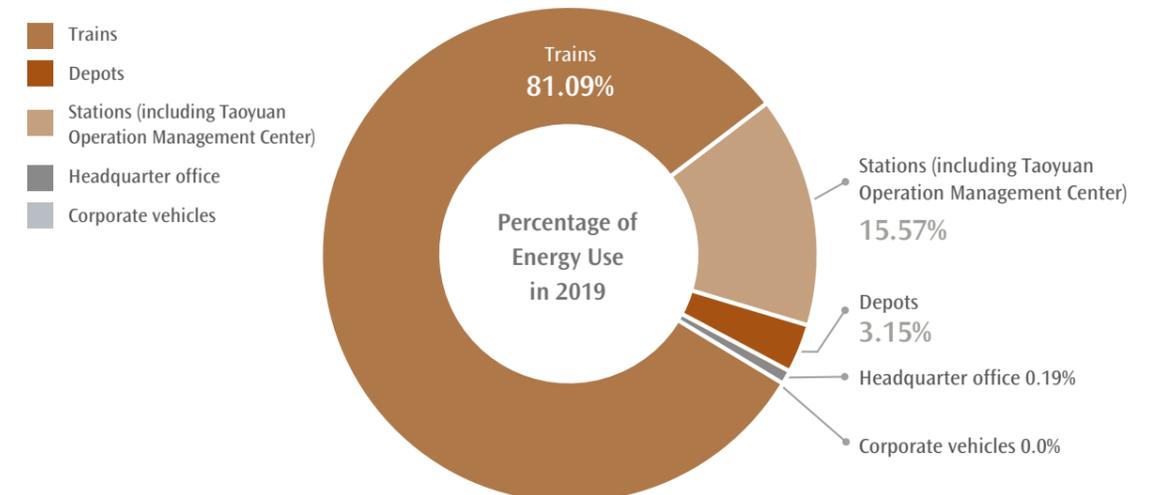
In order to improve energy use efficiency and promote energy conservation measures at HSR stations and maintenance depots, we have established the “Energy Conservation Project Team” which convenes the “Energy Conservation Meeting” every three months, for tracking the implementation of these measures and for reviewing the electricity usage in each quarter. In addition, in order to achieve the aforesaid environmental management goals, we have formulated indicators and goals related to energy, water resource, and greenhouse gas management. Importance performances in 2019 are listed in the following table, while the relevant emission reduction action plan and other details will be explained in order in the following subchapters:

Energy Management (Note 1)	Indicator	Annual average electricity conservation rate per passenger served (Note 2)		
	Target	>0.86%		
Water Resource Management (Note 1)	Indicator	Annual average water conservation rate per passenger served (Note 3)		
	Target	>3.42%		
	Performance item	2017	2018	2019
	Total water consumption (cubic meter)	654,941	703,600	718,890
	Average water consumption per passenger served (cubic meter)	0.0108	0.0110	0.0107
Greenhouse Gas Management (Note 1)	Indicator	Annual average carbon reduction rate per passenger-kilometer (Note 4)		
	Target	>1.5%		
	Performance item	2017	2018	2019
	Total emissions (metric tons CO ₂ e) (Note 5 and Note 6)	342,685.869	341,596.205	334,871.813
	Average carbon dioxide emissions per passenger-kilometer (g CO ₂ /passenger-kilometer) (Note 7 and Note 8)	30.863	29.553	27.919
Energy Management (Note 1)	Indicator	Annual average electricity conservation rate per passenger served (Note 2)		
	Target	>0.86%		
	Performance item	2017	2018	2019
	Total electricity consumption (tens MWh)	10,526.081	9,970.198	9,890.733
	Average electricity consumption per passenger served (kWh)	1.738	1.559	1.467
Water Resource Management (Note 1)	Indicator	Annual average water conservation rate per passenger served (Note 3)		
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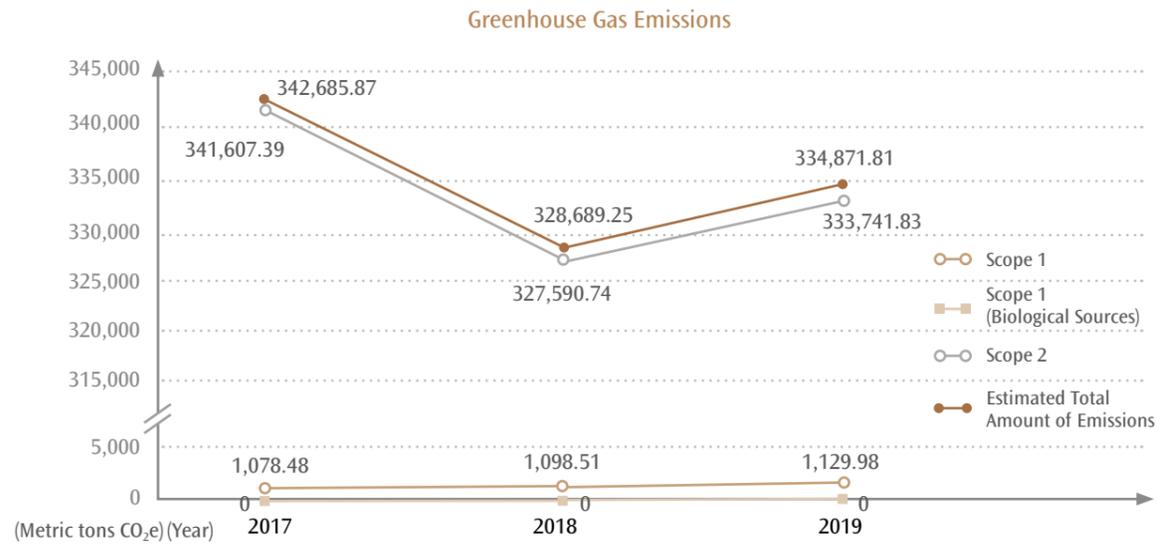
- Note:1. Electricity consumption, electricity conservation rate, water conservation rate, and carbon reduction rate were calculated on the basis that the previous year is the base year. In addition, 2017 is the starting year for target setting. Hence, there was no data on electricity savings, electricity conservation rate, water conservation rate, and carbon reduction rate in 2017. According to electricity conservation rate, water conservation rate, and carbon reduction rate in the table, the number of “positive” values decreases, while the number of “negative” values increases.
- The scope of indicator and target setting covers electricity consumption at HSR stations [including Taoyuan Operation Management Center but excluding commercial areas/parking lots and electricity consumption in public areas shared with Taiwan Railways Administration (at Nangang, Taipei, and Banqiao stations)] and depots. For performances related to HSR trains and THSRC’s headquarters, please refer to the subchapter titled “Creating Low-Carbon Trains and Offices.”
 - The scope of indicator and target setting covers water consumption at HSR stations [including Taoyuan Operation Management Center but commercial areas/parking lots and water consumption in public areas shared with Taiwan Railways Administration (at Nangang, Taipei, and Banqiao stations)] and depots.
 - The scope of indicator and target setting covers electricity consumption and gasoline/diesel consumption in HSR trains, as well as at HSR stations [including electricity consumption in public areas shared with Taiwan Railways Administration (at Nangang, Taipei, and Banqiao stations) and Taoyuan Operation Management Center but excluding commercial areas/parking lots], depots, and THSRC’s headquarter office.
 - THSRC used the Energy Product Unit Heating Value Table as specified in the 2016 Energy Statistics Handbook published by the Bureau of Energy.
 - As the calculation of electricity consumption and gasoline consumption in 2017 and 2018 and the 2018 National Electric Power Emission Factor was updated in 2019, data related to the items above were different from those listed in THSRC’s 2017 and 2018 Corporate Social Responsibility reports.
 - In 2018, data on “electricity consumption in public areas at Banqiao Station and Taiwan Railways Administration” was included in the recalculation of station electricity usage. Therefore, data in this report is different from those shown in the 2015 and 2016 Corporate Social Responsibility reports.
 - THSRC used the 2010-2018 National Electric Power Emission Factor published by the Bureau of Energy, and calculated emissions in 2019 using emission factors in 2018. Emission factors for gasoline and diesel were corresponding factors from Version 6.0.4 (June 2019) of the Greenhouse Gas Emission Factor Management Table published by the Environmental Protection Administration.

Unit: GJ		Total Energy Consumption			
		Purpose	2017	2018	2019
Stations	Trains	Electric power Electricity consumption for train operation, air-conditioners, and lighting	1,778,687.25	1,789,747.20	1,827,845.50
	Depots	Electric power	70,861.72	71,261.71	70,960.14
		Green power	0	0	0
		Diesel Engineering maintenance of vehicles and emergency generators	5,399.84	6,298.88	6,168.92
	Stations Including Taoyuan Operation Management Center	Electric power	365,599.84	346,824.28	351,037.77
		Green power	903.6	938.71	677.16
		Diesel Emergency generators	181.76	138.82	155.31
	Headquarter Office	Electric power	4,682.57	4,787.19	4,322.79
		Green power	0 (Not set)	0 (Not set)	0 (Not set)
	Corporate Vehicles	Gasoline	8,551.64	7,962.68	8,510.87
Diesel		526.93	501.75	506.92	
Total Amount	Gasoline	8,551.64	7,962.68	8,510.87	
	Diesel	6,108.53	6,939.45	6,831.15	
	Electric power	2,219,831.38	2,212,620.39	2,254,166.20	
	Green power	903.6	938.71	677.16	
	Total energy amount		2,235,395.15	2,228,376.63	2,270,185.39

- Note: 1. THSRC used the Energy Product Unit Heating Value Table as specified in the 2016 Energy Statistics Handbook published by the Bureau of Energy.
2. Solar power equipment at three maintenance depots of Wuri, Yanchao, and Zuoying, were installed on the rooftop area of these maintenance depots rented by operators in the electric power industry. Electric power generated by these equipment was sold to Taiwan Power Company. A total of 6,543 MWh of electricity were sold in 2019.



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Note: 1. THSRC used the 2010-2017 National Electric Power Emission Factor published by the Bureau of Energy, and calculated emissions in 2019 using emission factors in 2018. As the calculation of electricity consumption and gasoline consumption in 2017 and 2018 and the 2018 National Electric Power Emission Factor was updated in 2019, data related to the items above were different from those listed in THSRC's 2017 and 2018 Corporate Social Responsibility reports.

2. Emission factors for gasoline and diesel were corresponding factors from Version 6.0.4 (June 2019) of the Greenhouse Gas Emission Factor Management Table published by the Environmental Protection Administration.

3. The Global Warming Potential was taken from Climate Change 2007, the Fourth Assessment Report of the United Nations Intergovernmental Panel on Climate Change.

4. Greenhouse gas emissions were compiled using the operational control method.

Sustainable Environment and Green Stations

Since 2013, THSRC has cooperated with the government to promote the renewable energy policy by leasing out the rooftop areas of Wuri and Zuoying maintenance depots and the Yanchao Main Workshop to energy suppliers for the installation of solar power equipment. A total of 6,543 MWh of electricity were generated in 2019, a slight decrease of 8.4% from 2018, and was sold to Taiwan Power Company. THSRC's buildings are designed based on the concept of sustainable environment, encompassing "ecology, energy saving, waste reduction, health." In 2018, THSRC has completed the application for Renewable Electricity Certificate for solar panels installed on the rooftop and as sun and rain shelters at Miaoli, Changhua, and Yunlin stations. In 2019, the solar panels at the three HSR stations generated a total of 188 MWh of electricity for use at these stations. In 2020, we expect to cooperated with energy suppliers to install new solar power systems, with an installed capacity of approximately 3,198 kW and an expected annual electricity generation of approximately 4,400 MWh, in places such as rooftops, parking lots, and detention ponds at Liujia, Wuri, and Zuoying depots, as well as Taoyuan, Chiayi, and Tainan HSR stations.

