

Shandong Hi-speed Company Limited Environmental, Social and Governance Report



About the Report

The report truly reflects the efforts of Shandong Hi-speed Company Limited. to fulfil its economic, social and environmental responsibilities for achieving comprehensive, coordinated and sustainable development. The forward-looking statements including the business plan and development strategy involved in the report do not constitute the Company's substantive commitment to investors.

○ Time Period

The time period of the report is from January 1 to December 31, 2021, and some contents are beyond what is mentioned above.

○ Scope of the Report

The report covers Shandong Hi-speed Company Limited and its subsidiaries.

○ Data Source

All the information and data are taken from the formal papers, statistical reports and financial reports of the departments and units of Shandong Hi-speed Company Limited, as well as the environmental, social and governance information collected and audited by the Company. The report is issued in both Chinese and English. In case of any inconsistency, the Chinese version shall prevail. The unit of currency is RMB unless otherwise stated.

○ Basis of Preparation

This report is prepared in accordance with the *Guidelines on the Preparation of Corporate Social Responsibility Reports* issued by Shanghai Stock Exchange (SSE), and with appropriate reference to the *Chinese Corporate Social Responsibility Report Preparation Guide* by the Chinese Academy of Social Sciences and the GRI Sustainability Reporting Guidelines (G4 version) issued by the Global Reporting Initiative.

○ Description

Shandong Hi-speed Company Limited is referred to as "Shandong Hi-speed", "the Company" or "we" in the report for easier description and reading.

○ Access

The report is available on the website of Shandong Hi-speed Company Limited (www.sdecl.com.cn) and the website of Shanghai Stock Exchange (<http://www.sse.com.cn>).

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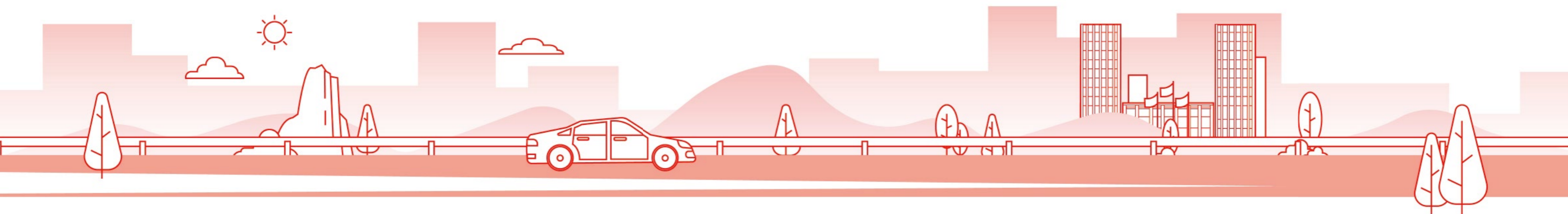
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Chairman's Statement

In the history of the Party and our country, 2021 was a watershed year. We solemnly commemorated the centenary of the founding of the Communist Party of China, officially declared the completion of a moderately prosperous society in all respects, achieved the First Centenary Goal, smoothly promoted the reform of state-owned enterprises, and made a strong start to the 14th Five-Year Plan. Guided by Xi Jinping's thought on socialism with Chinese characteristics for a new era, Shandong Hi-speed fully implements the spirit of the Communist Party of China's 19th National Congress and all past plenary sessions of the 19th National Congress, focuses on "enriching employees, strengthening the Company and giving back to society" as the corporate mission, and actively promotes the development of the "six features of Shandong Hi-speed," namely, faith, innovation, quality, excellence, vitality, and culture. The Company moves closer to the vision of "building a first-class transportation infrastructure investment, construction, and operation service provider in China."

This year, we took on social responsibility and exhibited the mission of state-owned enterprises. **We built safe roads and collaborated with partners for win-win results.** We continued to strengthen road maintenance and effectively boosted the maintenance quality and benefits as well as road service quality. Our PQI (pavement quality index) has exceeded 93.5, and the proportion of Type I and Type II bridges had above 98%; With science and technology as a guarantee, we continued to promote smart highway construction. **We stayed on the path of environmentally sustainable development, protecting the lush mountains and lucid waters.** We upheld the green and low-carbon development concept, strictly implemented the national energy-saving design standards, continued to expand the use of ETC lanes, which can assist in reducing greenhouse gas emissions compared with artificial lanes, and promoted green investment projects to create a broader path of green development. **We always prioritize people and focus on employees' development and growth.** We established an equal, dynamic and harmonious working environment, followed the principle of the interdependence between the Company's performance and employees' wages, and offered employees

a competitive and incentive salary distribution system. We also encouraged employees to make innovations and create benefits. Many of our innovative achievements have been recognized as outstanding in the transportation industry. We organized recreational activities for employees to encourage them to develop a healthy lifestyle and a positive attitude towards life. **We are enthusiastic about giving back to society and fostering the harmonious development of society.** Giving full play to our role as the primary force of infrastructure, we shouldered our responsibilities in the face of calamities like the rainstorm disaster in Henan. In response to the nation's call, we resolutely won the battle against poverty and finished the fourth round of "First Secretary," which targeted poverty alleviation with high quality. We also implemented regular pandemic prevention and control, strictly conducted several prevention and control measures, and brought all employees together to make concerted efforts and overall planning. In 2021, we have spent more than RMB 5 million on anti-pandemic measures.

Now is an excellent time for us to work hard and achieve our goals; we should take advantage of this opportunity and make our marks. In 2022, the 20th CPC National Congress will be held, signaling the start of a new journey toward the Second Centenary Goal. The road ahead is full of opportunities and also numerous challenges. Shandong Hi-speed will continue to push forward, strengthening the ambition to serve the country and writing a new chapter of high-quality, sustainable growth.

Chairman

March 2022



About Us

Company Profile

Shandong Hi-speed Company Limited established on November 16, 1999, was sponsored by Shandong Hi-speed Group Co., Ltd. and China Merchants Expressway Network & Technology Holdings Co., Ltd. (formerly known as China Merchants Huajian Highway Investment Co., Ltd.). On March 18, 2002, the Company was listed on Shanghai Stock Exchange with the ticker: 600350 and the registered capital of RMB 4.811 billion, The Company mainly engaged in the investment and operation of transportation infrastructure, as well as equity investments in related industries, finance, environmental protection, and other fields in the highway industry chain and value chain.

As of the date of this report, the Company has operated and managed a total of 2,818 kilometers of roads and bridges, including 1,557 kilometers of self-owned road and bridge assets, such as Jinan-Qingdao Section of G20 Qingdao-Yinchuan Expressway, Dezhou-Tai'an Section of G3 Beijing-Taipei Expressway, Jinan-Laiwu Section of G2 Beijing-Shanghai Expressway, G42 Wuhan-Jingzhou Expressway in Hubei, and G55 Jiyuan-Jincheng Expressway, etc. Besides, the Company is also delegated by Shandong Hi-Speed Group to manage the road and bridge assets with the total mileage of 1,261 kilometers, including S38 Zaozhuang-Linyi Expressway and S11 Yantai-Haiyang Expressway in Shandong, the north section of Jinan along Qingdao-Yinchuan Expressway, etc.

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Honors and Awards

The 4th China IR 2020-2021 Best Information Disclosure Award

Organizers:
International Road Show Center



Tianma Award of the China Listed Company Investor Relations "Best Board of Directors"

Organizers:
Securities Times



Top 100 List of China's Listed Companies with High-Quality Development

Organizers:
Yinshi Finance



Listed in the ESG practice cases of listed companies by China Association of Public Companies in 2020

Organizers:
China Association for Public Companies



Top 100 Enterprises of China

Organizers:
China Business Top 100 Forum



2021 "Annual IRM Honor Roll" of Jinglun Award

Organizers:
China Fund



Top 100 Best Management and Operation

Organizers:
China Business Top 100 Forum



Special Grade for the Science and Technology Award of China Highway & Transportation Society in 2021

Organizers:
China Highway & Transportation Society

Corporate Culture

Our Vision

Devoted be a Century Enterprise, and Building the No. 1 Brand of Expressway in China

For sticking to independent innovation unswervingly focusing on the main business and improving its core competence, the Company seizes opportunities to develop its main business of road and bridge in a snowballing manner to better ourselves. As well, the Company expands its business through acquisition, merger and cooperative development, diversifies its business to some degree, and constantly searches for new profit growth sources for increasing the development potential and making the Company be a sustainable century enterprise.

With strong social responsibility, the Company promotes environmental protection and local prosperity, rewards investors with continuous good performance, provides customers with high-quality and efficient services, and offers good protection and growth environment for employees, aiming to gain the respect from the public, building No. 1 expressway brand in China, and becoming a well-deserved industry leader.

Our Mission

Make our employees rich and our company strong

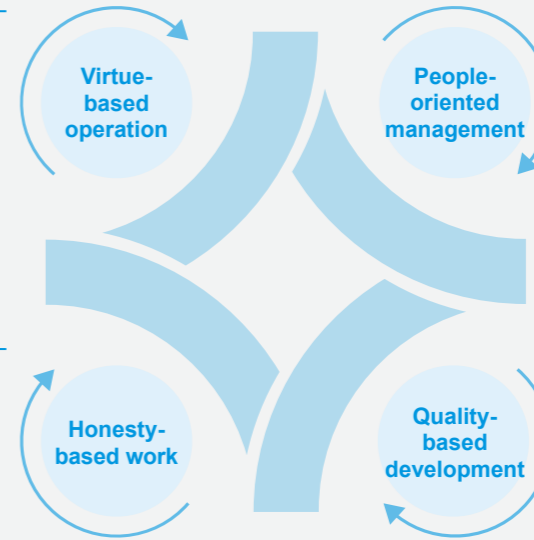
The development of enterprises, the progress of society, the improvement of the environment, and the prosperity of the country depend on people. For expressing our gratitude to our employees, we share our achievements with them to make them wealthy both materially and spiritually, creating opportunities for the well-development of their careers, and boost their life satisfaction. We also thank partners and stakeholders for their cooperation in good faith and harmonious coexistence. We always lead the industry in China and strive to become a leading company in the world to fulfill the responsibilities assigned by the government, serve the public, and forge a strong enterprise.

Giving back to society

The Company provides infrastructure for passenger and freight transportation and provides fast, smooth, beautiful, civilized and safe roads for drivers and passengers through scientific operation and careful maintenance of roads and bridges. Besides, the Company also constantly improve charge, maintenance, road administration and other services to achieve scientific and efficient management, smooth and safe road, civilized and fair law enforcement, orderly driving, clean and smooth environment, and warm and thoughtful service, for ensuring long-term, stable, and profitable returns to shareholders.

Core Value

We emphasize ethics, morality and commitment. Good morality is fundamental for people to live and for enterprise to succeed.



We respect people, train them and make them better. The humanitarian system and management motivate employees with humanistic care.

We have sincerity, honesty and good faith. We keep sincere and honest with good faith forever.

We emphasize high quality, high efficiency, high caliber. Quality is the lifeblood of corporate development, so we pay more attention to quality while expanding the Company and focus on efficiency while accelerating the development.

Spirit of Enterprise

"3A" spirit: Accountable Aggressive Advanced

We actively assume responsibilities and commitments, have prudent and down-to-earth attitudes, keep honest and trustworthy. Our responsibilities include responsibilities to the public (drivers), responsibilities to society, responsibilities to shareholders, and responsibilities to employees.

We never rest on our laurels; instead, we rebel against the status quo, seize the opportunity, and strive for the company's leap-forward development; we dare to embrace the challenge whiling remaining dauntless and optimistic in the face of difficulties.



Advancement is the highest aspiration for the Company. We give full consideration to every detail and strive for keeping improving from time to time. Relying on our rich experience and continuous betterness, we can cultivate the persistent spirit of making everything perfect.

Responsible Management

Shandong Hi-speed is committed to promoting sustainable development and firmly believes that sustainable development is the foundation of the Company's long-term stability and progress. The Company gradually optimizes its ESG management systems and improves the level of corporate governance through optimizing its governance structure. While being responsible for itself, the Company also undertakes its social responsibility. Moreover, the Company communicates with stakeholders in various forms, to listen to their opinions, respond to their needs, and realize the sustainable development of the Company and all stakeholders.

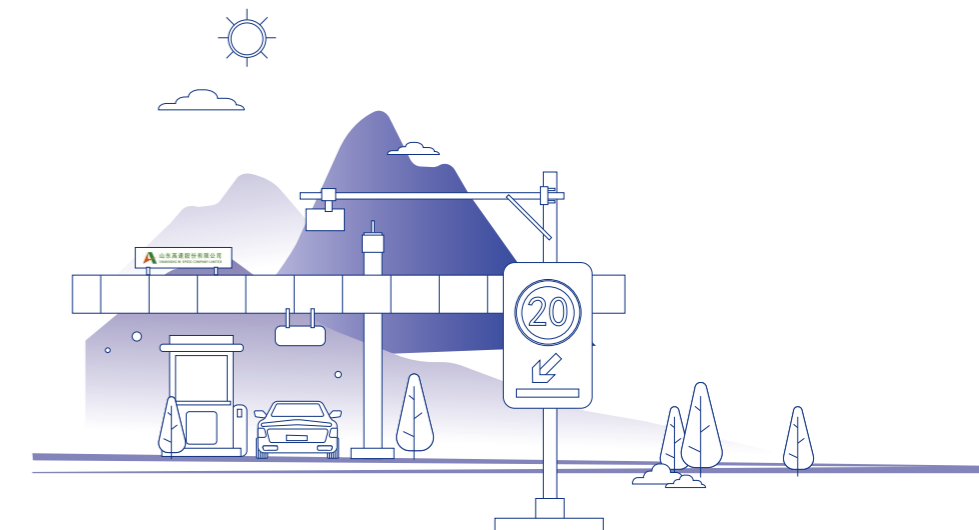
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Social Responsibility Management

In 2021, Shandong Hi-speed improved its ESG governance structure and upgraded its ESG management level from the management source. The Company established a Strategic Development and ESG Management Committee under the Board of Directors and issued the *Working Rules of the Strategic Development and ESG Management Committee*. The Committee is a specialized organ established by the Board, and is responsible for studying and putting forward suggestions and opinions on the Company's external public policy, sustainable development, and environmental, social and corporate governance; Under the Strategic Development and ESG Management Committee, there is a Strategic Development and ESG Management Working Group headed by the general manager of the Company, which is responsible for promoting the overall ESG affairs.

In addition, Shandong Hi-speed also established an ESG Working Group to promote and realize the orderly development of ESG work. The Secretariat of the Board is responsible for organizing the preparation of ESG action plans, collecting and sorting out ESG qualitative and quantitative data, organizing the preparation and preliminary review of ESG report, and cooperating with the Board to report on ESG report. The Company's departments includes the inspection office, Safety Management Department, Offices, Party Committee affair Department, Engineering Maintenance Department, Trade Union Office, Discipline Inspection Commission Office, Enterprise Management Department, Human Resources Department, Audit Department, Investment Management Department and Operation Department, and are responsible for the regular statistics and management control of relevant ESG information. Each department shall set up ESG information management staff to be responsible for regular collection, report and review of ESG information to ensure the comprehensiveness and accuracy of data and information.

In 2021, Shandong Hi-speed deliberated and approved the *Environmental, Social and Governance (ESG) Working Plan of Shandong Hi-speed Co., Ltd.*, formulated the guiding ideology, basic principles and deployment strategies of ESG development, clarified the development objectives, and formulated ESG implementation plan to ensure the steady progress of the Company's ESG work in all aspects.

Shandong Hi-speed's ESG long-term goal

Build new strengths with "faith", "innovation", "quality", "excellence", "vitality" and "culture" and become a responsible listed company.

Shandong Hi-speed's ESG strategic objective

Uphold sustainable development and become a benchmark ESG enterprise in the industry.

Make efforts to develop for everlasting development

Upholding honesty and trustworthiness, we develop our business legally and continuously enhance the profitability, risk resistance capacity and sustainable development ability of the enterprise for creating more values for our shareholders and the society.

Uniting employees to seek common growth

We are committed to "making the best use of employees and their talents", promoting the all-around development of employees, protecting the rights and interests of employees, and enabling employees to share the achievement of enterprise development.

Focusing on customers to meet diverse needs

We are committed to offering safe, comfortable and easy traffic services for drivers and passengers, with an orientation to customers' needs.

Work jointly on ecology to practice the Green China initiative

We are committed to researching and promoting the construction of ecological and environmentally-friendly demonstration roads and the ecological diversity system of highways

Assuming all responsibility for harmonious development

We are committed to social welfare and strive to achieve comprehensive, sustainable and coordinated development for the enterprise, society and environment

Engagement

Shandong Hi-speed is committed to enhancing its long-term value and protecting the interests of all stakeholders to the greatest extent while operating and expanding its business. The Company attaches great importance to stakeholders engagement, actively responds to the expectations and demands of stakeholders, and extracts feasible operational projects and priorities. Shandong Hi-speed forged close ties with stakeholders by creating different channels to continuously improve the effectiveness of communication with stakeholders.

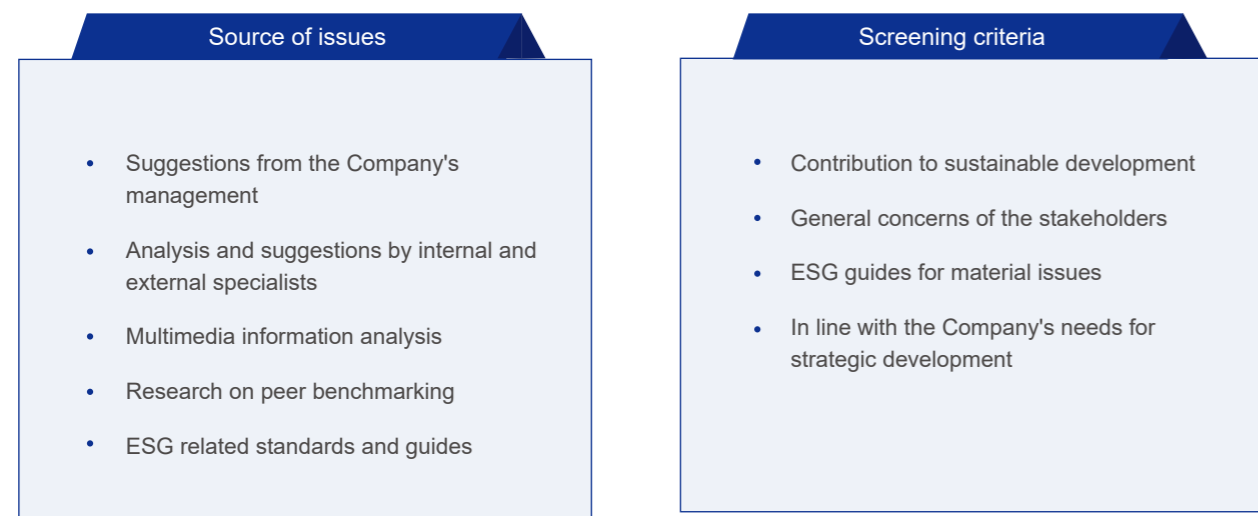
Stakeholder	Expectations and requirements	Means of communication
 Government and regulators	<ul style="list-style-type: none"> Implementation of national policies, laws and regulations Promotion of local economic development Creation of more local jobs Driving the development of the industry Compliance emission Energy-saving and, emission reduction Ecological protection 	<ul style="list-style-type: none"> Reporting documents Suggestions and advice Special report Negotiation and cooperation Information disclosure
 Shareholders and investors	<ul style="list-style-type: none"> Revenue and return Compliance operation 	<ul style="list-style-type: none"> Company's announcement Special report The general meeting of shareholders Roadshow and counter roadshow
 Employee	<ul style="list-style-type: none"> Protection of rights and interests Work Safety Occupational health Salary and benefits Career development 	<ul style="list-style-type: none"> Employee forum Face-to-face communication Social media Workers' Congress Questionnaire
 Customers and partners	<ul style="list-style-type: none"> Quality of service Safe travel Performance of the contract according to law Honest management High-quality products and services 	<ul style="list-style-type: none"> Business communication User feedback Exchange and discussion
 Supplier	<ul style="list-style-type: none"> Green purchasing Compliance management Product liability 	<ul style="list-style-type: none"> Supplier assessment The phone call and mail
 Media and NGOs	<ul style="list-style-type: none"> Compliance emission Energy-saving and, emission reduction Ecological protection Promotion of local economic development Creation of more local jobs Driving the development of the industry 	<ul style="list-style-type: none"> Press conference and forum Social media Official website
 Community and the public	<ul style="list-style-type: none"> Improvement of the community environment Participation in public welfare Open and transparent information 	<ul style="list-style-type: none"> Official website Community interaction and public welfare activities Social media



We identify and screen the environmental, social and governance issues related to Shandong Hi-speed by means of suggestions from the Company's management, research on peer benchmarking at home and abroad, multimedia information analysis and on-site investigation, so as to understand the level stakeholders are concerned, and ultimately determine the material issues.

Shandong Hi-speed invites internal and external stakeholders to identify environmental, social and governance issues and assess their importance. Through employee interviews, on-site visits, questionnaires and others, the Company fully understands the sustainable development issues of concern by internal employees and external stakeholders.

Procedures for screening environmental, social and governance issues



Shandong Hi-speed's ESG materiality matrix in 2021

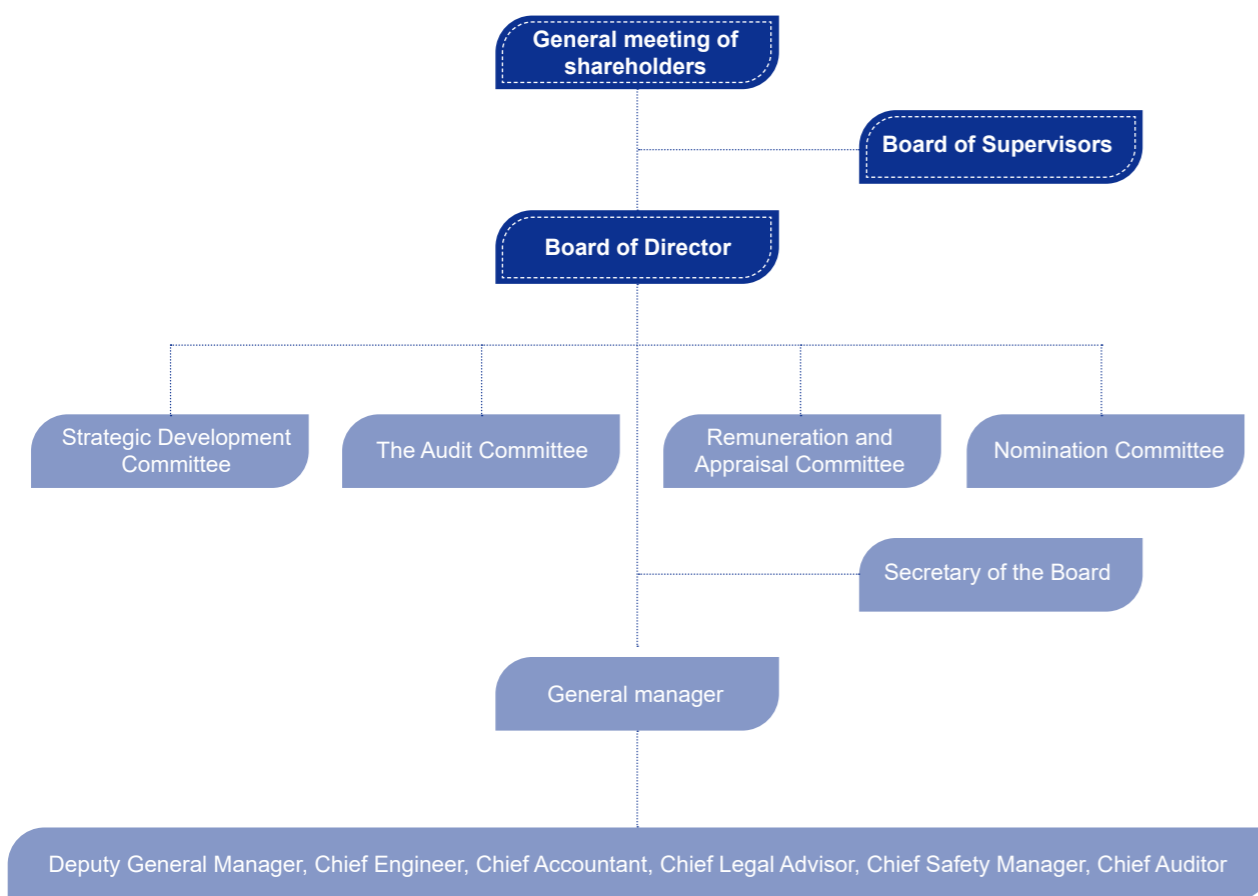


Corporate Governance

In strict accordance with the *Company Law of the People's Republic of China*, *Securities Law of the People's Republic of China*, *Code of Corporate Governance for Listed Companies in China*, *Rules Governing the Listing of Shanghai Stock Exchange* and relevant rules and regulations of China Securities Regulatory Commission, Shandong Hi-speed has formulated the *Articles of Association*, *Rules of Procedure of the General Meeting of Shareholders*, *Rules of Procedure of the Board of Directors*, *Rules of Procedure of the Board of Supervisors*, *Work Policy of Secretary of the Board of Directors* and *External Information Submission Policy*, which are disclosed on the website of Shanghai Stock Exchange. In 2021, the Company strictly abided by the laws and regulations and the Company's policies; there was no violation of the above laws and regulations and the Company's internal management policies.