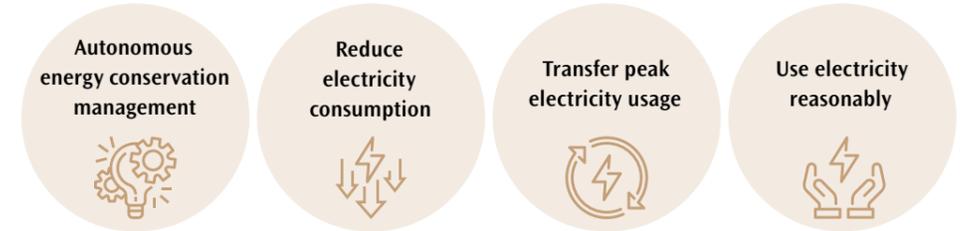
Solar Power Generation at Three THSRC Maintenance Depots and Three HSR Stations

Maintenance Depot/Station	Installed Capacity (kW)	Annual Power Generation (MWh)			
		2017	2018	2019	
Wuri Maintenance Depot	1,106.85	1,353.93	1,500.74	1,408.12	Solar power equipment at three maintenance depots were installed on the rooftop area of these maintenance depots rented by operators in the electric power industry. Electric power generated by these equipment were sold to Taiwan Power Company.
Yanchao Main Workshop	3,856.59	5,302.85	5,135.91	4,693.91	
Zuoying Maintenance Depot	395.74	498.23	503.83	441.11	
Total Amount at all Three Depots	5,359.18	7,155.00	7,140.45	6,543.14	
Miaoli Station	72.00	72.05	56.58	37.83	Solar power generated at these three stations are used at these stations.
Changhua Station	93.00	78.35	84.02	73.95	
Yunlin Station	93.00	100.59	96.65	76.32	
Total Amount at all Three Stations	258.00	251.00	237.25	188.10	

In addition to supporting renewable energy, the "Energy Conservation Project Team" continues to promote four major energy conservation solutions and implement numerous energy conservation measures at maintenance depots. Despite the continuous passenger growth every year, our average electricity consumption per passenger has gradually dropped from 0.73 kWh in 2008 to 0.29 kWh in 2019, thus demonstrating the effectiveness of electricity conservation. We even voluntarily conducted organizational greenhouse gas emission inventory audit and external verification at 12 HSR stations, and successfully obtained the ISO 14064-1 Verification Opinion Statement (please refer to Appendices for the content of the statement).

Energy Conservation Measures at Maintenance Depots

Four Major Energy Conservation Solutions



Other Energy Conservation Measures

- Change from two-phase time-of-use rates to three-phase time-of-use rates
- Install independent air-conditioning systems with small chiller units
- Change the operation mode of blowers at wastewater treatment plants
- Reduce the original contract capacity on power during the summer months
- Improve LED lighting
- Increase the temperature of outflowing water from cooled chillers

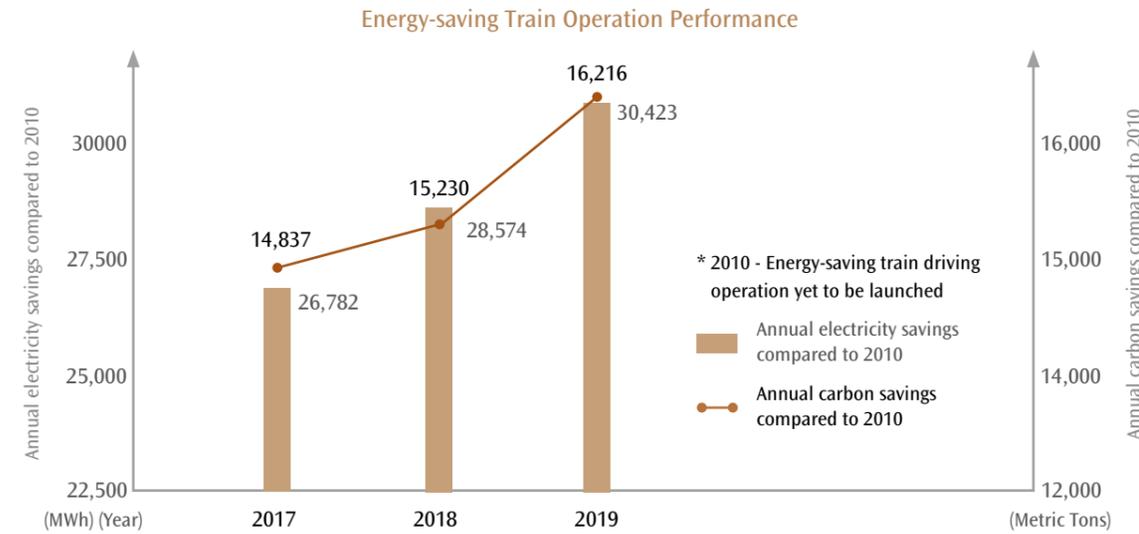
Other stations are designed in line with local environment while adopting various energy conservation measures, in order to reduce building materials and air-conditioning load. Our average electricity consumption per passenger has dropped from 2.25 kWh in 2008 to 1.17 kWh. In the future, THSRC will continue to make improvements on the operation of energy-consuming facilities or replace such facilities at HSR stations with the help of external units.

Various new energy management measures implemented in 2019 are listed as follows:

-  ▶ Continued to replace high energy-consuming lighting fixtures with LEDs.
-  ▶ Optimized air-conditioning units, improved lighting on platform mezzanine floors, and implemented time-based control of platform lighting by zone at Yunlin Station.
-  ▶ Optimized and improved waterscape equipment at Chiayi Station.
-  ▶ Improved the sewage treatment system adjustment tank, the aeration tank blower pipeline, and the operation mode at Miaoli Station.
-  ▶ Replaced water dispensers with power-saving ones in medical rooms at Taichung Station.
-  ▶ Installed energy-saving timer switch on solar energy display screens at Changhua Station.
-  ▶ Decreased contract electricity consumption at Miaoli Station and Changhua Station.

Building Low-Carbon Trains and Operations

THSRC completed the “Replacing Light Tubes with LED on Trains” project in 2019, thereby saving 8.311 GWh of electricity (equivalent to an energy consumption of 29,921,000 GJ) and reducing 4,440.6 metric tons of carbon dioxide emissions from November 2013 to the end of December 2019. Since November 2010, we have also launched the “Energy-saving Train Operation” plan through the “Train Energy Conservation Team.” As of the end of 2019, this plan has reduced a total of 903,289,000 GJ (equivalent to 250.91 MWh of electricity) in energy consumption compared to 2010, and prevented 133,341 metric tons of carbon dioxide emissions.



- Note: 1. THSRC used the 2010-2018 National Electric Power Emission Factor published by the Bureau of Energy, and calculated emissions in 2019 using emission factors in 2018.
2. Only electricity consumption in train operation was included. Electricity consumption for lighting and air-conditioners on trains were not included.
3. The original annual carbon savings in 2018 compared to 2010 was 15,830 metric tons. In 2019, this corrected figure for the aforesaid item was 15,230 metric tons after the calculation of this item was re-examined.

THSRC fully supports environmental sustainability by not only actively implementing low carbon measures on trains, but also executing them in our operations through the promotion of various energy conservation and environmental protection measures at various office buildings.

Online Signing on the "Document Management System"

- Signing rates for documents in the electronic official documentation exchange system was up to 99%.
- The number of electronic documents in 2019 was 46,798, saving 561,576 pieces of paper, conserving 68 trees, and reducing 816 kg of carbon emissions.

THSRC's Headquarter Implements Energy Conservation Measures of Air-Conditioners, Lighting, and Power Systems

- The measure to turn off the lights between 13:00 and 13:30 in the afternoon, which was implemented in 2017, was continued.
- In July 2019, the replacement of lighting with LEDs was completed, which is expected to save 5,000 kWh of electricity at our offices every month.
- As of 2019, THSRC has saved a total of 1,250 MWh of electricity cumulatively, which is equivalent to the reduction of 73.6 metric tons of carbon dioxide emissions.

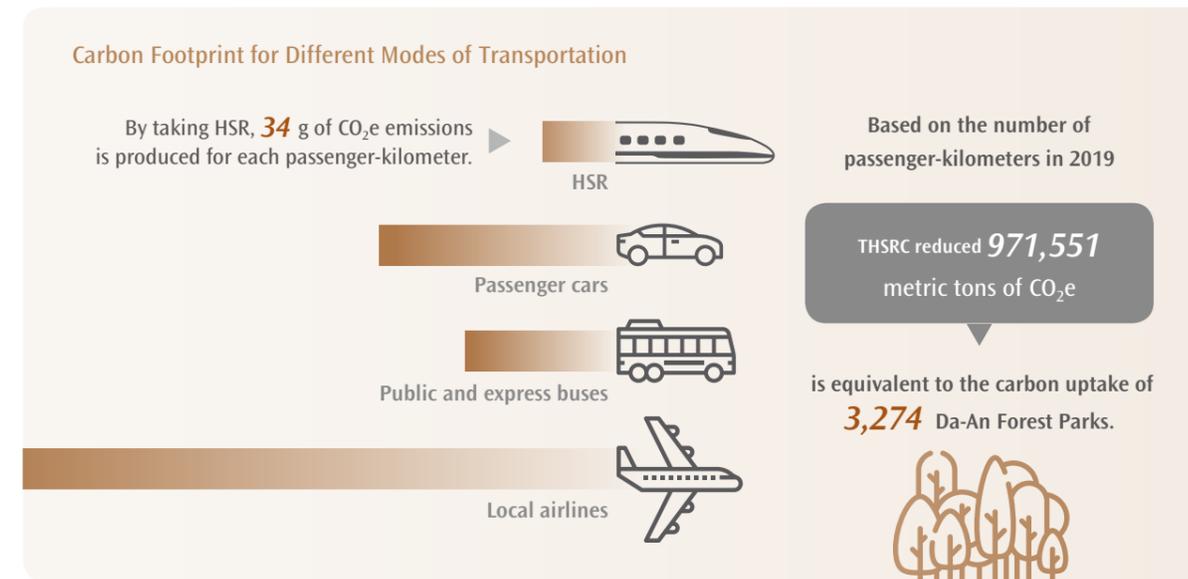
Note: Information used for calculation originates from the Environmental Quality Protection Foundation, where using 8,333 pieces of A4 paper (weighing 4 to 6 g per piece) is equivalent to cutting down one tree with a height of 12 m and a diameter of 15 to 20 cm, while one tree absorbs approximately 12 kg of carbon dioxide a year.

Low Carbon Footprint with Green Transportation

Taiwan High Speed Rail is the first mode of transportation that obtains the “Transportation Service Carbon Footprint Label” in Taiwan, and has successfully obtained the label and certification of “Carbon Footprint between Stations” issued by a third-party certification unit. THSRC has set up the “High Speed Rail Transportation Service Carbon Footprint” page on our corporate website, and indicates the carbon footprint label on our train magazine, T-Life and HSR tickets, in order to raise awareness toward “green consumption” in “carbon reduction journey” among HSR passengers, and establish THSRC’s “green brand” value.

By taking HSR, 34 g of CO₂e emissions is produced for each passenger-kilometer. Compared to other modes of transportation, this emission level is one-third that of passenger cars, one-half that of public and express buses, and one-fifth that of local airlines. Based on the number of passenger-kilometers in 2019, THSRC reduced 971,551 metric tons of CO₂e, which was significantly lower than that of passenger cars, and is equivalent to the carbon uptake of 3,274 Da-An Forest Parks^(Note).

Note: Taken from the 2011 Taipei Feitsui Reservoir Administration Greenhouse Gas Inventory Report



In order to reduce the environmental impact potentially caused by the purchase of tickets and the use of magnetic or paper tickets at HSR stations where passengers are enjoying HSR transport services, THSRC has launched a variety of convenient and readily available ticketing services in recent years. The relevant performances as of 2019 are listed as follows:

- The cumulative number of passengers using convenience store tickets has exceeded **54.36 million** people. A total of **6.14 million** passengers have used convenience store tickets in 2019, accounting for **14%** of passengers using reserved seat tickets.
- The cumulative number of magnetic or paper tickets used by passengers has reduced by **37.45 million** pieces, thanks to THSRC's efforts to issue periodic tickets and multi-ride tickets.
- The cumulative number of passengers using T Express Mobile APP at HSR stations has exceeded **32.12 million** people. A total of **10.86 million** passengers used mobile tickets in 2019, accounting for **25%** of the total number of passengers with reserved seat tickets.
- The cumulative number of passengers using co-branded credit cards for non-reserved seat service has exceeded **9.47 million** people. A total of **1.98 million** passengers used co-branded credit cards in 2019, accounting for **8%** of the total number of passengers with non-reserved seat tickets.