Shandong Hi-speed makes earnest efforts to protect the interests of the Company and all shareholders by constantly improving the corporate governance structure, strengthening the internal management, establishing and perfecting the internal control policy, standardizing the corporate operation, and strengthening the control of information disclosure. The Company has established a governance structure composed of the general meeting of shareholders, the board of directors, the board of supervisors and the management. Based on the *Articles of Association*, the multi-level governance rules are formulated by the Company to specify the responsibilities and obligations of the Parties. In this way, the general meeting of shareholders, the board of directors, the special committees, the board of supervisors and the management perform their duties respectively and coordinate with each other amid effective check and balance to improve the level of corporate governance and efficient decision makings.

The corporate governance structure of Shandong Hi-speed

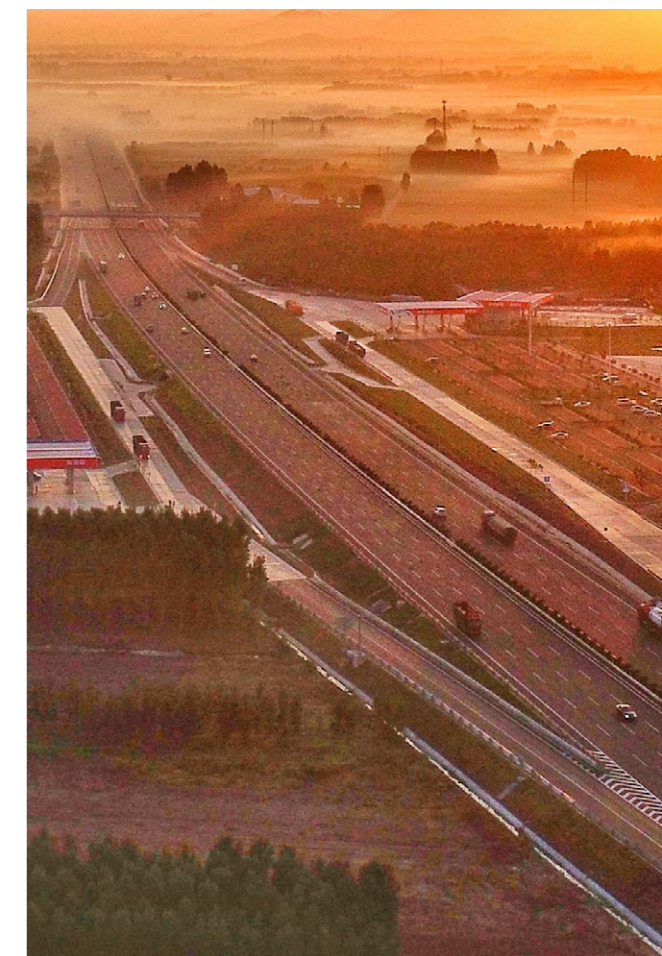


The Company insists on equally treating every shareholder and fully protecting the rights and interests of shareholders, especially the interests of minority shareholders by providing online voting of shareholders' meetings and counting the votes of minority investors separately. The Company has set up an investor helpline to listen to the suggestions and opinions of shareholders and investors, and timely reply to shareholders' questions, so as to protect their right to involve in corporate governance to the utmost. In 2021, the Company held two general meetings of shareholders, 13 meetings of the board of directors and five meetings of the board of supervisors, in which we deliberated 47 topics such as equity acquisition, signing of ETC service agreement, external guarantee of subsidiaries and issuance of Super & Short-term Commercial Paper, and disclosed more than 120 announcements and attachments. The Company actively returns its investors. In April 2021, the Company increased the cash dividend to nearly 90% on the basis of promising that the dividend would not be less than 60%.



In 2021, the Company innovated the operation mode of the Board of Directors, timely adjusted the review and disclosure standards of the Board in accordance with the mandatory disclosure standards of Shanghai Stock Exchange, optimized the external disclosure mode, and laid an institutional foundation for the Board to implement the Company's major strategies. At the same time, the Company continued to improve corporate governance through various measures. In view of the new changes in regulatory policies, the Company revised seven systems such as the *Guarantee Management Measures*, and completed the construction of "external directors hold a majority" among the members of the Board of Directors of its majority-owned subsidiaries and relevant systems of the Board. The Company conducted self-inspection and self-correction according to the 119 issues in the special self-inspection list of listed company governance formulated by China Securities Regulatory Commission. On the basis of the standardized governance training in last year, the Company planned capital operation refinancing training to provide new ideas and methods for how to realize equity financing.

The Company attaches importance to investor Relations and actively communicates with investors. In 2021, Shandong Hi-speed carried out 54 door-to-door promotion activities, attended 12 mid-year strategy meetings of various institutions, and actively invited a number of institutions to the Company for 36 counter roadshows. In 2021, the Company's investor relations work was highly praised and exhibited by the Shanghai Stock Exchange as an advanced case. The Company replied to a total of 54 investors' concerns through the SSE e-interaction platform.



Integrity and Compliance

The Company strictly abides by the relevant laws and regulations such as the *Supervision Law of the People's Republic of China*, the *Anti-Money Laundering Law of the People's Republic of China*, as well as Party rules including the *Constitution of the Communist Party of China*, the *Guidelines on Political Life Inside Party under the New Situation*, and the *Supervision Regulations of the Communist Party of China*, and always adhere to the corporate culture featuring integrity and honesty. In 2021, to promote the "abolishment, amendment and establishment" of internal systems, the Company revised, improved and abolished 36 discipline inspection systems for Party construction and more than 110 administrative systems. The newly established and revised systems include the *Opinions on the Implementation of Establishing and Perfecting the Corruption Punishment and Prevention Policy*, the *Rules for Implementing Responsibility Policy for Party Conduct and the Clean and Honest Government Building*, *Investigating and Handling Petition Letter by Discipline Inspection and Supervision Department*, and the *Evaluation Rules of Integrity Risk Prevention and Control Mechanism*, to standardize the professional behavior of employees, solidify the case management process of discipline inspection departments, strengthen supervision and management, and eliminate corruption. In 2021, the Company had no corruption-related litigation and lawsuits.

In 2021, Shandong Hi-speed continued to strengthen political supervision, effectively prevented, investigated and dealt with corruption through complaint and visit, and gave full play to inspection and supervision by focusing on inner-party supervision. The Company insists on dynamically promoting the construction of integrity risk prevention and control system of the headquarters and all units, and has organized all departments and offices of the headquarters to sort out 28 items of power list, develop 25 operation flow charts and solidify 90 power operation processes. The Company urged the implementation of Party committee's priority to discuss the Company's issues and the "three major and one large" democratic decision-making systems (decisions on major issues, appointment and removal of major cadres, arrangement of major projects, and a large number of funds must be agreed through discussion), and supervised 48 meetings of the Party committee and 136 decisions on major issues. At the same time, we also conducted "departmental coffer" special governance and the activity of "looking back" for the audited items, to strictly supervise and enforce discipline. We have responded to opinions on Party conduct and integrity covering the selection of 26 cadres, and the evaluation for the best of 181 individuals and 233 groups, and dynamically improved 144 records of cadres' integrity.

Shandong Hi-speed insists on detailed daily supervision, continues to correct working conduct and enforce discipline, and integrates integrity management with daily education. In 2021, the Company organized 29 lectures on Party rules and discipline, 16 tests on systems, 240 integrity education at all levels, 13 on-site studies at early warning education base, 81 Party lectures on integrity and 524 integrity-related talks. The Company issued notice on correcting working style and enforcing discipline at critical moments by reminding SMS and clarifying laws and requirements, organized 56 open and secret investigations, and reposted 73 notices on problems via its WeChat official account "discipline at our fingertips". In addition, the Company carried out 84 internal training sessions and participated in 33 diversified training sessions, organized discipline inspection personnel to actively participate in the study of Party history, conducted story collection activity on the theme of "telling about Party culture and inheriting the revolutionary spirit", and visited Kong Fansen memorial to continuously improve employees' political judgment, comprehension and execution.

Case

"Discipline Inspection Learning Day" themed event

On December 24, 2021, the Company organized a "Discipline Inspection Learning Day" themed event covering discipline inspection training and special lectures on Party rules and discipline. This event included on-site interaction in the main venue and video viewing in branch venues. More than 100 people, including the Secretary of the Discipline Inspection Commission (Discipline Inspection Committee member) of each unit, the head of the Discipline Inspection Department, inspection staff and all the members of the Company's Discipline Inspection Commission Office, participated in the event. The Company specially invited relevant experts from the sixth supervision and inspection office of the provincial Commission for Discipline Inspection to give lectures on the spot, centering on "improving political outlook and doing a good job in supervision and inspection", and made a detailed interpretation of the new situation faced by the full and strict governance over the Party, common corruption problems, causes and typical cases of state-owned enterprises, the focus of supervision and inspection, relevant policies, important laws and regulations, etc.



The "Discipline Inspection Learning Day" themed event

Anti-corruption education and training of the Company in 2021

Total duration of anti-corruption education for employees

414 hours

Number of participants in anti-corruption education for employees

12,887

Number of participants in anti-corruption education for senior management

1,016

Total duration of anti-corruption education for senior management

385 hours

Party Building

Shandong Hi-speed thoroughly studied and implemented the spirit of the Sixth Plenary Session of the 19th CPC Central Committee and the important instructions of the General Secretary Xi Jinping. The Company earnestly fulfills its main responsibility of implementing full and strict governance over the Party, and takes the Party organizations and Party members as role models, to provide a strong political foundation for the development of the Company.

The Company gives full play to the leading role of the Party committee, takes "New Era, New Highway, and Go All the Way" as the foundation of Party building brand, continues to build "roads in mind" and "pilot" demonstration roads and "indomitable road management teams" party building demonstration lines. For deepening reform, the Company promoted the deep integration of Party building and its production and operation; for organizational construction, the Company strengthened the foundation for Party organization coverage, improved system security, and promoted the overall progress of grass-roots Party organizations; for team management, the Company adhered to the guidance of the Party spirit and cohesion, and finally achieved high-quality Party construction to promote high-quality development. In 2021, the Party committee of Shandong Hi-speed has 288 party organizations at the grass-root level, including 30 Party committees, ten general Party branches, 242 Party branches and a total of 3,347 Party members.

Shandong Hi-speed adheres to building a national highway listed company role model with the Party leading, safeguarding and empowering its transportation business. The Company attached great importance to ideological and political management, and actively carried out Party history education and a series of activities in 2021:

Focusing on ideology and consolidating foundation to create a good political environment

- In 2021, the Company organized in-depth study of the spirit of the General Secretary Xi Jinping's latest important speech, articles and instructions, to continuously improve its ability of solving production and operation problems by using the Party's innovation theories.
- The Company actively convened the Party committee to discuss the Company's "three major and one large" issues in advance, such as road and bridge operation, investment projects and engineering construction, ensuring the political correctness of the Company's development.
- In 2021, the research results released by the Company were awarded as excellent research achievements of Party building and ideological and political management of Shandong Provincial enterprises.

Learning Party history and understanding Party spirits to make Party construction education penetrate into employees' thoughts

- In 2021, the Company newly formulated the implementation plan of Party history education, established 15 steering groups, invited external experts and internal leaders to formulate high-quality Party courses, and jointly built a "joint innovation and practice base of Party construction" with the provincial Internet media. The Company has built Party construction education base to create offline Party member activity base and online Party construction platforms and form a positive atmosphere of joint construction, extensive consultation, integration and shared benefits, achieving 100% coverage of grass-roots Party organizations, 100% rotation training of Party leading comrades and 100% participation of all grass-roots Party members.
- The "First Secretaries" working team of the Company in Heze City won the title of "national advanced collective for poverty alleviation", and the micro video "Seven Colors of Sunshine" of the "Me and My Party Branch" event was commended by the Organization Department of the Provincial Party committee. The Company also promoted typical experience of Party history education in state-owned organizations, and won the first place in the Party history knowledge competition organized by Shandong HiSpeed Group.