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Use of Water Resources and Wastewater and Waste Treatment

THSRC's water management policy revolves mainly around water conservation, reduction, and recycling. Through the "Energy Conservation Project Team" and the review meetings convened by the committee every quarter, THSRC sets the average water consumption per passenger, with the growth of train ridership, as our water conservation indicator. HSR stations, maintenance depots, and THSRC's headquarter use tap water as the source of water, instead of using groundwater.

THSRC has set up wastewater treatment plants at maintenance depots and HSR stations, where professionals with wastewater treatment certification are tasked to ensure that wastewater treatment meets the effluent standards. In addition to environmental management audit, in accordance with "Water Pollution Prevention Plan" and "Industrial Waste Cleanup Plan," THSRC regularly submit online reports on the quality and volume of effluents from wastewater treatment plants and the volume of industrial waste treated, where such reports were also regularly submitted in 2019.

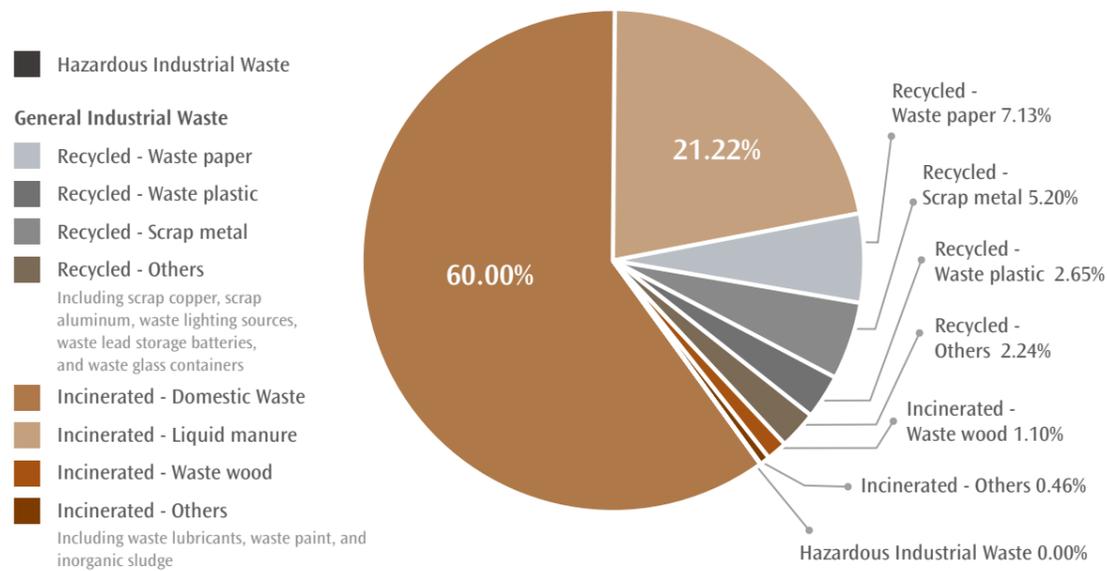
In terms of waste treatment, waste recycling, cleaning, and disposal at maintenance depots and HSR stations are commissioned to qualified and certified resource recycling operators and waste collection operators, with incinerators as the final disposal site. We commission such works by means of bidding and contract signing, and manage contractors through contracts so that they truly carry out such works in accordance with waste-related regulations. In 2019, no violations were reported, and no leakage accidents involving oil, fuel, chemicals, and waste took place.

Since our operations mainly produce general industrial waste, we promote waste recycling for items at maintenance depots and HSR stations. In 2019, the total amount of waste treated were 7,235.92 metric tons, whereas the resource and waste recycling rate was 17.2%, and the amount of resource and waste recycled was 1,245.88 metric tons. In 2019 the total cost of wastewater and waste treatment was approximately NT\$59.077 million, where the main treatment items included maintenance and upgrade of equipment at wastewater treatment plants, coagulants, precipitants and disinfectants, water quality inspection, commissioning of sludge collection and disposal, and outsourcing of waste collection and disposal.

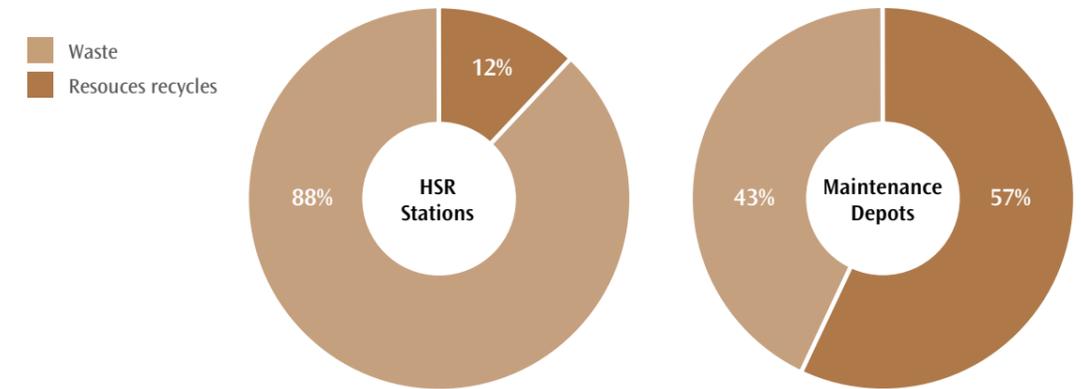
Waste Management at HSR Stations and Maintenance Depots

Unit: Metric tons	Stations		Maintenance Depots		Stations and Maintenance Depots		
	Amount of waste	Amount of resources recycled	Amount of waste	Amount of resources recycled	Amount of resources and waste recycled	Total amount of waste	Resource and waste recycling rate
2017	5376.84	529.28	517.83	548.14	1077.42	6972.09	15.5%
2018	6337.78	641.04	570.00	641.97	1283.01	8190.79	15.7%
2019	5596.35	728.65	393.69	517.23	1245.88	7235.92	17.2%

Type of Hazardous and Non-hazardous Waste in 2019



Amount of Waste and Resource Recycled in HSR Stations and Maintenance Depots in 2019



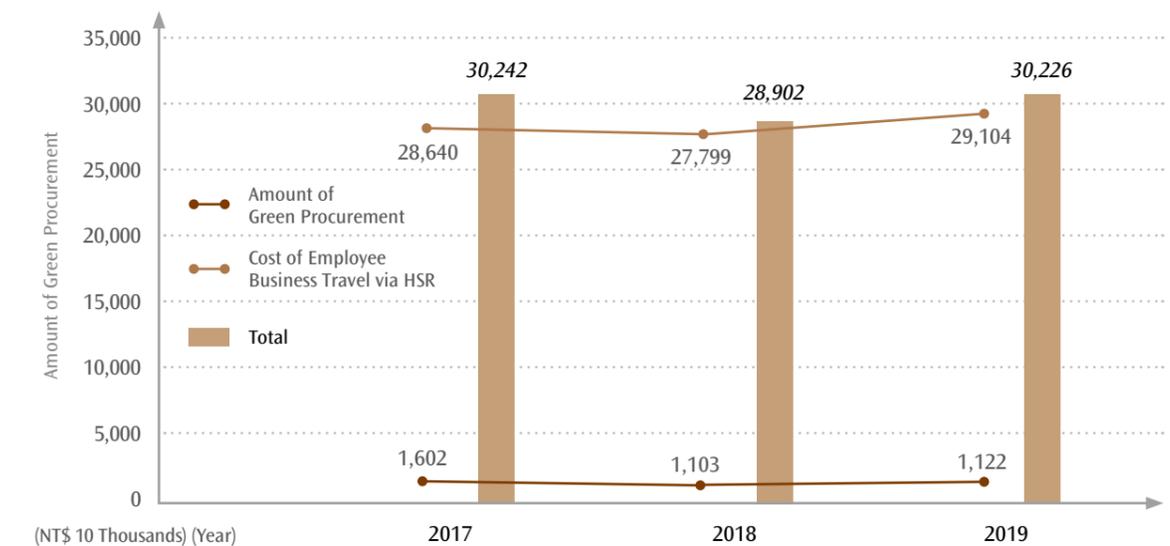
Caring for the Environment with Green Procurement

In order to exert our positive corporate influence and implement green consumption, THSRC not only prioritizes the purchase of products with less environmental impact, but also continuously carries out related procurement operations in line with government policies. Furthermore, in order to guide vendors to pay attention to environmental issues, we require vendors to comply with the relevant laws and regulations when acquiring new vendors. Vendors which commit violations of the relevant laws and regulations will be included in the watch list, whereas vendors which are found to have committed serious violations will have their collaboration with us terminated.

Moreover, according to the "Green Procurement Filing for Private Enterprises and Groups" announced by the Environmental Protection Administration, we have to purchase or use products with the eco mark and the green mark, products with the carbon footprint label, as well as products and services with the carbon reduction label as one of the green procurement items. Since THSRC owns the carbon footprint label, we have also included employees' HSR travel expenses into calculation since 2017, and actively implement carbon reduction in every section of our operations.

Amount of Green Procurement in Previous Years

Unit: NT\$ 10 Thousands	Amount of Green Procurement	Cost of Employee Business Travel via HSR	Total
2017	1,602	28,640	30,242
2018	1,103	27,799	28,902
2019	1,122	29,104	30,226



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Nurturing Talent and Value Cultivation

As employees are one of our core assets, THSRC has listed cultivating professional talents as a vital goal in our operations. There were no major changes to our human resource structure in 2019 compared to 2018.

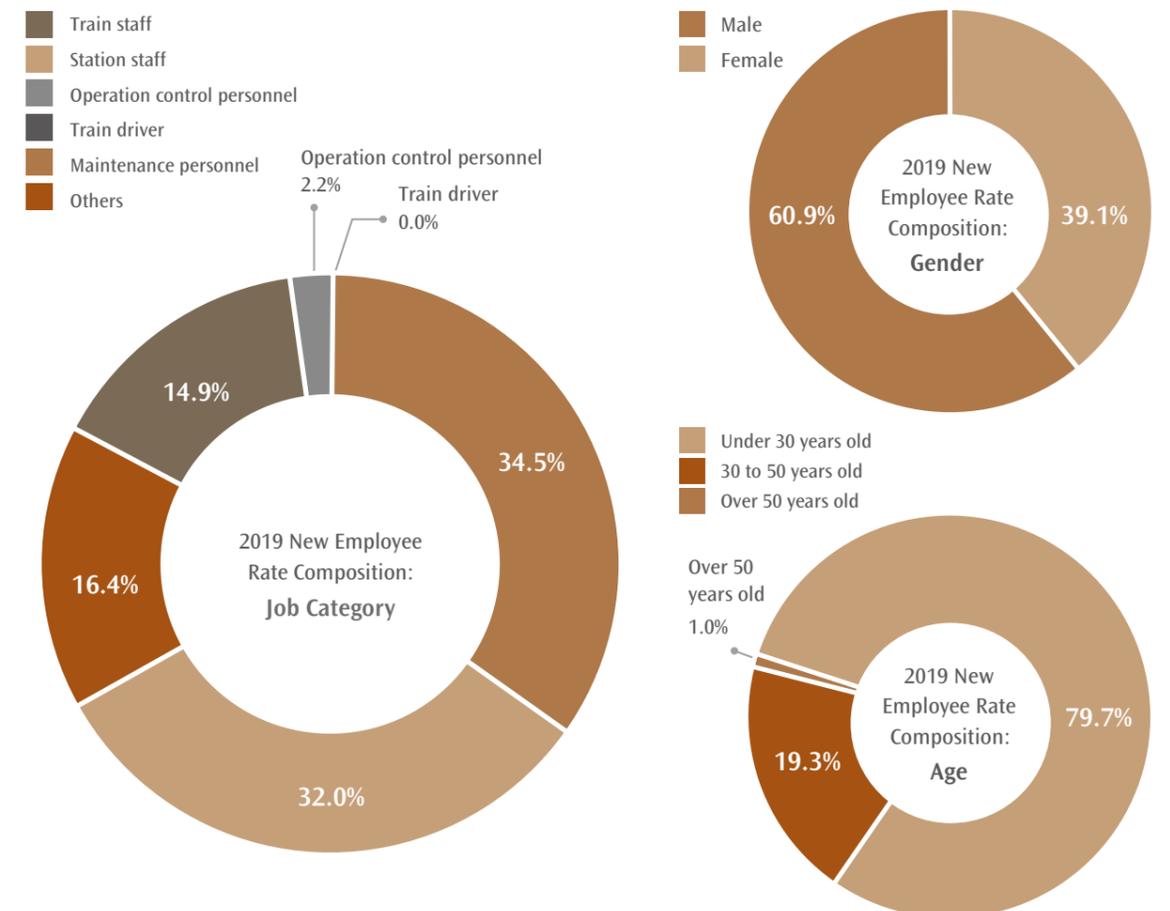
Human Resource Structure		♂ Male	♀ Female	
Category	Percentage			
Total Labor Force	Percentage	64.37%	35.63%	
	Total number of employees	2,963	1,640	
Fixed Term Contract	Contract employees	28	53	
	Secondee employees	0	0	
	Outsourced employees	2	4	
	Total number of employees on fixed term contracts	30	57	
	Non-Fixed Term Contracts	Total number of employees on non-fixed term contracts	2,933	1,583
Rank	Vice President and above	0.17%	0.04%	
	Assistant Vice President	0.33%	0.05%	
	Manager and Deputy Manager	3.76%	0.91%	
	Section Chief	10.62%	3.00%	
	General employees	49.49%	31.63%	
Education Background	General and vocational high school and below	4.65%	1.52%	
	University/Junior college	50.05%	30.70%	
	Masters	9.39%	3.37%	
	PhD	0.28%	0.04%	
Other Multiple Indicators	Indigenous employees	0.80%	0.24%	
	Disabled employees	0.65%	0.33%	
Age	Management Level	Under 30 years old	0.00%	0.00%
		30 to 50 years old	8.73%	2.95%
		Over 50 years old	6.15%	1.04%
	Non-Management Level	Under 30 years old	12.45%	12.27%
		30 to 50 years old	35.39%	18.95%
		Over 50 years old	1.65%	0.42%

- Note: 1. Fixed term contract employees are mostly first-line interns (including station, service, and maintenance).
 2. Non-fixed term contract employees are full-time employees.
 3. The management is defined as managers of section chief level and above.
 4. The formula used was as follows: Percentage of a certain group of people = Number of people in the particular group/Total labor force.
 5. Due to rounding of data, the sum of data may not be exactly 100%.
 6. The calculation of data on disabled employees did not include employees on leave without pay. In 2019, THSRC employed a total of 47 disabled employees, which was higher than the 1% employment requirement stipulated in existing regulations.

Inclusion and Equal Employment

We do not implement talent recruitment based on race, skin color, religion, gender or nationality, as well as set rules and regulations related to employee compensation, employment period, work conditions and employment rights in compliance with local laws and regulation (e.g., the Labor Standards Act, the Employment Service Act, and the Act of Gender Equality in Employment).

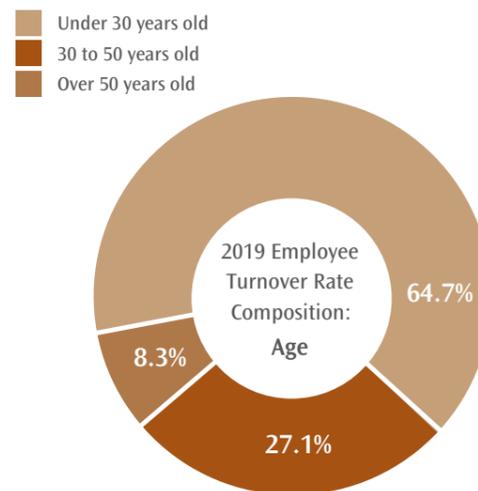
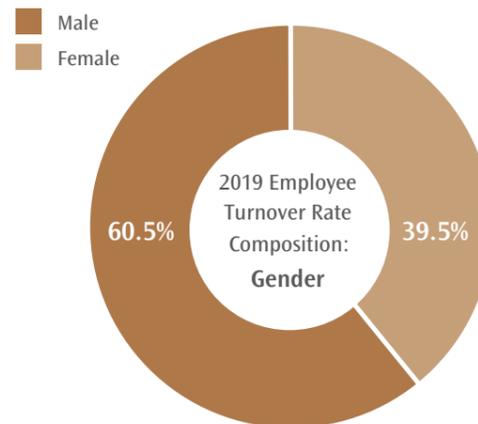
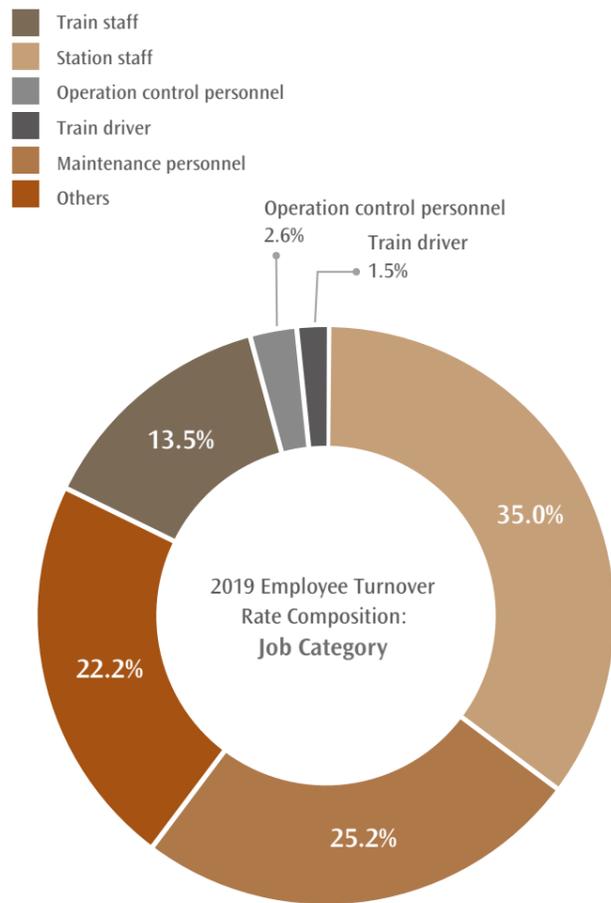
Statistics of New Employees in 2019		♂ Male	♀ Female
Category			
Category	Train staff	9	52
	Station staff	52	79
	Operation control personnel	6	3
	Train driver	-	-
	Maintenance personnel	136	5
	Others	46	21
Age	Under 30 years old	183	143
	30 to 50 years old	62	17
	Over 50 years old	4	-
Total		249	160
Percentage		5.4%	3.5%



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Employee Turnover Statistics in 2019

Category	Male	Female
Train staff	4	32
Station staff	40	53
Operation control personnel	7	-
Train driver	4	-
Maintenance personnel	63	4
Others	43	16
Under 30 years old	89	83
30 to 50 years old	50	22
Over 50 years old	22	-
Total	161	105
Percentage	3.50%	2.28%



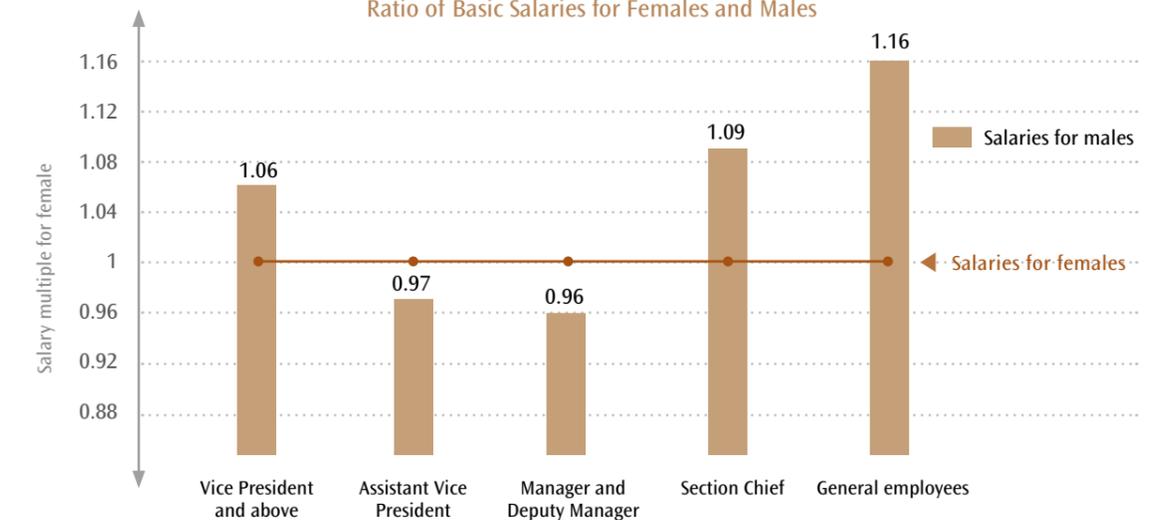
With regard to the employment of persons with disabilities, we have set up a specific section for the recruitment of persons with disabilities on our recruitment website, and hire disabled employees according to job characteristics. In 2019, we have been employing 39 disabled employees, where eight of them were severely disabled (including one employee on leave without pay). As for the employment of indigenous people, the total number of indigenous employees at THSRC was 48 people.

Employee compensation is determined and approved according to work experience, education background, and specialization, and does not differ due to gender or ethnicity. We have also planned a transparent salary and remuneration policy to reward our employees based on operational performance. In addition, the starting salary of junior staffs at THSRC is higher than the basic salary in Taiwan. We publicly disclose the average salary of full-time non-management employees in accordance with the requirements of Taiwan Stock Exchange. Although the ratio of salary of female to male general employees differs from one to one because technical professionals are mostly males and salaries for positions related to labor services are generally higher than other position, the ratio of salary of females to males in management positions approaches one to one, thus demonstrating equality in THSRC's salary and remuneration policy. Besides, in order to protect the rights of secondee and outsourced employee, their salaries are determined and approved by THSRC, and manpower agencies are required to provide them with labor contracts and salary-related documents, with a view to ensuring that the salaries of these personnel comply with the relevant regulations. In 2019, the turnover rate for all employees was 5.78%, a significant decrease compared to an average turnover rate of 7.79% in the five most recent years. This goes to show that THSRC is a happy enterprise that prides itself on retaining talents.

Comparison with Basic Salaries in Taiwan

Item	Female	Male
Local basic salary	23,100	
Starting salary for junior staff	32,000	32,000
Ratio of starting salary for junior staff to local basic salary	1.39	1.39

Ratio of Basic Salaries for Females and Males



Information on Salaries of Full-time Non-management Employees

Item	Unit	2018	2019	Annual Difference
Number of full-time non-management employees	persons	4,355	4,477	2.80%
Total salary of full-time non-management employees	NT\$ thousands	3,865,345	4,129,347	6.83%
Average salary of full-time non-management employees	NT\$ thousands	888	922	3.83%
Median salary of full-time non-management employees	NT\$ thousands	792	831	4.92%

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Comprehensive Employee Training

Training Based on Three Major Competencies

THSRC's training system focuses on two major aspects of "safety" and "service," and also incorporates three major competencies into dedicated training courses taught mainly by our internal lecturers, with a view to providing comprehensive competency training courses in our training system. We have also established the "Training Management and Digital Learning System" and a mobile learning app. In 2019, the number of employees participating in digital learning every month increased by 11.3% compared to that in 2018, thus demonstrating the effectiveness of our learning system and course design.