Establishing projects and creating brands to improve the quality of Party construction

- In 2021, the Party committee of the Company combed, studied and formulated 42 items of "doing practical things for the masses" project, implemented the project management of Party construction to solve the problems of production and operation with the help of Party construction. 20 excellent project achievements have been compiled into volume.
- On the basis of creating a party building brand of "New Era, New Highway, and Go All the Way", the Company has created "roads in mind" and "pilot" demonstration roads and "indomitable road management teams" party building demonstration lines, and published more than ten typical experience and practices of Party building in the media above the provincial level.
- The Company has built and expanded its circle of friends through Party building and joint innovation. 97 Party organizations have successively established good cooperative relations with major customer enterprises such as Shifeng Group, Gaishi Logistics Group and Weichai Group, to timely grasp the needs of major customers and improve the quality and level of serving the society.
- In 2021, Ganggou toll Gates won the title of "National Youth Civilization"; Xiajin toll Gates and Laixi toll Gates won the title of "Provincial Youth Civilization", and the Party branch of Pingduxu toll Gates won the title of "Advanced Grass-Roots Party Organization of Provincial Managed Enterprises", highlighting the Company's political responsibility and mission.

Upgrading working style and focusing on cultivation to make the cadre team stronger and more powerful

- In 2021, the Company actively carried out team building, publicly selected 32 middle-level cadres, including eight young cadres, and adjusted and increased 27 secretaries of Discipline Inspection Commission (members of Discipline Inspection Commission) of subordinate units. The Company vigorously recruited talents and flexibly introduced eleven high-end talents, providing talent guarantee for the high-quality development of the Company.
- The Company carried out "100 people, 100 things and 100 Courses" themed event, selected 100 excellent role model Party members, 100 excellent cases of Party building at the grass-roots level, and 100 excellent Party education courses, printed the special issue of "Celebrating the Centennial Birthday of CPC and Presenting the Spirits of High-Speed", carried out "finding examples around" themed activities, and actively promoted role model Party branches and Party members in various sectors of road and bridge operation, investment and development and major project construction, telling the stories of Shandong Hi-speed from the perspective of Party building.



Safe Travel and Win-Win Cooperation with Partners

Focusing on standardized construction and the development concept of "allowing the public to enjoy high-quality travel services", Shandong Hi-speed continues to actively ensure smooth roads, improve user experience, promote industrial innovation, win-win cooperation and coordinated development.

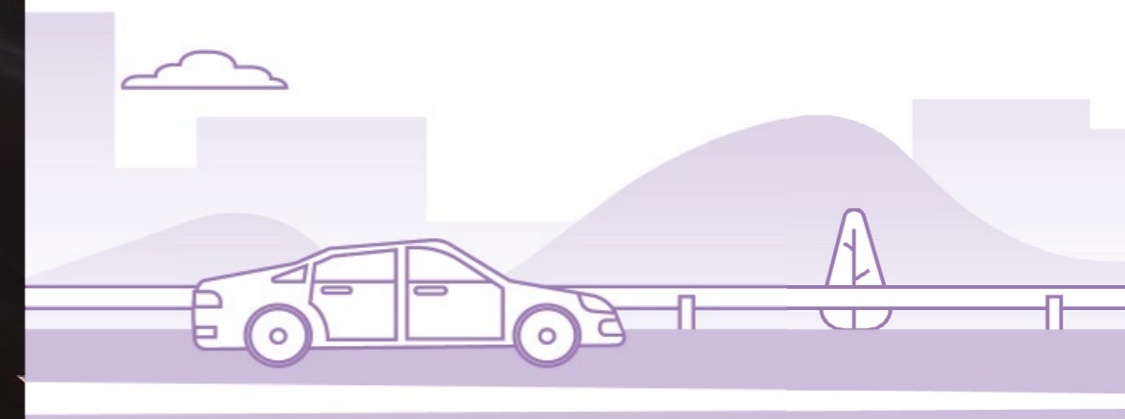
25 / Road Security

29 / Quality Service

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Road Security

• Road operation

Shandong Hi-speed deepened road management and improved road and bridge operation level. The Company issued a total of 50 systems related to road and bridge operation management, and prepared and issued 32 documents of road and bridge operation standardization system under five categories, to consolidate the foundation of road and bridge operation management and make every effort to build a standardized management system. Shandong Hi-speed issued a local standard of *Technical Requirements for Expressway Travel Information Release*, which made up for the gap of technical standards in high-speed sector in China. Moreover, the Company conducted publicity training on systems and documents and shot education videos about standardization to further enhance standardized management of road and bridge operation.

The Company further improved the "road chief system" management mechanism, formulated the *Detailed Rules for the Linkage Mechanism of Road Chief System*, refined 24 items including road chief system construction, patrol management, dispatching management, external coordination and group management, and developed WeChat mini program for comprehensive promotion and application. Based on road operation management, the Company also established a problem list mechanism, sorted and summarized 65 conventional problems, and formulated a scoring system based on importance, providing a scientific basis for toll management.

In addition, Shandong Hi-speed actively participated in the settlement and handover of road administration law enforcement. The Company organized all operation units to cooperate with the Law Enforcement Bureau of the Transportation Department' to actively coordinate with local road administration units and clarify their authorities and responsibilities, to lay a foundation for the working mode of "three parties for one road" and "multiple parties for one road".

• Road Maintenance

Taking precise maintenance as the main line, Shandong Hi-speed strictly follows the current national standards and specifications such as the *Technical Specifications for Maintenance of Highway*, *Codes for Maintenance of Highway Bridge and Culvert*, *Technical Specifications of Maintenance of Highway Tunnel*, *Technical Specifications for Maintenance of Highway Cement Concrete Pavements*, *Technical Specifications for Maintenance of Highway Asphalt*, and formulates a number of management systems, including *Management System for Highway and Bridge Maintenance*, and *Maintenance Management Rules and Daily Highway Maintenance Rules*. Following the principles of "comprehensive maintenance, prevention, timely maintenance, improvement of quality and well-maintained", the Company standardizes road maintenance work to ensure the daily road operation is safe and stable.

The Company adheres to the principle of "machine comes first and human workers second". In the daily road maintenance operation, the Company comprehensively implements mechanized operation and work order system. Each road and bridge operation unit shall issue a dispatching orders to the maintenance contractor in time in a response to the problems found during patrol inspection on maintenance. After the maintenance, they accept, sign and confirm, and settle on the tasks. In this way, the daily maintenance patrol, dispatch, acceptance, and settlement can be realized by using the scientific decision-making system of maintenance to ensure the quality of work. We establish a regular inspection mechanism to maintain, record, sort out and summarize the inspection results through *Inspection Checklist*, and manage the inspection types, contents, frequency and methods in a standardized manner, to find major potential safety hazards in time and rectify them immediately. In 2021, the Company's PQI (pavement quality index) exceeded 93.5, and the proportion of class I and II bridges exceeded 98%.

The Company issued a total of

50 systems related to road and bridge operation management

refined

24 items including road chief system construction, patrol management, dispatching management, external coordination and group management

In 2021, the Company carried out a number of actions in road maintenance, including optimizing the design schemes of special maintenance projects, comprehensive inspection of special maintenance projects, holding special dispatching meeting of maintenance, etc., to further improve the management level of road maintenance. According to the requirements of the *Special Working Plan for the Optimization and Upgrading of Highway Traffic Signs and Markings*, the Company combed and investigated problems for improvement, rectified 188 signs, added 14,200 square meters of markings and removed 5,520 square meters of markings.

In addition, Shandong Hi-speed carried out daily and special maintenance projects in many places, including Beijing-Shanghai-Jinan transportation management center, Xiajin transportation management center, Hubei Wujing Company, etc. As of December 31, 2021, the Company has invested a total of RMB 185,140,200 in daily maintenance and RMB 137,712,200 in maintenance projects. All maintenance projects in the province have been completed, effectively improving the maintenance quality, efficiency and road service quality.



As of December 31, 2021, the Company has invested a total of RMB

185,140,200
in daily maintenance

RMB

137,712,200
in maintenance projects



• Emergency rescue

The Company continually strengthens its emergency rescue arrangements for extreme weather, traffic accidents, and other emergencies happening on the expressway, and has formulated many emergency plans, such as the *Special Emergency Plan for Flood Prevention and Rescue*, the *Special Emergency Plan for Snow Removal and Anti-Skid* and the *Special Emergency Plan for Earthquake Prevention and Disaster Reduction*. In its emergency rescue arrangements, the Company strengthens its capability in early warning of flood, snow, and other natural disasters, pays close attention to the weather change, and keeps abreast of meteorological and hydrological information to prepare the rescue team, supplies, and equipment in advance. In this way, the Company provides the foundation for the smooth progress of emergency rescue, ensures road safety under special circumstances, and creates a safe and unblocked travel environment for the public.

The Company attaches importance to the operation safety of bridge structures and has completed the special inspection of bridges in specific sections and the corresponding maintenance and reinforcement. The Company also completed the investigation of dangerous and old bridges, the double-check of single-pillar pier bridges, the update of bridge database and other work in an efficient and timely manner, to maintain good operations of the bridges and tunnels under its jurisdiction. In addition, the Company explored a new model of obstacle removal and rescue, introduced UAVs and helicopters to participate in rescue, and jointly held the "ground-air joint obstacle removal and rescue drill" with general aviation companies to further improve the construction of road security capacity.

In 2021, the Company organized and held a joint conference on emergency plan for keeping roads unblocked in bad weather and tabletop maneuvers of the plan. The joint parties exchanged and discussed the focuses, difficulties and measures of maintenance projects in bad weather, guided and urged all units to further improve the awareness of snow removal and anti-skid for smooth traffic, and coordinated the scheduling and deployment of personnel, materials and equipment to ensure the safety and smoothness of roads. In 2021, the Company invested RMB 14.3304 million in snow removal and anti-skid, dispatched 2,921 pieces of mechanical equipment and 9,140 personnel and distributed about 11,200 tonnes of snow melting agent. We have focused on snow removal and anti-skid supervision in the sections with heavy snowfall and complex road conditions, such as the Jinan-Laiwu section of the Beijing-Shanghai Expressway. Through prejudgment, snow removal and anti-skid preparation, afterwards maintenance and other work, we have maintained the safety of all personnel and ensured the all-day smooth traffic of the expressways under our jurisdiction in bad weather.

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In addition, the Company actively prepared for flood control, stocked up sufficient emergency materials and equipment in advance, strengthened flood season inspection and hidden danger investigation and rectification, urged all units to conduct flood control drills, optimized and improved special plans for flood season of key sections such as high slopes and cuttings, and made roads and bridges pass the flood season smoothly.

Case Shouldering responsibilities and ensuring smooth travel

At 0:57 on April 17, 2021, there was a rear-end collisions fire caused by three semi-trailer trucks in the Yinchuan direction of the K102 + 400M North Line of the G2001 Jinan Ring Expressway. The road management personnel cooperated with fire fighting, first aid, traffic police and other departments to effectively complete the accident disposal and road cleaning.



Quality Service

Shandong Hi-speed attaches importance to the needs of customers, focuses on the development concept of "allowing the public to enjoy high-quality travel services", and insists on providing customers with high-quality travel services to improve users' experience of standardization.

Adhering to the operating philosophy of "unimpeded access makes benefit", the Company continues to improve its service level and traffic efficiency of expressway. We have formulated the *Management Measures for Service Quality Inspection of 96659 Hotline*, comprehensively improved the service level of the hotline system, created a "visible plus audible smile" service brand, and successfully realized the transfer between 96659 service hotline and 95011 ETC customer service hotline, providing a more smooth and convenient service channel for the public. In 2021, we added 23 new artificial customer service posts, and the highest operation rate was increase from 85.11% to 100%. We have expanded information release channels, strengthened the construction of We Media cooperation, and innovated information spreading forms, to provide timely and effective road condition information for drivers and passengers.

During holidays, we jointly broadcast traffic information jointly with Shandong Traffic Radio, Ji'nan Radio & Television Station and Shandong Integrated Radio on TV, Lightning News App, Kuaishou and TikTok, providing customized service experience for the public. In addition, the "Shandong Hi-speed Travel Service" WeChat mini program actively cooperates with more than 30 traffic WeChat official accounts such as Shandong Provincial Transportation Department, Yantai High-Speed Traffic Police and Jining Traffic Radio, becoming one of the most convenient channels for the public to understand real-time traffic information.