Management Competencies

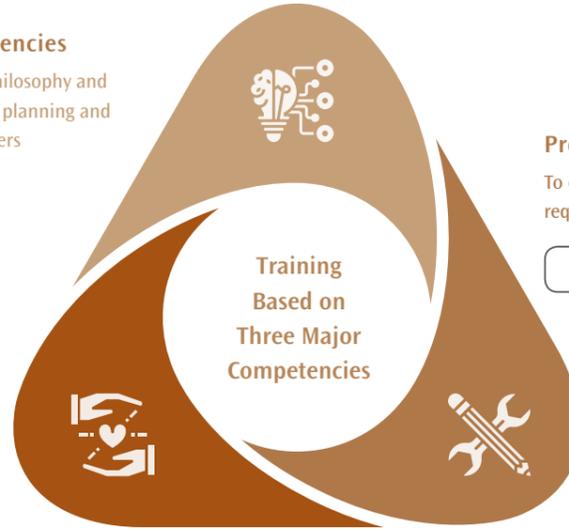
To advance management philosophy and thinking, strategic thinking, planning and organization among managers

First-line, middle, and top managers

Core Competencies

To shape employees values, safety, quality, and services

All employees



Professional Competencies

To enhance job knowledge and skills required by employees

All employees

In addition, we enable first-line professional technical and service personnel to receive training required for their positions, as well as require them to pass a series of rigorous qualification certifications and undergo retraining and event simulation exercises. In particular, HSR train drivers not only have to undergo at least 1,300 hours of professional driving courses for more than eight months, but also attend THSRC's internal training test to obtain driving certification after completing training, and pass the High Speed Rail Driving License test through the Ministry of Transportation and Communications before they can start performing their duties as a train driver.

Education and Training Results

In order to achieve our high standards and requirements for professional skills, as well as meet our employees' great passion for learning, THSRC's training model is mainly divided into internal and external training courses, online digital courses and practical exercises.

In 2019, the training categories with the highest number of person-hours were operational service, maintenance, and railway safety courses in professional HSR training, which were training courses related to professional competencies. Besides, in order to assist supervisors in realizing management effectiveness and driving overall performance, THSRC has developed the "Managerial Assessment of Proficiency." For general employees, we provide online courses, such as train helper, ethical conduct training, confidential information protection operations, as well as information safety and management. For all new employees, we conduct four days of induction training and arrange visits to HSR stations and depots, in order to increase their preliminary understanding of the mechanical structure and system operations of HSR trains.

Developing Internal Lecturers

In order to ensure that job experience is passed down and share in the most complete manner, THSRC is committed to developing internal lecturers, who are selected or recommended by senior personnel or supervisors from the relevant units. These internal lecturers can teach internal courses at THSRC after passing our internal lecturer training courses and practical exercise certification. In 2019, THSRC developed a total of 72 qualified internal lecturers. As of 2019, approximately 822 main lecturers have been developed cumulatively, where the average teaching hours of each lecturer during the year was 105 hours.

Training Hours in 2019

Unit: hours	Category	Male	Female	Total
All Employees at THSRC	Number of training hours per capita ^(Note 1)	144.9	129.6	139.5
	Average number of training hours per training session ^(Note 2)	6.5	6.5	6.5
Average Number of Class Hours for Different Levels ^(Note 3)	Vice President and above	11.6	9.6	11.2
	Assistant Vice President	10.3	15.0	10.6
	Manager and Deputy Manager	19.5	18.1	19.2
	Section Chief	124.9	124.5	124.8
	General employees	163.3	128.6	149.8
Average Number of Class Hours for Different Categories ^(Note 4)	Train staff	161.8	205.2	197.4
	Station staff	178.6	158.1	164.9
	Operation control personnel	148.6	191.6	157.6
	Train driver	315.3	513.9	340.9
	Maintenance personnel	160.3	156.3	160.3
	Others	75.7	53.6	67.1

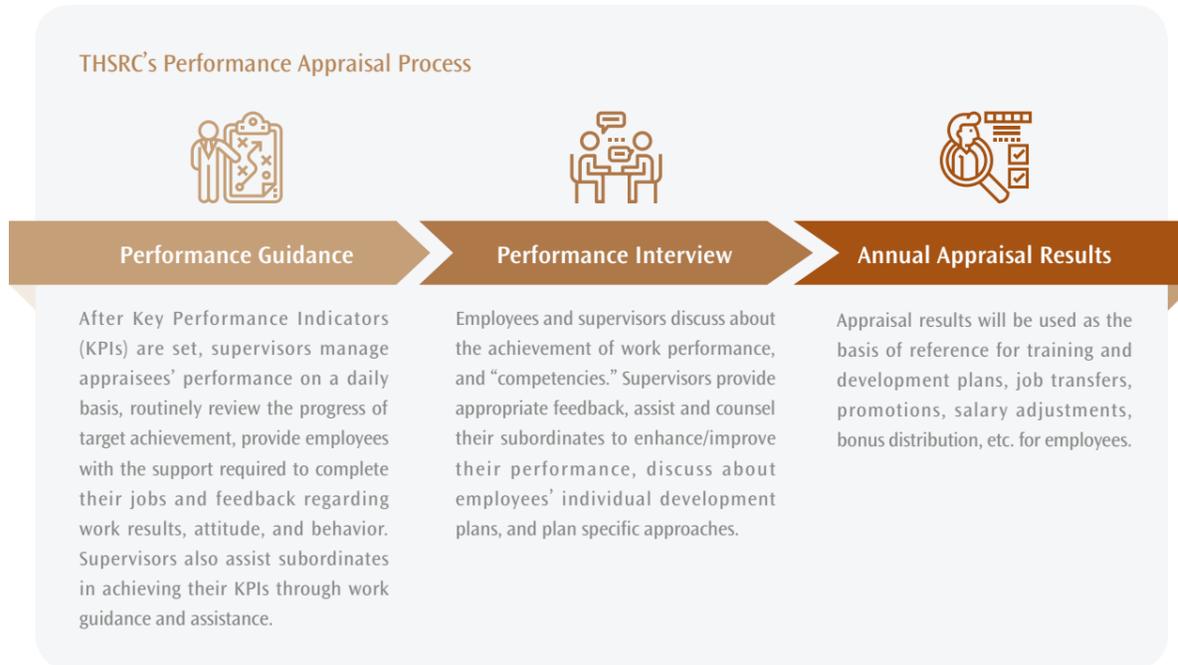
- Note: 1. The training hours of males and females differ from each other mainly because of the ratio of males and females and different professional training attended due to job differences.
2. "Average number of training hours per training session" aims to present the number of training hours per training session for each person every year.
3. Average number of class hours for different levels is calculated by dividing the total number of training hours for a particular level by the number of employees at the particular level at the end of the year.
4. Average number of class hours for different categories is calculated by dividing the number of training hours for a particular category by the number of employees for the particular category at the end of the year.



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Talent Management and Motivation

All employees and supervisors at THSRC undergo performance appraisal once every year, and are ranked according to performance appraisal results. Performance rankings are divided into five levels, namely “Excellent,” “Exceeded Expectation,” “Met Expectation Plus,” “Met Expectation,” and “Unacceptable, Need improvement.”



In 2019, a total of 4,502 employees underwent performance appraisal. Except for four employees who did not complete performance appraisal were allowed to skip performance appraisal upon confirmation by both the employees and their supervisors as they resigned, or were on long-term sick leave, or applied for childbirth leave during the performance appraisal period, the remaining employees underwent performance appraisal.

Promotion and Development of High-performing Talents

THSRC has long been implementing the talent development program known as “Career Path,” which designs different retention and career development paths for high-performing talents at first-line units and personnel in different positions, and also integrates annual manpower inventory audit, in order to meet manpower requirements at new HSR stations. High-performing personnel at first-line units have to attend management associate training courses, and complete delegated tasks within a period of time before undergoing site supervision for promotion. After ability assessment, THSRC will promote them to management positions when such positions are vacant. In order to ensure fair and rigorous promotion review procedures, THSRC has launched self-conducted review meetings at divisions since 2018, in hopes of ensuring fair competition among employees and enabling THSRC to search for outstanding talents while meeting organizational developments and job allocations.

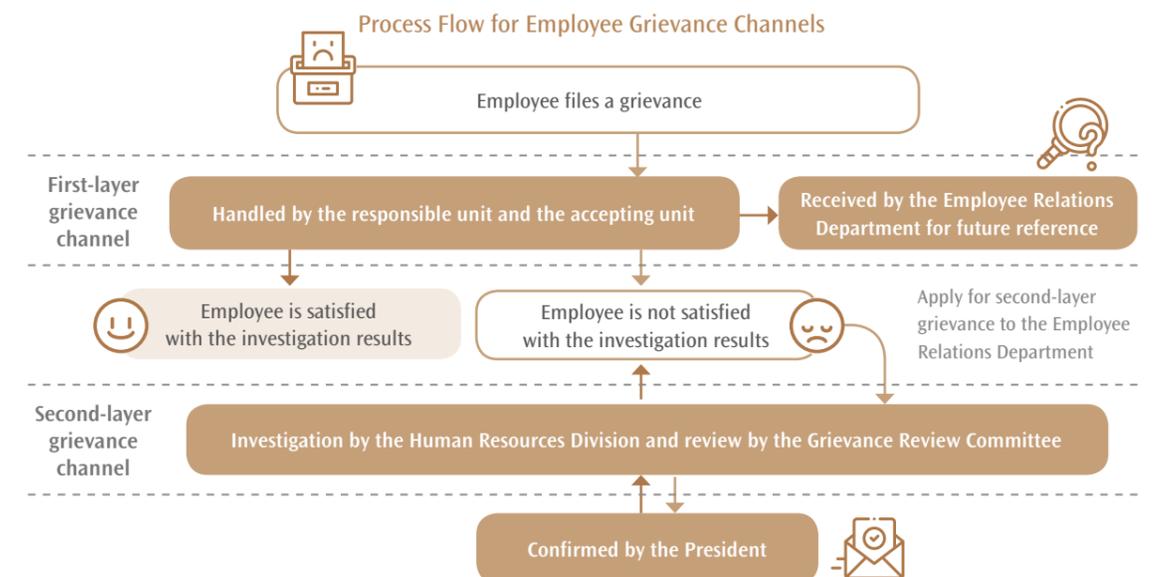
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Labor Relations and Employee Care

THSRC cares for the protection of employee rights. Since the third quarter of 2016, THSRC has launched discussions with the THSRC Labor Union on various issues every month, in order to maintain labor-management harmony. In addition, labor-management conferences are regularly convened every quarter at 19 HSR locations, with an issue resolution average rate of 88%. Unresolved issues are included in the following meeting for subsequent tracking. The relevant protection and grievance systems are listed as follows.

Convening of Labor-Management Meeting	Our first labor-management meeting was held on December 24, 2003, and our labor-management conference at business premises was held on July 1, 2016, after which labor-management meetings are held every quarter. In 2019, a total of 76 labor-management meetings were held at 19 business premises.
Establishment of the Grievance Appeals System	THSRC has established and implemented the “Grievance Regulation” for employees, in order to effectively implement policies and maintain employee relations.
Sexual Harassment Prevention and Grievance System	We have established and implemented our “Sexual Harassment Prevention and Handling Regulation” in accordance with the Act of Gender Equality in Employment and the “Regulations for Establishing Measures of Prevention, Correction, Complaint and Punishment of Sexual Harassment at Workplace” to ensure physical and mental safety of all employees in the workplace, strengthen prevention of sexual harassment incidents, and disseminate related information. We promote relevant information through the training program for new employees and the E-learning platform and also display our grievance hotline and fax number on our corporate website, business premises, and workplaces to effectively prevent external and internal incidences of sexual harassment.
Act of Gender Equality in Employment	THSRC has established breastfeeding rooms for passengers and staff to encourage and support breastfeeding policies.
Labor Health Protection Regulations	THSRC has established infirmaries at headquarter, the Operation Management Center, and all maintenance bases, and set up with better standards than those required by the relevant laws and regulations at HSR stations, to provide passengers and employees with emergency medical assistance.
Mental Health Protection Regulation	THSRC has established the “Mental Health Protection Regulation,” which serve as the mechanism for employees' mental health protection jointly maintained by unit supervisors, accident investigation units and human source personnel in case of accidents.

We also strictly abide by laws and regulations, and have established multiple grievance channels. THSRC did not encounter any major labor disputes in 2019. In the future, we will continue to actively handle our employees' grievances and opinions in a positive manner. The processes for filing and handling grievances are shown in the following diagram.



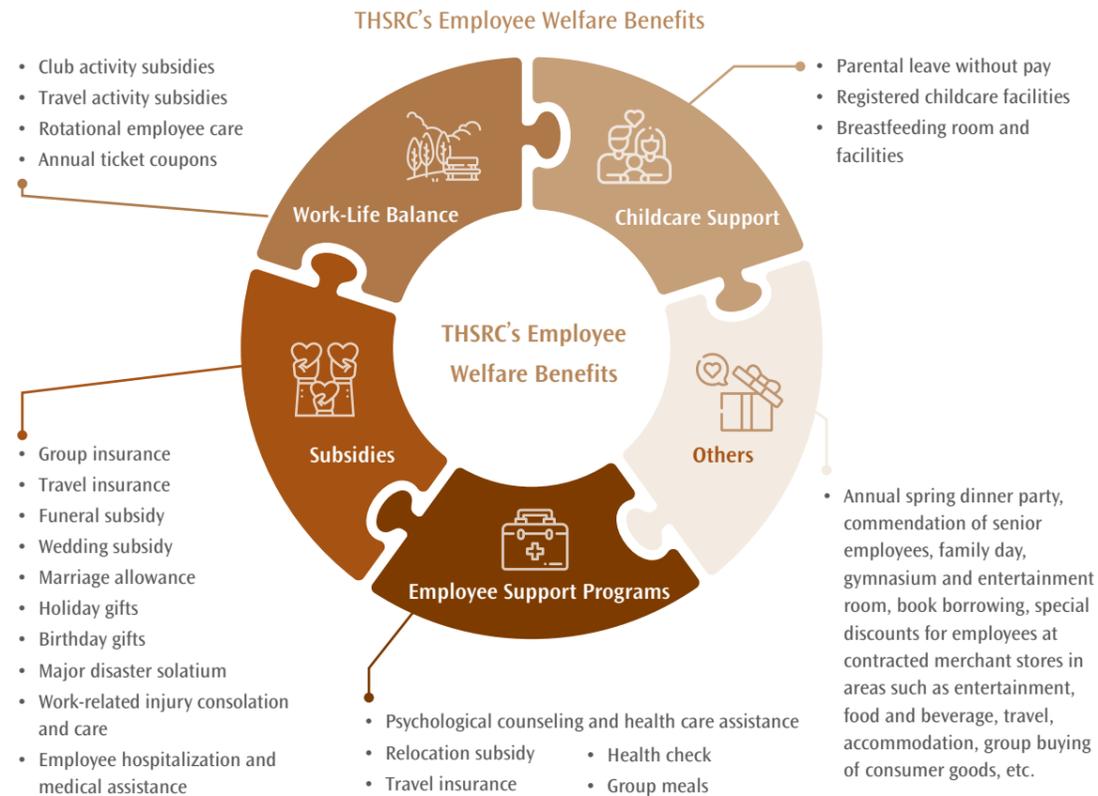
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In terms of employee care, THSRC has established the “Mental Health Protection Regulation,” and works with the relevant departments to provide health consultation, work allocation suggestions, and psychological consultation to employees who will go into mandatory retirement, have major injuries and illnesses, or are adapting to reinstatement to duty. We also provide employees with immediate assistance, as well as plan employee mental health talks and training courses according to the needs of different job positions, in order to enhance relevant knowledge and promote a harmonious working environment. In 2019, a total of 82 people received employee care, while information on other courses are shown in the following table:

Course Name	Participants	Batch	Training Hours	Number of Participants
Coping with Interpersonal Communication in the Workplace	All employees	2	6	94
Employee Care for Special Events	Deputy station managers and supervisors, deputy section chiefs at operation centers, train attendants, train masters, and train driver supervisors	2	6	73
Employee Care and Consolation Techniques	All employees	2	14	83
Psychological First Aid During Major Disasters	Internal lecturers in the areas of station operation and passenger service	1	7	50
Total		7	33	300

In response to possible major disasters, as well as in order to implement consolation and immediate medical care for injured passengers and their families, we have established the “Care and Consolation Team” in all three regions, namely North Taiwan, Central Taiwan, and South Taiwan to provide relevant support and company, including care and consolation telephone lines, family contact, medical assistance, legal consultation, and funeral. This team also regularly participates in THSRC’s annual disaster prevention drills or training activities to improve its mobilization effectiveness.

In addition, we have established the relevant welfare regulations and a complete employee welfare system, as well as set up an employee welfare committee in accordance with the law, in order to handle various welfare measures and operations. We also regularly ensure the market competitiveness of our welfare plans by referencing market surveys provided by external consulting companies.



Occupational Safety and Health

In order to ensure the safety and health of passengers, workers and the public, as well as continue to achieve safety and health goals, and improve related performance, THSRC not only regards safety as the highest guiding principle for decision-making and actions, but also formulates safety and health policies.

Management Mechanism and Performance

THSRC regularly convenes the “Occupational Safety and Health Committee” (consisting of one chairman, one executive secretary, and 17 committee members, where seven of them are labor representatives, accounting for one-third of all committee members), in order to review and make decisions on major occupational safety and health issues at THSRC. When attending the Occupational Safety and Health Committee meetings every quarter, labor representatives appointed by the THSRC Labor Union will first submit safety and health-related proposals to be approved by the committee. The relevant unit will then implement the proposals according to the resolutions of the committee, and use various resources at THSRC to track and close these proposals, so that the proposals can be completed effectively.

Since the establishment, THSRC has built and maintained an occupational safety and health management system during the construction process. In 2017, THSRC completed double certification involving Taiwan Occupational Safety and Health Management System (TOSHMS) CNS 15506 and the OHSAS 18001 Health and Safety Management System. In July 2018, THSRC applied for the “Operation Directions for the Performance Recognition of the Occupational Safety and Health Management Systems of Business Entities,” which was approved under the Ministry of Labor in December the same year, thereby achieving a win-win goal of creating labor safety and sustainable management.

We manage safety and health management targets using quantitative and traceable indicators. Besides, we set different goals for employees, contractors and suppliers, and continue to implement internal safety and health management mechanisms through periodic or non-periodic inspection and audit mechanisms such as active measurement and supervision. The achievement of safety and health management goals as well as the occupational safety index in 2019 is illustrated in the following table:

Safety and Health Management Goals in 2019 ^(Note 1)

Item	Goal ^(Note 2)	Actual Data			
		Male	Female	Total	
Employees	Frequency-severity indicator for occupational accidents at the workplace	≤ 0.10	0.07	0.26	0.15
	Frequency-severity indicator for traffic related accidents outside the workplace	≤ 0.34	0.34	0.31	0.34
Contractors and Suppliers	Number of people in fatal accidents	0	0	0	0
	Number of people in accidents involving at least three victims	0	1 (5 people)	0	1
	Number of people in accidents involving at least one victim who needs to be hospitalized for treatment	0	2	1	3

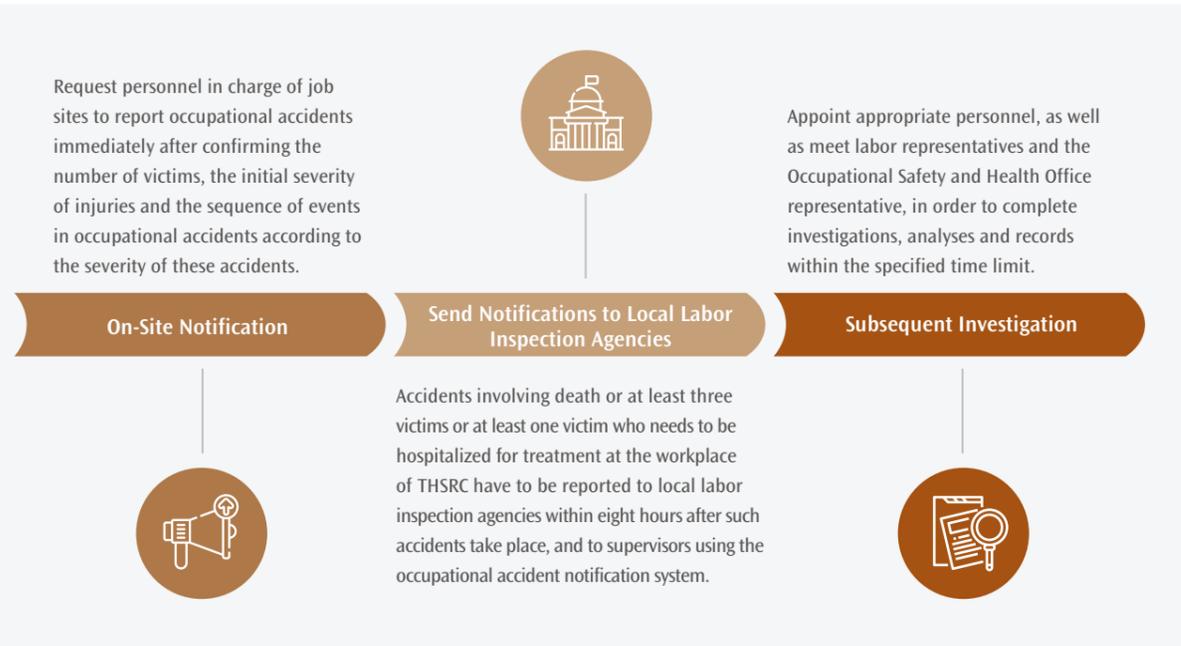
Note: 1. The settlement date for safety and health management targets was January 6, 2020.

2. All the occupation accidents were truly reported without any hidden management mechanisms. The types of occupational accidents which accounted for high percentages of all occupational accidents at the workplace were falls (38%), being hit (25%), improper actions (25%), infringement (6%), and cuts/scratches (6%). Of all types of occupational accidents at the workplace, accidents involving motorcycle rides accounted for 95% of all traffic-related occupational accidents.

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THSRC has also established a complete notification system in order to effectively cope with and reduce negative impact during occupational disasters. Besides, we reward reports of false alarms and occupational accidents, in hopes of eliminating hidden and true root causes and improving potential hazards and risks.

Occupational Accident Notification Process



We have also taken the initiative to organize activities related to the “Occupational Safety and Health Week Program and Results Reporting” in cooperation with the Occupational Safety and Health Administration. A total of 53 such activities were organized in 2019, while our disabling injury severity rate and frequency-severity indicator in the same year were better than the industry average of the same parameters in the rail transportation industry from 2016 to 2018 according to statistics provided by the Occupational Safety and Health Administration, Ministry of Labor.

Occupational Safety Index

Item	2019			Rail Transportation Industry Average from 2016 to 2018
	Male	Female	Total	
Disabling Injury Frequency Rate	1.52	2.14	1.74	0.95
Disabling Injury Severity Rate	4	32	14	187
Frequency-Severity Indicator	0.07	0.26	0.15	0.32
Number of Deaths	0	0	0	0
Absence Rate	0.60%	2.68%	1.34%	—

- Note: 1. Disabling injury frequency rate = (Number of disabling injuries x 1,000,000) ÷ Total man-hours worked.
 2. Absence rate = (Number of days absent ÷ Total number of working days) × 100%, where the number of days absent includes sick leave and work-related injury leave.
 3. Disabling injury severity rate = (Total number of days lost × 1,000,000) ÷ Total man hours worked.
 4. Frequency-severity rate = $\sqrt{[\text{Disabling injury frequency rate (FR)} \times \text{Disabling injury severity rate (SR)}]} \div 100$
 5. Number of deaths refers to the number of employees who died due to work-related injuries.