We actively strengthen training to steadily improve the working skills and service quality of all staff. In 2021, we carried out a 17-day travel service training for grass-roots backbone including training courses, business skill competition, and the "Developing Shandong Province through Services and Skills" themed vocational skill competition, and evaluated the business ability of all information service staff.



Smart Innovation

• Smart traffic network

Relying on big data integration platforms and taking technology as a foundation, Shandong Hi-speed realized the combination of safety, efficiency and smoothness, continued to promote the construction of smart expressway, and provided a more convenient and comfortable travel experience for drivers and passengers.

The Company has upgraded and improved the six systems: toll inspection platform, road management resources real-time positioning and control, electromechanical equipment's operation data monitoring, embedded broadcasting in the tunnel, scientific decision-making on maintenance, and standard data of pavement diseases. The system forms a smart operation model of unified business data, coordinated business processing, and in-place supervision on operation, contributing to a more smooth and safe road operation.

We continued to strengthen the analysis of travel big data, launched a big data monitoring platform for travel information service, and paid attention to the road conditions of key sections and toll stations during special periods such as major holidays and bad weather. We release road condition information through our microblog account, WeChat official account, variable information board and other channels, timely collect road operation data and report it to relevant units. In 2021, the Company collected and submitted more than 450 statistical reports, providing efficient and intuitive decision-making for travel management.

In addition, we have carried out a comprehensive promotion of ETC and non-inductive license plate installation. In 2021, we opened ETC service for 54,317 buses and 9,950 trucks, and developed more than 670,000 mobile payment customers, effectively improving the traffic efficiency of toll stations. In addition, to alleviate the pressure of road traffic, the Company continuously optimized its ETC system and launched the smart toll assistant system in an all-round way. In 2021, we deployed 584 ETC lanes in 137 toll stations to further improve user experience. Taking multiple measures simultaneously, we have opened the first self-service card issuing lane at the entrance and self-service payment lane at the exit in Shandong Province, realizing self-service charging and significantly improving the traffic efficiency of toll stations. As of December 31, 2021, the Company has opened 39 self-service charging (card issuing) lanes.

• Driven by Innovation

Shandong Hi-speed is committed to leading industrial technical innovation by continuously increasing innovation investment and promoting corporate innovation culture. The Company held a number of seminars on technical innovation exchanges, and promoted and released the *Technical Guide for Highway Guardrail Reconstruction* at the World Transportation Convention (WTC2021), to constantly promote the development of smart maintenance and green maintenance.

In 2021, the Company invested RMB 135,698,700 in R&D, obtained 122 patents, and published 73 papers and five implementation standards. In addition, 35 technical projects of the Company were checked and accepted successfully.



Case Overcoming difficulties, the highway project in super-long service won a technical award

In 2021, the project achievement of "Key Technologies for the Base and Pavement Evaluation, Coordination and Overall Improvement of Reconstruction and Expansion of Highway in Super-Long Service" declared by Shandong Hi-speed Co., Ltd., Shandong Transportation Research Institute and Shandong University won the "Grand Prize of 2021 CHTS Science and Technology Award" granted by China Highway and Transportation Society (CHTS).

As one of the early constructed expressways, Jinan-Qingdao Expressway has been in service for more than 25 years, which can truly verify the advantages and disadvantages of China's classic pavement technology. Relying on the science and technology demonstration projects of the Ministry of Transport and based on the comprehensive evaluation of Jinan-Qingdao Expressway, the results of the project have made major breakthroughs in key technologies such as lifecycle evaluation and utilization of semi-rigid base asphalt pavement, integrated design and overall improvement of reconstructed and expanded base and pavement, match and coordination of old and new pavement structure and material performance, and control and treatment for the coordinated deformation of old and new base and foundation. The project also verified and improved China's classic pavement technology, developed the overall service duration upgrading and expansion technology for the reconstruction and expansion of highway with large traffic volume, and realized the large-scale popularization and application of the project.

Safety Development

Shandong Hi-speed attaches importance to the concept of safety development, adheres to the policy of "life first, safety first, prevention first, and comprehensive management," accurately controls safety risks, and builds a full-process safety management system, to actively construct a new chapter of high-quality safety development.

In combination with the "three-year action" special rectification of work safety, the Company has prepared rules and regulations such as the *Safety Management Handbook* and the *Guidelines for the Use of Work Safety Management Information System*, further promoted the hierarchical control mechanism of safety risks, improved its hidden safety risk database, and established trial standards for work safety standardization system, providing accurate assistance and guidance for the basic safety management of all units owned by Shandong Hi-speed.

We created a sound work safety management responsibility system, established a Safety Management Department, required all units to establish safety management organizations, and signed the *Letter of Responsibility for Work Safety Management* and the *Letter of Responsibility for Post Safety* with the heads of all units and all employees respectively, to better promote all employees to perform their duties. In addition, we put forward the management concept of "everyone is an inspector, and every vehicle is a patrol vehicle", fully implemented the new safety management mode of "road chief system", and effectively practiced the grid safety management responsibilities. In 2021, the Company continued to promote the construction of safety credit system and won the AA grade (the highest grade) of safety credit system evaluation of Provincial Transportation Department.

The Company combed the basic requirements of 12 basic items of safety management, listed ten common safety hazards and problems according to the daily inspection, and clarified the precautions for the application of the two safety management tools, namely the work safety management information system and the potential safety hazards discovery activity. In addition, the Company further carried out self-inspection and self-correction of hidden dangers, requiring leaders at all levels to conduct on-site safety supervision and inspection on a monthly basis, and all employees to conduct random inspection of "potential safety risks". At the same time, the Company's safety management information system also conducted online random inspection to achieve full coverage of hidden dangers and risks. In 2021, the number of discovered hidden dangers increased by 31% year-on-year. The Company carried out three rounds of on-

In 2021, the number of discovered hidden dangers increased by

31%
year-on-year



site safety inspection and three rounds of online inspection, found more than 760 problems, effectively improved the enthusiasm and attention of all units in safety management, and realized the management concept of "full participation".

To better improve the safety quality of all employees, the Company carried out diversified training methods, including the combination of online and offline training, internal and external training, and theoretical and practical training. The Company also organized professional qualification training, training before the "Certified Safety Engineer" examination, selection training of internal safety lecturers, training of laws, regulations and systems for all employees, guidance training on the use of safety information tools, and special training such as fire fighting, engineering construction and occupational health. Through the vertical assistance service of "sending trainees to the grass-roots level", the Company implemented the safety responsibility of all employees.

Case Implementing main responsibility of safety, Shandong Hi-speed held the 2021 annual safety qualification training

From October 26 to 28, 2021, the Company organized online and offline safety qualification training, covering more than 200 relevant leaders, heads of relevant departments and offices of the headquarters, main heads of all subordinate units, leaders in charge of safety, heads of safety management departments and safety management personnel.

Four well-known safety experts in the province were invited to interpret the new work safety law and the amendment to the criminal law in detail, focusing on the construction of dual prevention system, fire safety of high-rise buildings and improving the ability of emergency handling. At the same time, the Company invited four internal safety lecturers to share practical experience in charging safety, road management safety, information security, emergency management and so on. After the training, the Company organized on-site examination for safety management personnel to test the training effect.

Through the training, the Company's safety management personnel have strengthened their understanding of the newly revised and issued work safety laws and regulations, and improved their safety awareness, quality and skills, to ensure the sustainable safety development.



Shandong Hi-speed's safety qualification training

In addition, the Company organized all units to carry out the "work safety month" event with the theme of "implementing safety responsibility and promoting safety development". Combining with safety training plans, the Company vigorously carried out learning and education in various forms and covering rich contents, actively explored the rules of work safety and innovated methods of publicity and education.



Shandong Hi-speed's open class on work safety



Launching ceremony of the event held by each unit



Safety inspection led by the person in charge of the Company

Growing Together with Suppliers

The Company regards suppliers as its important partners and continues to implement bidding and procurement related systems, optimize quality management, strengthen risk control, and continuously empower suppliers, and strives to achieve sustainable development together with suppliers. The Company follow laws and regulations such as the *Law of the People's Republic of China on Tendering and Bidding*, and the *Regulations on the Implementation of the Law of the People's Republic of China on Tendering and Bidding*, and internally formulate management systems such as *Management Measures for Bidding and Procurement* and *Management Measures for Non-bidding Procurement*. We follow the principle of openness, fairness, impartiality, honesty and credibility, and protect the interests of the Company and the legitimate rights and interests of the parties involved in bidding for professional management and standardized operations. We require all units owned by us to formulate their own internal control systems in a targeted manner and establish a top-to-bottom bidding and procurement management system.

We have established a complete bidding management process to carry out systematic and hierarchical management of bidding projects and ensure that the bidding process is fair and orderly. Through the intelligent bidding system, we implement the whole process management of the Company's Type I and Type II bidding projects. In 2021, we completed 77 bidding projects, including 40 Type I projects and 37 Type II projects, with a total amount of RMB 3.531 billion and bid winning amount of RMB 3.393 billion. In addition, we also finished 538 non-bidding projects with a total amount of RMB 5.567 billion and bid winning amount of RMB 5.502 billion. After the completion of each bidding project, the Company evaluates the bidding behavior of the bidders and regularly conducts supplier assessment. The Company comprehensively assesses suppliers with a different focus. For example, for the construction supplier of daily maintenance works, the corresponding maintenance project department shall be penalized according to the score deduction of monthly road appearance assessment.

At the same time, we regularly carry out publicity and training of supplier management related systems, to improve the professional abilities of bidding and procurement personnel, strengthen the inspection and investigation of bidding and procurement, and further standardize the relevant processes.

We inspect the environmental and social performance of suppliers. Some projects require suppliers to provide ISO 14001 or ISO 45001 certification on environmental management, and GB/T 28001 or OHSAS 18001 certification on occupational health and safety.

In 2021, the Company signed contracts with 1,415 suppliers, including 1,165 suppliers within the province, and 250 suppliers in the Chinese Mainland except Shandong Province.



Environmental-friendly Practice for Lush Mountains and Lucid Waters

Shandong Hi-speed has long believed that "lucid waters and lush mountains are invaluable assets." From management decision-making to daily operation, the Company actively promotes sustainable development and environmental protection, fully supports green construction, maintenance, services, and investment, actively fulfills the social responsibility of environmental protection, and contributes to creating an environment-friendly society.

37 / Green Construction

39 / Green Maintenance

43 / Green service

45 / Green Office

46 / Green Investment



Green Construction

Shandong Hi-speed always adheres to the principle of "maximum protection, strictest control, minimum damage, and strongest maintenance" and strengthens the construction of green expressways through technical innovation, contributing to an environment-friendly society.

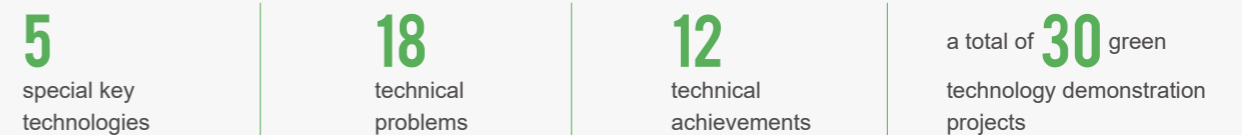
During the project construction process, the Company strictly implements the national energy-saving design standards, actively implements more power, water, and energy-saving techniques for construction, and strives for better process management and control. In addition to safety, quality, and progress, the Company also lists environmental protection indicators as assessment goals. Through the following management and technical methods, the Company seeks to build a green expressway and realize the goal of achieving standard environmental protection and integrating into nature.

- Prepare plans and measures for resource, conservation and environmental protection plans, optimize construction scheme and strengthen environmental monitoring;
- Conduct technical clarifications to avoid rework and lessen the loss of raw materials and fuel;
- Boost environment-friendly new technologies, materials, equipment, and processes, and implement waste recycling;
- Eliminate building earthworks via measures like roadbed backfilling, local municipal planting, and construction of access roads, effectively reducing the occupied land resources;
- Transport hazardous wastes to specified discharge places for safe and proper disposal based on their different characteristics. Establish a three-stage sedimentation tank to treat wastewater generated during construction. The treated wastewater is used to mix concrete and reduce dust in the mixing plant, with a reuse rate of 100%;
- Adopt measures such as an automatic water spraying system, sprinkling, dusting, green net covering, and planting turf (grass seed) to restrain dust emissions;
- Set up full-time environmental protection personnel, assign special personnel for the construction site's environmental and ecological protection, strengthen construction crews' environmental protection education, and implement various environmental protection measures.

To protect biodiversity and restore biological habitat during construction, Shandong Hi-speed follows the *Technical Guidelines for Environmental Risk Assessment of Construction Projects of the People's Republic of China*, positions the construction site far away from wetlands and wildlife habitats, or takes protective measures during construction, to protect local ecology, respect local residents and reduce the impact on the community.

Case Reconstruction and expansion project of Jinan-Qingdao Expressway

The reconstruction and expansion project of Jinan-Qingdao Expressway is a green technology demonstration project of the Ministry of Transport. Closely adhering to the "green" concept, the project researched 18 technical problems and made 12 technical achievements, with a total of 30 green technology demonstration projects by focusing on five special key technologies: "integrated design and construction throughout the life cycle, construction transportation organization and safety assurance improvement with uninterrupted traffic, recycling of old road materials and bulk industrial waste, ecological protection and energy-saving and emission reduction, and improved efficiency in information construction, management, and maintenance." The project is the first in the world to make red mud, a solid industrial waste, harmless and apply them to expressway construction, providing an effective way to resolve the problem of red mud pollution and producing fruitful results in the resource utilization of old road materials and the application of red mud. Through the integrated application of a series of technical achievements, the first green, smart and scientific road for reconstruction and expansion has been created.



Case Hubei Wujing Company increases the recycling rate of pavement waste materials

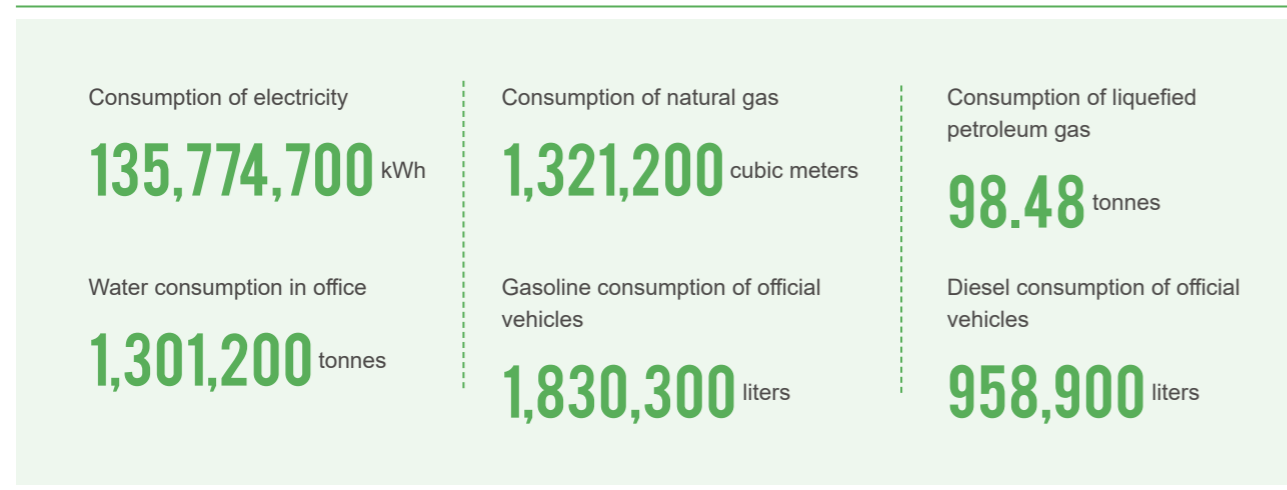
In 2021, Hubei Wujing Company applied the plant-mixed heat recycling technology to recycle the pavement milling waste materials, and used plant-mixed heat recycled AC-25 asphalt mixture in a large area of pavement lower layer and roadbed. According to calculation, the application scheme of this technology can effectively reduce the cost of road maintenance and significantly improve the recycling rate of pavement waste materials while maintaining stable quality. In 2021, the Company treated plant-mixed heat in 27 places, with a treatment area of 25,101.17 m² and a treatment length of 6.79 km.



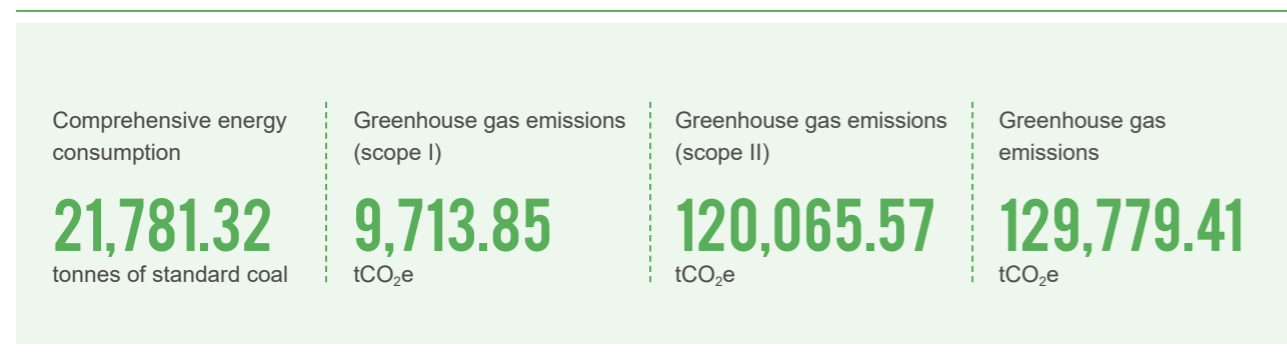
Case Application of new material in Qingdao Maintenance Sub-center

In 2021, Qingdao Maintenance Sub-center added new sound barriers on the right side of the road with stake number of K42 + 010 to K42 + 140 and the left side of k41 + 280 to k41 + 400 within the jurisdiction of the section according to the relevant requirements of specifications and standards. The Company used a new type of aluminum foam sound barrier, which has many advantages such as sound insulation, fire prevention, durability, low water absorption, etc. The new material also has good visual effect and is green and environmental-friendly with a recycle rate of 100%, perfect for the "carbon peaking and carbon neutrality goals."

Energy and resource consumption of Shandong Hi-speed in 2021



Greenhouse gas emissions of Shandong Hi-speed in 2021



Green Maintenance

Shandong Hi-speed took the maintenance management to a new level of development, implemented a new development concept, created a new development pattern, and insisted on designing the "14th five-year plan" of maintenance based on the systematic concept and high positioning. In 2021, with precise maintenance as the mainline, the Company actively improved its maintenance management system, promoted new green maintenance technologies, and practiced the "Building new strengths with faith, innovation, quality, excellence, vitality and culture" projects, leading to a favorable situation with total momentum and energy for growth.

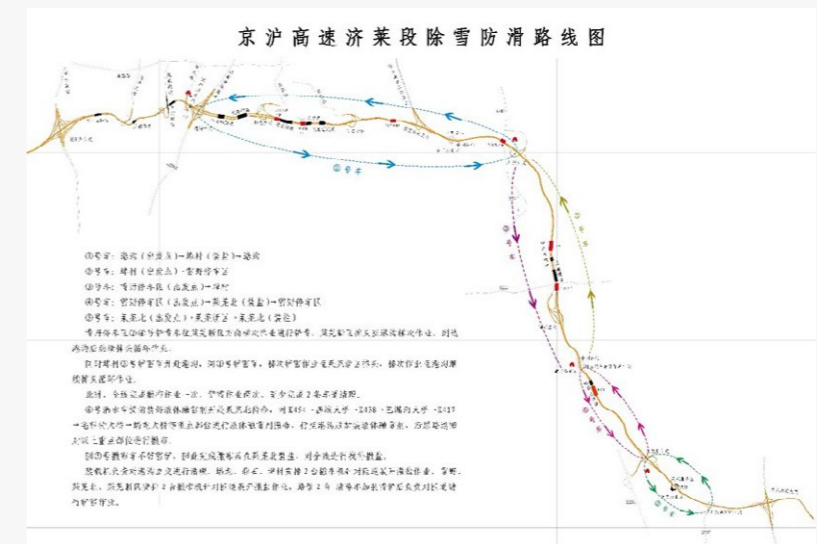
In 2021, the Company continued to implement standardized specifications and revised and updated nine maintenance management systems, including the Maintenance Management Measures, Highway and Bridge Maintenance Management System, and Maintenance Business Assessment Management Measures. It further enhanced and optimized the maintenance management system, bringing the Company's maintenance management quality to a higher level.

The Company always starts and ends with "providing high-quality travel services for the public," focuses on implementing the Company's operation management service standards and specifications, implements the concept of the construction-management-maintenance life cycle, makes overall arrangements for diverse inspections, and promotes the continuous improvement of the Company's management and maintenance level and service quality. At the same time, the Company values technical innovation and promotes the development of digital maintenance, achieving success in combining artificial intelligence inspection and maintenance decision-making systems preliminary and further improving the level of scientific maintenance decision-making.

To handle potential risks caused by climate change, Shandong Hi-speed has fully taken corresponding measures for different sectors to prevent hazards. At the same time, in the face of the sudden super flood in Henan Province in 2021, all Shandong Hi-speed Henan Development Company employees actively took action, fulfilled their responsibilities with practical steps, and completed many urgent, dangerous, and heavy tasks. In the case of collapse, flood damage, road closure, and electromechanical equipment damage to the surrounding expressway due to the rainstorm, they kept the road safe and smooth. They established the high-quality brand image of Shandong Hi-speed.

Case Snow removal and anti-skid project of Jinan-Laiwu section of the Beijing-Shanghai Expressway in 2021

The Jinan-Laiwu section of the Beijing-Shanghai Expressway is located in the mountainous and hilly area of central Shandong, with a large amount of snowfall according to historical data. Once an accident or congestion occurs, on the one hand, it will cause personnel and direct economic losses, on the other hand, it will lead to indirect economic losses and certain social impact due to the reduction of transportation efficiency. Therefore, snow removal and anti-skid in the Jinan-Laiwu section of the Beijing-Shanghai Expressway, the Company added the amount of mechanical equipment, formulated snow removal and anti-skid operation plan again in combination with many factors such as the location of salt storage, loading speed and the right moment for snow removal, purchased new environment-friendly liquid snow melting agent to ensure the snow removal effect and save the cost to the greatest extent, and actively cooperated with scientific research institutions, colleges and enterprises, to vigorously promote the application of new technology, new process, new material and new equipment. The project not only ensured the safety of people's lives and property, but also greatly improved traffic efficiency.



Snow removal and anti-skid route map of the Jinan-Laiwu section of the Beijing-Shanghai Expressway

Case Flood control practice of Shandong Hi-speed Henan Development Company

In July 2021, Henan Province encountered a large-scale continuous heavy rainfall, many places in the province even experienced extreme rainstorm weather rarely seen in history. To deal with the flood, the Company immediately established a leading group for flood control and rescue work on the evening of July 19, 2021, held a flood control deployment meeting to clarify the main responsibility of flood control of all grass-roots units. In the face of the flood, the Company made every effort to overcome urgent and dangerous tasks, and successfully completed tasks such as backflow rescue of Xuchangxi Toll Gates and flood discharge protection of Jialu river at Fugou Toll Gates. To avoid the possibility of "a major pandemic follows a major disaster", the Company paid close attention to the detail management of logistics service, carried out environmental beautification voluntary activity, and actively check anedd measured the water supply system, to ensure the health of employees and the masses. The Company adheres to people-oriented concept, makes concerted efforts to promote the joint construction of government and enterprises on its own initiative, provides high-quality services during the heavy rainfall, and continuously implements the purpose of serving the people in details, further polishing the "Shandong Hi-speed" service brand outside the province.

During the project implementation, the Company upheld the concept of eco-environmental protection throughout the entire design and construction process. It actively promoted new technologies, techniques, materials, and intelligent equipment for green maintenance. The Company also emphasizes preventive maintenance, continues to invest in material conservation and recycling technology, and concentrates on road vegetation maintenance and noise pollution prevention by utilizing a wide variety of new technologies. Furthermore, the Company uses standardized traffic safety control, centralized maintenance, and other construction management plans to minimize the impact of construction on traffic and continually improve the maintenance quality and benefits and road service quality.

Preventive Maintenance

Preventive maintenance is the most cost-effective strategy to reduce road maintenance costs over their entire life cycle, and it enjoys the apparent advantages of being green and low-carbon. The Company actively uses new technologies like micro-surface technology, fog seal technology, ultra-thin anti-skid surface technology, bridge jacking technology without interrupting traffic, bridge external prestressing technology, and cable replacement technology for the cable-stayed bridge, and different types of new materials for road preventive maintenance. In China, preventive maintenance technologies are at the forefront of the industry.