Employee Health and Safety Management Measures

We actively promote occupational health-related measures, as well as demonstrate our efforts to realize employee care and allow us to gain high recognition for our corporate image. We have established the Occupational Safety and Health Office which is responsible for coordinating various physical and health examinations, carrying out health management and analysis, as well as planning and formulating various health promotion activities. In addition, this office conducts workplace inspections, regularly implements operational environment monitoring, collects and records occupational accident statistics, as well as carries out investigations into potential risk factors related to work environment and organizations, external environments and personal living habits, in order to assess workplace risk factors.

To promote employee health and implement health management, we have set up health stations at HSR stations and medical rooms at maintenance depots, while equipping these rooms with health measuring tools, private spaces and a professional nursing consultation environment. Besides, the operations section of each HSR station and each resident office area are also equipped with rest rooms and certified breastfeeding rooms.

In addition, new employees are required to attend four days of new employee training and professional training according to their positions after reporting for duty. We establish the relevant regulations in accordance with the law, and require employees to perform their duties in accordance with these regulations. The Occupational Safety and Health Office conducts inspections based on supervision and audit plans. Every year, we organize health promotion activities and on-site health visits by medical personnel, and also conduct health examinations which are superior to those stipulated in the relevant regulations, where general employees aged 45 years old and above undergo health examination once a year, and those aged under 45 years old undergo health examination once every two years, while train personnel undergoes health examination once a year.

Health Promotion Activities in 2019

- 
On-Site Health Visits
 - In 2019, a total of 152 on-site visits by specially invited occupational medicine specialists were conducted to provide on-site services, serving a total of 380 persons.
 - Individual cases requiring improvements or assistance from unit supervisors were submitted separately to the relevant units for approval and advice were provided by resident physicians. Advice accepted by unit supervisors were tracked and cases closed were kept for future reference.
- 
Disease and Epidemic Prevention Promotion

THSRC set up the occupational safety and health column and the THSR High Speed Vision Newsletter to regularly publish new health knowledge, and conducted a variety of disease and epidemic prevention activities. A total of 22 articles related to this topic were published in 2019.
- 
E-Health Ten Thousand Steps Weight Loss Competition

From March 15 to June 7, THSRC organized the “E-Health Ten Thousand Steps Weight Loss Competition.” This event was participated by a total of 438 persons.
- 
Physical Fitness Test

A professional medical team provided consultation on test results and on-the-spot personal exercise recommendations to a total of 108 participants.
- 
Health Seminars

THSRC conducted 14 sessions of health seminars, whose topics included short courses on cardiopulmonary resuscitation and automated external defibrillator, prevention and treatment of metabolic syndrome and hypertension, practical training courses on myofascial release and taping, weight loss with health nutrition, etc. A total of 1,261 persons participated in these seminars.
- 
Stop Smoking in Groups of Three - Quit and Win

THSRC organized the stop smoking competition titled “Stop Smoking in Groups of Three - Quit and Win” from June to August, while setting up a smoking cessation clinic and conducting CO testing, offering health education and consultation on smoking cessation, as well as tracking the effectiveness of these initiatives.

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Carrying for Society and Developing Local Area

Development Platforms

Art for All, Station Art Performance

In order for passengers to get closer to arts and culture during their journeys, we planned the “Art for All, Station Art Performance” since 2015 and invited schools, art groups or individuals with performing experience to perform at HSR stations. As of the end of 2019, a total of 507 performance sessions were held along the HSR line from Taoyuan to Zuoying, with 15,288 people performing in this program. In 2019, THSRC was awarded the “14th Arts and Business Awards - Standing Gold Award” by the Ministry of Culture.



Exciting performances at HSR stations during the “Art for All, Station Art Performance”



Advertisement of “Nowhere - THSR ART”

Taiwan High Speed Rail Opening Year of Arts

In 2019, “Taiwan High Speed Rail Opening Year of Arts” launched the “Nowhere - THSR ART” event using augmented reality (AR). In this event, passengers were asked to download the THSR ART app and scan the designated items on the back of HSR magnetic tickets, at HSR stations, and in HSR trains. A set of allegorical AR dynamic images would then appear on their phones. This event used an art experiment with participatory design involving scenes and objects with elements of Taiwan that appear randomly, combined with fortune poems, to enable each participant to join in the imagination, as well as actively engage and think, thereby bringing a unique interaction moment. We hope that through this event, passengers will not only have a chance encounter with arts, but also meet their own heart in arts during their journey with HSR.

THSR Museum

Officially launched on January 5, 2017, the “Taiwan High Speed Rail Museum (THSR Museum)” is Taiwan’s first and only museum based on the corporate image of THSRC, and serves as an important platform for external image and communication. It has attracted warm response from the public through its rich exhibition themes, cultural talks, and interactive technology devices. The THSR Museum hosted 11 talks in spring and autumn, attracting many railway enthusiasts to sign up. As of the end of 2019, a total of 557 groups comprising 53,439 visitors have visited the museum.

THSRC not only organizes art events at HSR stations from time to time to enhance the connection between HSR stations and local areas, but also offers areas for the placement of arts merchandises in line with local government policy promotion and planning. A total of 79 applications were accepted in 2019.

Humanistic Care

To promote interaction between urban and rural areas and drive the development of local industries, THSRC connects 11 counties and cities as well as 76 townships, in hopes of not only realizing the characteristics of the transportation industry, but also implementing corporate social responsibility by providing support to disadvantaged groups. In 2019, THSRC has provided a cumulative total of NT\$12 million in sponsorships to social welfare and care.

The High-Speed Educational Endowment Program

Since 2010, we have continuously run the “The High-Speed Educational Endowment Program” in collaboration with World Vision Taiwan, Eden Social Welfare Foundation, Child Welfare League Foundation, etc., inviting the public to make donations through various fundraising platforms, including donation envelopes on train seatbacks, donation boxes on all HSR stations or online giving by scanning a QR code, with a view to assisting developmentally delayed or economic disadvantaged children in growing up at ease and learning happily. In 2019, we managed to raise NT\$7,575,843 for the program which benefited 2,838 children, so that these children can still receive daily care and tutoring after school.



The High-Speed Educational Endowment Program: Creating a secret happy learning base for children in need

THSRC Bring Warmth to Winter: Donate Blood, Give Love

Since 2012, THSRC has been organizing the “THSRC Bring Warmth to Winter: Donate Blood, Give Love” at HSR stations and our head office at the end of each year. This event has always been actively participated by many employees and caring people. In 2019, a total of 1,978 people participated in this activity and donated 2,854 bags of blood, thereby injecting full energy into efforts to address blood shortage during the winter season.

THSRC employees actively donated blood to spread love during winter



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THSRC Smiling Train Charity Program

Disadvantaged groups or low-income families in rural areas rarely have the opportunity to arrange for outdoor trips. In order for disadvantaged groups to be able to enjoy the convenient and efficiency HSR journey, we have collaborated with charitable units and social welfare organizations all over the country in the "THSRC Smiling Train Charity Program" to help them travel by HSR for free or at discount fares, so that they can enjoy the beauty of Taiwan's customs and traditions. As of 2019, we have assisted a total of 786 disadvantaged groups and 140,851 people to take HSR rides.

THSRC Smiling Train Charity Program



HSRC Camps for Talent Development

In order for the basic knowledge and positive image of HSR to take root in students at all levels of education, as well as deepen railway knowledge among them, THSRC has organized summer and winter activities known as "HSR Camp" for fifth and sixth grade students, secondary school students, general, and vocational high school students, as well as university and junior college students since 2008. In 2019, 12 batches of camp activities were held and participated by 360 people, with a total of 4,646 applicants. These camps have successfully developed potential outstanding railway talents while enhancing THSRC's positive, good corporate image.



Young students participated in the 2019 HSR Camp activities



"Travelling with Saplings" event in 2019

Green Energy, Environmental Protection and Sustainable Public Welfare

THSRC organized the "2019 Travelling with Saplings Program" with the Taiwan Forestry Research Institute under the Executive Yuan and Wutong Foundation before Arbor Day. In addition to preparing 1,500 Taiwan native saplings at Hsinchu Station, 200 natural plant extract essential oil roller bottles and 200 moss potted plants were also given to passengers and the public. Since 2014, a cumulative total of more than 10,000 saplings have been given out, in order to call on the public to protect the environment through practical actions.

THSRC Family Day

Since 2011, we have been organizing "THSRC Family Day," inviting employees to enjoy a one day trip together with their families. This event includes visits to maintenance depots, preparation center, OCC, driver and service personnel training, which not only enables employees' family members to learn about their contributions to THSRC, but also allows employees to establish a deep understanding of the work content of their employees at other units. In 2019, we organized eight sessions of "Family Day," which were participated by a total of 607 people.

THSRC employees and their families enjoyed a fulfilling and enriching day during "THSRC Family Day" in 2019



Local Commitment to Pheasant-Tailed Jacana Preservation

THSRC participates in efforts to conserve pheasant-tailed Jacanas in Guantian, Tainan, in order to fulfill our commitment to environmental protection, and also assist in the construction of habitats for Jacanas. After the establishment of the Jacana Ecological Education Park, THSRC continues to provide sponsorship to the management unit of this park. Since 2000, THSRC has sponsored a total of over NT\$65 million into this park in order to create Taiwan's first artificial habit restoration project jointly conducted by the government, development units, and civil groups. The artificial habitat for Jacanas covered a land area of approximately 15 hectares. In order to ensure the best protection of the Jacana group and their habitat, we not only actively collaborate with experts and scholars, but also seek the participation of volunteer. According to statistics provided by Wild Bird Society of Tainan, the number of Jacanas (including females, males, and fledglings) has greatly risen from nine in 2000 to 191 in 2019. With the expansion of habitat for the Jacana group, the number of Jacanas in the Greater Tainan region was the highest in 2016 at 1,272 Jacanas, and a total of 1,741 Jacanas were recorded in 2019, thereby demonstrating the effects of preservation of Jacanas and their habitat.

In 2007, the Pheasant-Tailed Jacana Preservation Habitat was officially renamed as the "Jacana Ecological Education Park," which is open to the public. Since its establishment till 2019, this park has welcomed nearly 236,000 visitors. We assisted in making park instruction facilities, and designed the display area and the interaction area, in order to strengthen the education function of this park and specifically exhibit the effects of restoration works. This park not only provides the public with the opportunity to learn about the ecology of Jacanas, but has also attracted international attention, thus becoming a rare successful experience of "coexistence between development and conservation."

Appendices

Table 1. 2019 THSRC Industry Associations Participation

Industry Association Participated	Description
International Union of Railways	Exchange and cooperation with international railway operators
International High-Speed Rail Association	Exchange and cooperation with international high speed rails
Chung-Hwa Railway Industry Development Association	Development and promotion of the railway industry
Chinese Institute of Transportation	Development and promotion of the railway industry
Rail Engineering Society of Taiwan	Development and promotion of the railway industry
Supply Management Institute, Taiwan	Exchange in procurement-related expertise and participation in related courses
Chinese Society for Quality	Exchange in quality management and participation in related courses
Taiwan Visitors Association	Tourism development and business promotion and exchange
Intelligent Transportation Society of Taiwan	Development and promotion of the transportation industry
Chinese Institute of Engineers	Exchange and promotion of civil engineering technology
Taiwan Stock Affairs Association	Exchange in stock affairs-related expertise and regulatory advancement
Taiwan Corporate Governance Association	Development and exchange in corporate governance
The Institute of Internal Auditors-Chinese Taiwan	Development and promotion of internal audit
Computer Audit Association	Development and exchange in corporate governance
Association of Industrial Relations, R.O.C.	Development of labor relations and participation in regulatory courses
Chinese Human Resource Management Association	Development and promotion of human resources
Accounting Research and Development Foundation	Exchange and promotion of accounting business
China Productivity Center, Knowledge Exchange Meeting	Exchange and promotion of cross-industry knowledge
Taiwan Railways Tourism Association	Development of railway tourism and business promotion and exchange