Research on Green and Low Carbon Cycle Technology

The Company's *Technical Guide for Highway Guardrail Reconstruction* and the *Technical Guide for Steel Pipe Prestressed Cable Anti-Collision Movable Guardrail* was approved by the China Highway and Transportation Society, and its *Regulation for the Design of Bridge Guardrails in Highway Sections Crossing Railways and Drinking Water Sources* was newly approved by the Highway Branch of China Association for Engineering Construction Standardization. Among them, the *Technical Guide for Highway Guardrail Reconstruction* was published in May 2021. The technical guide specifies the design and construction requirements for the reconstruction structures of highway corrugated beam guardrails and combined bridge guardrails built early. It applies to the upgrading and reconstruction of expressway corrugated beam guardrail and combined bridge guardrail during reconstruction, expansion, and operation.

Road Vegetation Maintenance

Shandong Hi-speed prioritizes road vegetation maintenance, actively conducts road cleaning, renovation, and greening maintenance on central zones, focuses on the cleaning of the main road and the ramp in the interchange areas, and utilizes existing idle blank assets and regions to grow seedlings in nutrition bowl, to support green maintenance and enhance road appearance. In 2021, the Company conducted a green improvement and upgrading project in the Qingdao-Yinchuan Expressway interchange area, upgraded and transformed the planting in two ramp circles of Lancun Interchange and Jiaozhou Interchange, and replanted green seedlings such as patch forest, evergreen plants, flowers, and shrubs, significantly improving the environmental landscape along the expressway.

Prevent Noise Pollution

The Company is concerned about noise pollution prevention. It takes proactive actions to lessen the impact of traffic noise and avoid noise pollution, including installing new noise reduction devices and replacing sound barriers. The 3,390-meter sound barrier was replaced along the Jinan-Laiwu section of the Beijing-Shanghai Expressway and the Zibo section of the Jinan-Qingdao Expressway. The Jinan Maintenance Sub-center on the Jinan-Qingdao Expressway has replaced the 6-lane DS160 expansion joints of the Yellow River Third Bridge in Jinan with a new type of shock-resistant and noise-reducing expansion device, reducing road noise and subsequent maintenance costs while improving safety.



Sound barriers

Case

Taiqu Road pavement maintenance project

The annual highway maintenance project of Taiqu Road will produce a large amount of milling materials. The waste of milling materials will not only cause a huge waste of resources, but also have an adverse impact on the surrounding environment. In 2021, Taiqu Road pavement maintenance project carried out a series of technical research and verification through the combination of production and research. The research and development of self-foaming equipment and the modification of intermittent regeneration equipment were realized for the first time, producing a high-quality foam asphalt mixture. In October 27, 2021, as an experimental practice, the original ATB-30 asphalt macadam of the K579+010-K579+410 up passing lanes of the Qufu section of the G104 National Highway was replaced by the new high-quality foam asphalt mixture and achieved good results.

Green service

Shandong Hi-speed actively practices the operation concept of green service and has implemented and promoted several significant innovations such as the ETC lanes, reconstruction of toll gates and the PassCode system, constantly optimizing convenience services, offering high-quality travel services for the public, and achieving new achievements.

Actively Promoting the PassCode System

In June 2020, the PassCode system jointly developed by the Company and the "Expressway Traffic Police Corps" of Shandong Provincial Public Security Department was officially launched on Jinan-Qingdao Expressway. To reduce the impact of control measures adopted as a result of traffic accidents and bad weather on people's travel, the Company expanded the PassCode system's application scope. The PassCode system was installed in the toll gates of the Jinan-Laiwu section on the South Line of the Jinan-Qingdao Expressway in May 2021. The system disrupts the inherent mode of the traditional extensive traffic control management. The PassCode management techniques can effectively improve the utilization rate of highways, reduce the impact of traffic control on public travel, and deliver a new smart and green public travel experience.

Environmental Risk Prevention and Control

The Company follows the working principle of "no road closure and less road closure," employs several measures to lessen the impact of traffic control, and makes every effort to ensure the economic and social benefits of the expressway. In 2021, the Company communicated with the fifth detachment of the Provincial Traffic Police Corps; confirmed the four levels of traffic control in the *Workflow of Traffic Emergency Management under Bad Weather Conditions of the North Line of Jinan-Qingdao Expressway* based on the requirements of the *Pilot Work Plan for "Three Parties for One Road" Traffic Emergency Linkage Disposal*, standardized and unified the control standards of events at different levels, reached a consensus with the Traffic Police departments, and further shortened the duration of traffic control. At the same time, the Company increased pavement guarantee measures, using the West Section of Huaiyin Interchange of G35 Jinan-Guangzhou Expressway as the pilot, adding traffic safety facilities such as warning signs, tail lights, and reminding robots to strengthen remote reminding and warning, effectively controlling traffic flow and reducing speed by expanding new preventive measures and replacing road closure control with a new speed limitation method and traffic restriction.

In 2021, the Company focused on the road conditions of crucial sections and toll gates during special periods like the Spring Festival travel rush, flood season, bad weather, and holidays, timely released road condition information via our Weibo account, WeChat official account, variable information board, and other channels on a daily basis, and collected road operation data to offer data support for decision-making at all levels.



Optimizing Convenience Services

The improvement of service quality and the provision of public convenience services is a long-term systematic project. The Company adheres to fully exploiting its corporate advantages, engages in unique activities of "improving service quality and providing convenience services for the public," and is dedicated to creating a smooth, comfortable and beautiful travel experience and building a heartwarming heart Shandong Hi-speed.

Shandong Hi-speed is committed to establishing a road management service brand with its "team for smooth travel." We strive to provide a safe, convenient and efficient expressway travel experience for the people by adhering to the "five most" of "the highest degree of fine management," "the best road control mechanism," "the shortest traffic control time," "the fastest obstacle removal and rescue speed," and "the best service quality." Since the beginning of the brand creation activity, our road management team has performed road security support for over 50 motorcades, rescued more than 180 injured people, and provided convenience services like tire replacement and starting power supply for drivers and passengers in need for over 300 times. Our satisfaction rate of obstacle removal and rescue service increased from 98% to 100%, with zero accountable complaints, accomplishing the goal of providing smooth roads throughout the year.



Voluntary service team of Jiaozhou Toll Gates



Staff instructing vehicles to pass in an orderly manner during bad weather

Taking the improvement of convenience services as a starting point, Shandong Hi-speed consistently maximizes its convenience services measures and adheres to offering high-quality services for public travel. The Company adopts the working principle of "no road closure and less road closure" to widen the application scope of the "PassCode system," exploring road security management measures and reducing impacts of traffic control as much as possible, ensuring all-day smooth traffic of the expressway. Based on maintaining the advantages of traditional ground obstacle removal and rescue business, the Company, in collaboration with general aviation companies, introduced UAVs and helicopters to partake in rescue and effectively enhanced the rescue speed and efficiency, which is genuinely a precedent in the country. The Company has optimized the research and development of online travel services, "Shandong Hi-speed travel services," and other mini-programs to provide timely and accurate road condition information for drivers and passengers and a more smooth and convenient service channel for the general public.



Green Office

The Company continues to optimize its OA system and improve approval procedures, adhering to the concept of "green office and low-carbon life". In terms of office supplies, the Company continues to promote office automation, requires employees to use paper on both sides as much as possible, and encourages the recycling of office supplies to limit office supplies usage. Regarding low-carbon energy conservation, the Company has conducted extensive energy-saving public awareness activities, placed energy-saving signs and issued proposals, and made every effort to establish an energy-saving atmosphere. We also actively support waste sorting to promote a healthy office environment, deepen the practice of green offices to encourage energy conservation and emission reduction, and spread the concept of a healthy office and green office.

Concerning water conservation, the Company inspects, maintains, and repairs the corresponding facilities on a regular basis to avoid the problems of "water running, spilling, dripping, and leaking" and the phenomenon of "long-flowing water" and adequately reuses water resources to improve water efficiency. In terms of electricity-saving, the Company advocates turning off lights when employees leave, actively promotes little inventions and tips for electricity-saving, widely applies intelligent light control, energy-saving lamps, and air-conditioning temperature control, establishes an electricity management system and conducts quantitative research assessments, to form a suitable mechanism for electricity-saving.

In terms of waste disposal, the Company actively promotes the centralized storage and recycling of waste batteries, promotes the replacement of old toner cartridges and ink cartridges with new ones, and reuses recyclable electronic products such as waste electrical appliances. For the waste medical materials produced during the pandemic period, the Company establishes waste medical garbage bins, timely disinfects the inside and outside office areas, and submits the medical waste to the local pandemic prevention department regularly for centralized treatment to achieve the recycling, harmlessness, and minimization of waste disposal and promote the green and sustainable development of the Company.

The wastes generated by the Company's operations in 2021 were as follows:

2021

Waste lamps	2,396	Waste paper	8,770 bags
Waste printer cartridges	3,474	Domestic waste	479.13 tonnes
Waste batteries	8,810	Kitchen waste	305.43 tonnes
Waste ink cartridges	2,907		

• Vehicle Management

The Company has formulated the *Vehicle Management Measures* and the *Vehicle and Driver Safety Management Measures* to detail vehicle energy-saving measures in terms of vehicle management. By advocating green travel by public transport and carpooling and encouraging employees to commute by shuttle bus, the Company effectively controls the frequency of operating vehicles. At the same time, the Company routinely organizes skills training, business skills competitions, and other activities and rewards fuel-saving individuals to reduce exhaust emissions and environmental pollution. In terms of the management system, the Company promptly eliminates old and excessive vehicles to effectively save energy, limit consumption, and ensure safety for drivers and vehicles.



Green Investment

Shandong Hi-speed is dedicated to distributing green benefits to society. With the fundamental concept that "lucid waters and lush mountains are invaluable assets," Shandong Hi-speed follows the path of green development. During the "13th Five-Year Plan" period, we actively researched environmental protection, continued to innovate investment modes based on the leading industry chain, and constantly enlarged the new direction of development layout.

Regarding the main industry chain, the Company engaged in establishing Shandong Hi-speed Green Ecology Development Co., Ltd. and Shandong Hi-speed Yuhetian (Shandong) City Operation Service Co., Ltd., realized upstream and downstream expansion along the main industry chain and continued expanding the environmental protection sector. In terms of broadening its development layout, the Company bid for the freshly issued shares of Longma Environmental Sanitation Equipment Co., Ltd., became its third-largest shareholder, and won a seat on its Board of Directors. The Company also invests in and operates the sewage treatment plant in Hanting District, Weifang, and has acquired 51% equity of Econ Technology Co., Ltd., extending the scope of the Company's business to the fields of smart platforms for environmental protection and water affairs, including sewage treatment, urban water supply and reclaimed water reuse. According to the sewage treatment high-tech successfully developed by Econ Tech, the Company has opened up a broader green development path to accomplish new achievements in high-quality development.



Putting People First and Focusing on the Development of Employees

Shandong Hi-speed prioritizes cultivating employees and maximizes their talents. Taking the growth of employees as the core driving force of corporate development, Shandong Hi-speed constantly regards employees as the most valuable asset and adheres to the business philosophy of "putting people first and paying attention to the development and growth of employees." Based on protecting employees' rights and interests, the Company focuses on employees' development, stimulates their potential, and provides systems for employee care to boost the construction of a community with a shared future.

49 / Protecting the Rights and Interests of Employees and Building Harmonious Labor Relations

51 / Facilitating Employee Development for Common Growth

53 / Heartwarming Solicitude for Employees





Protecting the Rights and Interests of Employees and Building Harmonious Labor Relations

Shandong Hi-speed strictly follows the requirements of the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, and other relevant laws and regulations and has formulated a comprehensive human resource management system. The Company performs employee management legally and compliantly to ensure their legitimate rights and interests and is committed to creating fair, just, and open job opportunities for all employees and candidates, as well as eliminating all forms of discrimination as a result of nationality, race, gender, age, religion, cultural background, etc. With 9,395 employees, Shandong Hi-speed continued to concentrate on attracting talents in diverse forms in 2021.