Table 2. Information on Members of the Board of Directors

Title	Name	Date Elected
Chairman of the Board	Representative: Chiang, Yao-Chung China Aviation Development Foundation	May 24, 2017
Directors	Representative: Liu, Ming-Ching Ministry of Transportation and Communications	September 21, 2017
Director	Representative: Huang, Mao-Hsiung TECO Electric & Machinery Co., Ltd.	May 24, 2017
Director	Representative: Liu, Kuo-Chih Taipei Fubon Commercial Bank Co., Ltd.	May 24, 2017
Director	Representative: Tsai, Huang-Liang China Aviation Development Foundation	May 24, 2017
Director	Representative: Wang, Shyi-Chin China Steel Corporation	January 3, 2019
Former Director	Representative: Wong, Chao-Tung China Steel Corporation	March 31, 2018 (Retired on January 3, 2019)
Former Director	Representative: Chiang, Chin-Shan TSRC Corporation	May 24, 2017 (Retired on August 12, 2019)
Former Director	Representative: Chen, Chao-Yi Taiwan Sugar Corporation	July 15, 2019 (Retired on February 14, 2020)
Director	Representative: Kwan, Tao-I Taiwan Sugar Corporation	February 14, 2020 (Previous term: May 24, 2017 to July 15, 2019)
Director	Representative: Kao, Shien-Quey Management Committee of National Development Fund, Executive Yuan	May 24, 2017
Director	Representative: Ko, Lee-Ching Evergreen Steel Corporation	May 24, 2017
Independent Director	Ding, Kung-Wha	May 24, 2017
Independent Director	Chiu, Kenneth Huang-Chuan	May 24, 2017
Independent Director	Poo, David Da-Wei	May 24, 2017

- About this Report
- Letter from the Chairman
- Letter from the President
- Performance Highlights for 2019
- Material Topics and Stakeholders
- About Taiwan High Speed Rail Corporation
- Transportation
- Technology
- Taiwan
- Touch
- Appendices
- Opinion Statement
- GRI Index

Table 3. Human Resource Structure

Category	2017		2018		
	Male	Female	Male	Female	
Total Labor Force	Percentage	64.15%	35.85%	64.36%	35.64%
	Total Employees	2,829	1,581	2,879	1,594
Fixed-Term Contract	Contract Employees	28	41	18	38
	Secundee Employees	2	0	0	0
	Outsourced Employees	5	4	3	7
	Total Number of Employees on Fixed-Term Contracts	35	45	21	45
Total Number of Employees on Non-Fixed Term Contracts		2,794	1,536	2,858	1,549
Rank	Vice President and Above	0.16%	0.05%	0.16%	0.04%
	Assistant Vice President	0.45%	0.05%	0.36%	0.05%
	Manager and Deputy Manager	4.10%	0.86%	4.00%	0.94%
	Section Chief	10.09%	2.83%	10.17%	2.97%
	General Employees	49.34%	32.06%	49.68%	31.63%
Education	General and Vocational High School and Below	4.9%	1.4%	4.5%	1.3%
	University/junior College	50.1%	31.1%	50.3%	30.8%
	Masters	8.9%	3.2%	9.3%	3.5%
	PhD	0.2%	0.0%	0.3%	0.0%
Other Indicators	Indigenous Employees	0.86%	0.23%	0.8%	1.1%
	Disabled Employees	0.75%	0.36%	0.7%	0.4%
Management Level	Under 30 Years Old	0.0%	0.0%	0.0%	0.0%
	30 to 50 Years Old	5.3%	1.4%	8.9%	3.1%
	Over 50 Years Old	4.2%	0.5%	5.8%	0.9%
Age	Under 30 Years Old	13.5%	14.4%	12.9%	13.2%
	30 to 50 Years Old	38.7%	19.0%	35.4%	18.0%
	Over 50 Years Old	2.3%	0.5%	1.4%	0.4%

Note: 1. The management is defined as managers of section chief level and above.
 2. The formula used was as follows: Percentage of a certain group of people = Number of people in the particular group/Total number of employees.
 3. Due to rounding of data, the sum of data may not be exactly 100%.

Table 4. Statistics of New Employees

Category	2017		2018		
	Male	Female	Male	Female	
Train Staff	2	16	0	20	
Station Staff	19	37	37	92	
Operation Control Personnel	1	0	11	4	
Train Driver	3	1	10	0	
Maintenance Personnel	129	0	105	2	
Others	38	30	60	32	
Age	Under 30 Years Old	137	60	164	127
	30 to 50 Years Old	53	22	57	23
	Over 50 Years Old	2	2	2	0
Total	192	84	223	150	
Percentage	4.4%	1.9%	5.0%	3.4%	

Table 5. Statistics of Turnover Rate

Category	2017		2018		
	Male	Female	Male	Female	
Train Staff	2	27	3	30	
Station Staff	39	105	35	69	
Operation Control Personnel	3	3	8	2	
Train Driver	4	0	4	0	
Maintenance Personnel	75	0	67	2	
Others	39	31	48	26	
Age	Under 30 Years Old	99	134	100	100
	30 to 50 Years Old	40	30	49	29
	Over 50 Years Old	23	2	16	0
Total	162	166	165	129	
Percentage	3.67%	3.76%	3.7%	2.9%	

Table 6. Training Hours

Unit: Hours	2017			2018		
	Male	Female	Total	Male	Female	Total
All Employees at THSRC						
Average Number of Training Hours Per Capita	144.5	106.8	130.7	115.3	103.6	111.1
Average Number of Training Hours Per Training Session	7.4	7.3	7.4	7.2	7.1	7.2
Average Number of Class Hours for Different Levels						
Vice President and Above	10.6	9	10.2	9.2	7.8	8.9
Assistant Vice President	7.3	14	7.6	8.2	12.2	8.6
Manager and Deputy Manager	17.8	16.9	17.6	15.5	14.7	15.3
Section Chief	49.7	116.3	57.4	99.4	101.2	99.8
General Employees	149.3	108.7	134.1	129.9	105.4	120.4
Average Number of Class Hours for Different Categories						
Train Staff	450.4	139	177.9	193.7	184.9	186.4
Station Staff	204.2	146.8	166.7	177.7	142.4	154.8
Operation Control Personnel	109.1	862.8	247.4	163.7	172.6	165.6
Train Driver	210.5	812.3	276.6	315.8	463.0	332.3
Maintenance Personnel	175.3	64	175.2	170.0	140.8	170.0
Others	83.7	16.1	56.6	72.8	48.3	63.2

Opinion Statement



INDEPENDENT ASSURANCE OPINION STATEMENT

Taiwan High Speed Rail Corporation 2019 Corporate Social Responsibility Report

The British Standards Institution is independent to Taiwan High Speed Rail Corporation (hereafter referred to as THSRC in this statement) and has no financial interest in the operation of THSRC other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of THSRC only for the purposes of assuring its statements relating to its corporate social responsibility (CSR), more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by THSRC. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to THSRC only.

Scope

The scope of engagement agreed upon with THSRC includes the followings:

1. The assurance scope is consistent with the description of Taiwan High Speed Rail Corporation 2019 Corporate Social Responsibility Report.
2. The evaluation of the nature and extent of the THSRC's adherence to AA1000 AccountAbility Principles (2018) and the reliability of specified sustainability performance information in this report as conducted in accordance with type 2 of AA1000 Assurance Standard (2008) with 2018 Addendum sustainability assurance engagement.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the THSRC 2019 Corporate Social Responsibility Report provides a fair view of the THSRC CSR programmes and performances during 2019. The CSR report subject to assurance is materially correct without voluntary omissions based upon testing within the limitations of the scope of the assurance, the information and data provided by the THSRC and the sample taken. We believe that the 2019 economic, social and environmental performance information are correctly represented. The CSR performance information disclosed in the report demonstrate THSRC's efforts recognized by its stakeholders.

Our work was carried out by a team of (CSR) report assurors in accordance with the AA1000AS (2008) with 2018 Addendum. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that THSRC's description of their approach to AA1000AS (2008) with 2018 Addendum and their self-declaration in accordance with GRI Standards: Core option were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a review of issues raised by external parties that could be relevant to THSRC's policies to provide a check on the appropriateness of statements made in the report
- discussion with managers on THSRC's approach to stakeholder engagement. Moreover, we had sampled two external stakeholders to conduct interview
- interview with 31 staffs involved in sustainability management, report preparation and provision of report information were carried out
- review of key organizational developments
- review of the extent and maturity of the relevant accounting systems for financial and non-financial reports
- review of the findings of internal audits
- the verification of performance data and claims made in the report through meeting with managers responsible for gathering data
- review of the processes for gathering and ensuring the accuracy of data, followed data trails to initial aggregated source and checked sample data to greater depth during site visits
- the consolidated financial data are based on audited financial data, we checked that this data was consistently reproduced
- review of supporting evidence for claims made in the reports
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018)

Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and sustainability performance information as well as GRI Standards is set out below:

Inclusivity

In this report, it reflects that THSRC has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for economic, social and environmental information in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the THSRC's inclusivity issues and has demonstrated social responsible conduct supported by top management and implemented in all levels among organization.

Materiality

The THSRC publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of THSRC and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the THSRC's management and performance. In our professional opinion the report covers the THSRC's material issues.

Responsiveness

THSRC has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for the THSRC is developed and continually provides the opportunity to further enhance THSRC's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the THSRC's responsiveness issues.

Impact

THSRC has Identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. THSRC has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within an organization. In our professional opinion the report covers the THSRC's impact issues.

Performance information

Based on our work described in this statement, specified sustainability performance information such as GRI Standards disclosures disclosed in this report except for GHG emissions at the organization level, THSRC and BSI have agreed upon to include in the scope. In our view, the data and information contained within 2019 THSRC CSR Report are reliable based on procedures undertaken by means of vouching, re-tracking, re-computing and confirmation.

GRI Sustainability Reporting Standards (GRI Standards)

THSRC provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the THSRC's social responsibility and sustainability topics.

Assurance level

The high level assurance provided is in accordance with AA1000AS (2008) with 2018 Addendum in our review, as defined by the scope and methodology described in this statement.

Responsibility

This CSR report is the responsibility of the THSRC's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan ...making excellence a habit.™



Statement No: SRA-TW-2019001
 2020-06-02

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GRI Index

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102-8	Information on employees and other workers	• Nurturing Talent and Value Cultivation	50	
102-9	Supply chain	• Operating Bases and Services • Supply Chain Communication and Requirements	11 35	
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2. Strategy				
102-14	Statement from senior decision-maker	• Letter from the Chairman • Letter from the President	3 4	
3. Ethics and integrity				
102-16	Values, principles, standards, and norms of behavior	• Management Principles	42	
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102-18	Governance structure	• Corporate Governance Framework • Functional Committees	40 41	
5. Stakeholder engagement				
102-40	List of stakeholder groups	• Identification of Stakeholders	6	
102-41	Collective bargaining agreements	• Labor Relations and Employee Care	53	THSRC has yet to sign any group agreement
102-42	Identifying and selecting stakeholders	• Identification of Stakeholders	6	
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GRI Standards	Disclosure	Corresponding Chapter or Subchapter	Page No.	Other Explanation	
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	102-47	List of material topics			
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Comparison of the "Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies"

Item	Corresponding Chapter or Subchapter
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Corporate governance of climate-related risks and opportunities; actual and potential climate-related shocks; methods to identify, assess and manage climate-related risks; and indicators and targets for assessing and managing climate-related issues	• Low-Carbon Train Operation and Environmental Sustainability
Information on Salaries of Full-time Non-management Employees	• Nurturing Talent and Value Cultivation

Comparison of the "Corporate Social Responsibility Best Practice Principles for TWSE/GTSM Listed Companies"

Item	Corresponding Chapter or Subchapter
Chapter 1 General Principles	• Sustainability Strategies and Goals
Chapter 2 Exercising Corporate Governance	• Sustainable Governance and Ethical Corporate Management
Chapter 3 Fostering a Sustainable Environment	• Low-Carbon Train Operation and Environmental Sustainability
Chapter 4 Preserving Public Welfare	• Partner Relationship Management and Local Supply • Nurturing Talent and Value Cultivation • Carrying for Society and Developing Local Area
Chapter 5 Enhancing Disclosure of Corporate Social Responsibility Information	• About this Report
Chapter 6 Supplementary Provisions	• Identification and Responses to Material Topics



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