In 2021, the Company's workforce structure was as follows:

	2020	2021
 Distribution by personnel	Employees in the parent company 5,024 , proportion 82.85%	Employees in the parent company 5,317 , proportion 56.58%
	Employees in the major subsidiaries 1,040 , proportion 17.15%	Employees in the major subsidiaries 4,078 , proportion 43.42%
	Total number of employees 6,064 , proportion 100%	Total number of employees 9,395 , proportion 100%
 Educational structure	Postgraduate 447 , proportion 7.37%	Postgraduate 606 , proportion 6.45%
	Undergraduate 3,139 , proportion 51.76%	Undergraduate 4,826 , proportion 51.37%
	Junior college 1,873 , proportion 30.89%	Junior college 2,870 , proportion 30.55%
	Below junior college 605 , proportion 9.98%	Below junior college 1,093 , proportion 11.63%
 Professional structure	Production worker 4,376 , proportion 72.16%	Production worker 6,372 , proportion 67.82%
	Salesman 16 , proportion 0.26%	Salesman 78 , proportion 0.83%
	Technicians 956 , proportion 15.77%	Technicians 1,752 , proportion 18.65%
	Financial staff 95 , proportion 1.57%	Financial staff 169 , proportion 1.80%
	Administration staff 621 , proportion 10.24%	Administration staff 1,024 , proportion 10.90%

In order to create a fair and just working environment, Shandong Hi-speed always sticks to the principle of the interdependence between the Company's performance and employees' wages and offers employees a competitive and incentive salary distribution system. We continue to modify the reform of the following three approaches to ensure fair and reasonable salary distribution:

- Constantly optimize the differentiated salary distribution policy according to employees' performance appraisal, link the total salary distribution with the staffing and the appraisal results of per capita business volume and business performance, to completely implement the salary distribution principle of "distribution according to workload" and "more pay for more work";
- Establish the management performance appraisal system for affiliated units and state that the appraisal results directly influence the performance salary of the person in charge;
- Pilot the professional management system, implement a market-oriented exit mechanism, define the specific numerical requirements for performance indicators, and fully implement the principle of "ability determines position, the market determines circulation, and contribution determines salary."

In addition to rigorously implementing the national statutory welfare and effectively employees' rights and interests, the Company effectively promotes a corporate self-determined welfare policy to further enrich its employee welfare system. We strictly regulate the daily management of enterprise annuity and supplementary medical insurance. We have ensured that every employee knows, can use, and will use supplementary medical insurance well by conducting relevant policy training activities. In 2021, 4,528 people of the Company used the limited reimbursement amount through an online self-service settlement of claims and offline card swiping 25,920 times. Furthermore, to ensure the benefits of employees after retirement, besides the regular incentive payment of enterprise annuity, the Company also organized all units to issue incentive payment benefits to 411 retirees on time and in full.

At the same time, in 2021, the Company continued to promote further a series of medium and long-term incentive measures such as the equity incentive plan and the excess profit-related bonus. 466.37 stock options were allocated to 34 objects of the equity incentive plan, and 13 affiliated units provided employees with extra profit-related bonuses.

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411 retirees on time and in full



Facilitating Employee Development for Common Growth

A company's development depends on the efforts of its employees. Shandong Hi-speed provides broad development space for employees to realize their self-worth. The Company is committed to fostering the construction of professional talent teams, providing opportunities for employees to grow, assisting them in continuously exploring their unlimited potential, and looking forward to collaborating with employees for a better future.

Intending to train modern talents in management, technology, and operation required for career development, the Company has established a diversified training plan covering all the employees. It continuously optimizes training resources to comprehensively improve employees' skills and help them realize personal development. In 2021, we completed over 1,300 training activities in various forms, such as centralized training, business competition, and online drill training, with more than 35,000 trainees. The training has boosted the overall quality of employees and aided the high-quality development of the Company.

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Case

"Developing Shandong Province through Services and Skills" themed vocational skills competition

To improve the vocational skills of employees, we continuously encourage them to practice their skills and enhance their working enthusiasm by organizing them to participate in competitions. To enable front-line employees to adapt to the new toll collection mode, we carried out operation and management ability competition and selected the best front-line operators to participate in the road toll collection and monitor vocational skill competition of the 2021 "Developing Shandong Province through Services and Skills" themed vocational skill competition in Shandong Province, and won the honorary title of "First Class Training Unit".



Award ceremony of the "Developing Shandong Province through Services and Skills" themed vocational skills competition

Case

New achievements made by employees through innovation and creation

In 2021, we mobilized and encouraged employees to fully participate in innovation and create benefits in an all-round way, to promote the sustainable development of employees' innovation and business performance. Guided by the spirits of role model workers, our employees achieved fruitful results in various fields, and won 15 innovation honors at the group level and above.

创新项目	创新荣誉
枣庄运营中心—汇警劳模创新工作室	"山东省交通运输行业创新工作室" 荣誉称号
工程管理中心—济青高速改扩建护栏安全提升关键技术研究与示范应用	"山东省交通运输行业职工优秀技术创新成果一等奖" 荣誉称号
公司—高速公路绿色低碳养护技术创新工作室	"山东高速集团劳模（职工）创新工作室" 荣誉称号
高新材料公司—新材料应用工匠人才创新工作室	"山东高速集团劳模（职工）创新工作室" 荣誉称号
枣庄运营中心—汇警劳模创新工作室	"山东高速集团劳模（职工）创新工作室" 荣誉称号
夏津运营中心—高义虎创新工作室	"山东高速集团劳模（职工）创新工作室" 荣誉称号
潍坊运营中心—心路创新工作室	"山东高速集团劳模（职工）创新工作室" 荣誉称号
京沪济南运营中心—聚星闪耀创新班组	"山东高速集团创新型班组" 荣誉称号
临沂运营中心—匠心筑梦创新班组	"山东高速集团创新型班组" 荣誉称号
夏津运营中心—星火创新班组	"山东高速集团创新型班组" 荣誉称号
京沪济南运营中心—养护分中心主任闫晨	"山东高速集团职工创新能手" 荣誉称号
泰安运营中心—济宁养护分中心主任靳平	"山东高速集团职工创新能手" 荣誉称号
工程管理中心—济青高速改扩建护栏安全提升关键技术研究与示范应用	"山东高速集团职工优秀创新成果一等奖" 荣誉称号
泰安运营中心—含砂密封胶在路面病害防治中的应用	"山东高速集团职工优秀创新成果三等奖" 荣誉称号

Shandong Hi-speed's employees made new achievements in innovation and creation

Shandong Hi-speed actively promotes the creation of career development channels and talent development plans, maintaining the vitality of the Company. We have realized the transformation from extensive to exemplary management by constructing a scientific post rank system. The career development channel system comprising of three post sequences, 18 ranks, and 26 levels of positions provides employees with multi-sequence development channels to bridge the vertical promotion and horizontal communication gaps. In addition, in 2021, we launched the competitive personnel selection for management, business, and technical vacancies, and 54 front-line operators to work in business and technical posts, six chief engineers, and 14 deputy chief engineers. We have built a career promotion channel based on front-line posts, focusing on skill training and improving salaries to give employees a broad development space.

3

post sequences

18

ranks

26

levels of positions

54

front-line operators to work in business and technical posts

6

chief engineers

14

deputy chief engineers

Case The preparation of the *Work Plan for Corporate Skilled Talents Self-Assessment*

Shandong Hi-speed organized and prepared the *Work Plan for Corporate Skilled Talents Self-Assessment*, which was deliberated and approved by Shandong Vocational Skill Appraisal Center, and obtained the qualification for self-assessment of highway toll collection and supervisor vocational skill appraisal. In 2021, the Company successively carried out the pilot work of self-assessment and implemented the reward cashing mechanism by carry out self-assessment of vocational skill appraisal in five transportation management centers, and selected one senior technician, eight technicians, 16 senior workers, 19 intermediate workers and 13 junior workers.

selected



Case 2021 "Outstanding Young Talents" selection event

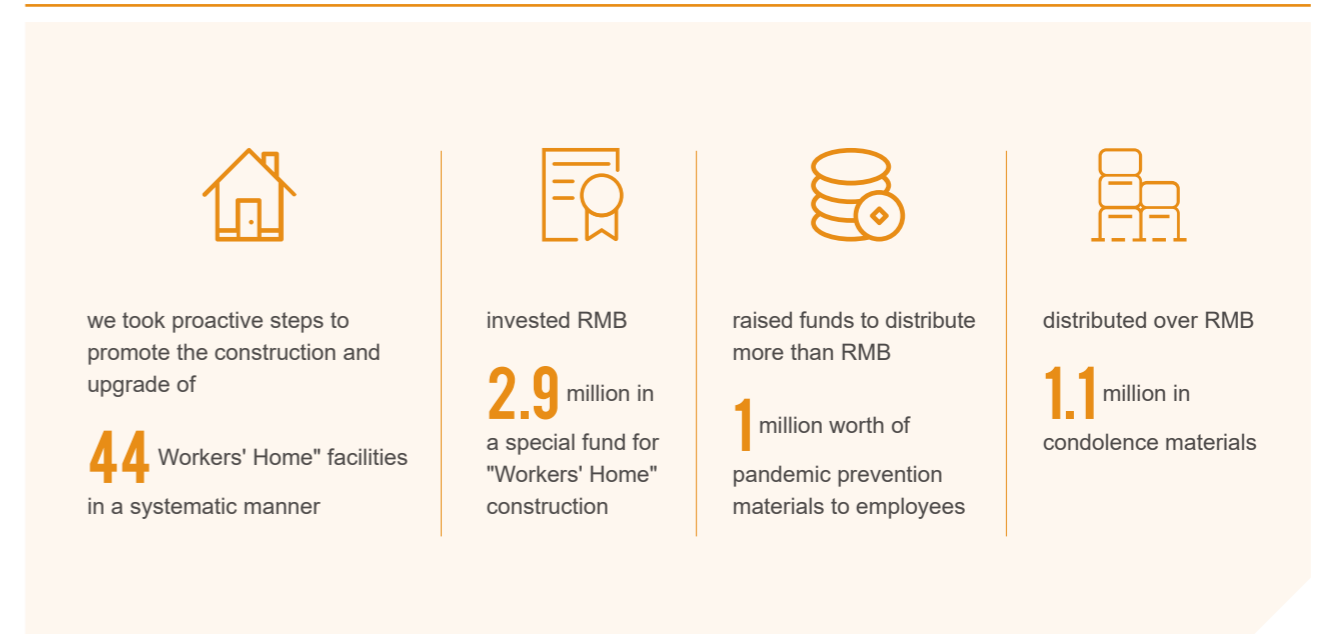
Shandong Hi-speed actively promoted and conducted the 2021 "Outstanding Young Talents" selection event, and provided the outstanding young talents with incentive living subsidies, to maximize the vitality of talent resources, transfer the advantage of human resources into human capital, and provide lasting vitality for the Company's scientific development.

 Heartwarming Solicitude for Employees

In 2021, Shandong Hi-speed completed the construction of an employee-care system. We always adhere to the purpose of "putting people first and benefiting employees," care about employees' physical and mental health, and provide them with a heartwarming atmosphere of "a happy and harmonious Hi-speed family."

The Company values its employees' lives, is concerned about employees' health, and accurately delivers heartfelt assistance services for those in need, all in an effort to boost their sense of belonging and happiness. To meet the needs of employees and improve their quality of life, we took proactive steps to promote the construction and upgrade of 44 "Workers' Home" facilities in a systematic manner, invested RMB 2.9 million in a special fund for "Workers' Home" construction, and raised funds to distribute more than RMB 1 million worth of pandemic prevention materials to employees. In addition, we held several heartwarming

activities such as "Warmth in Winter," "Learning Party History, Doing Practical Things, and Cool in Summer," organized various physical examinations for employees, and distributed over RMB 1.1 million in condolence materials, all in an effort to genuinely serve our employees and continuously improve their well-being.



The Company also cares about the cultural and spiritual growth of employees. It holds recreational activities in various forms based on local conditions to enable employees to build a healthy lifestyle and positive attitude towards life. In 2021, we organized and held a series of activities to commemorate the centennial of CPC's founding, including literary and artistic works creation, choruses, Party education, and special activities such as "our company, our family" themed events in various forms. According to the pandemic, we also held recreational activities such as basketball, table tennis, Top Ten Singers competition, and health knowledge competition to encourage employees to work hard continuously.

The Company is dedicated to providing an inclusive, open, and comfortable working environment for female employees. By signing a particular collective contract to protect the rights and interests of female employees, Shandong Hi-speed improved its labor dispute coordination mechanism and fundamentally alleviated the concerns of female employees. At the same time, we created the "Mother Room" and "Harbor for Female Employees" to establish a "Room plus" service mode that would help working mothers and contribute to their happiness. Two "Mother Room" was awarded a license by the Provincial Federation of Trade Unions. Moreover, by holding the "charming ladies, happy life" themed health knowledge competition for female employees and selecting over 110 works to partake in the "Scholarly Women's Day" reading activities and other special events for female employees, we productively enhance the sense of acquisition and happiness of female employees, so that all female employee can grow healthily in a harmonious atmosphere.

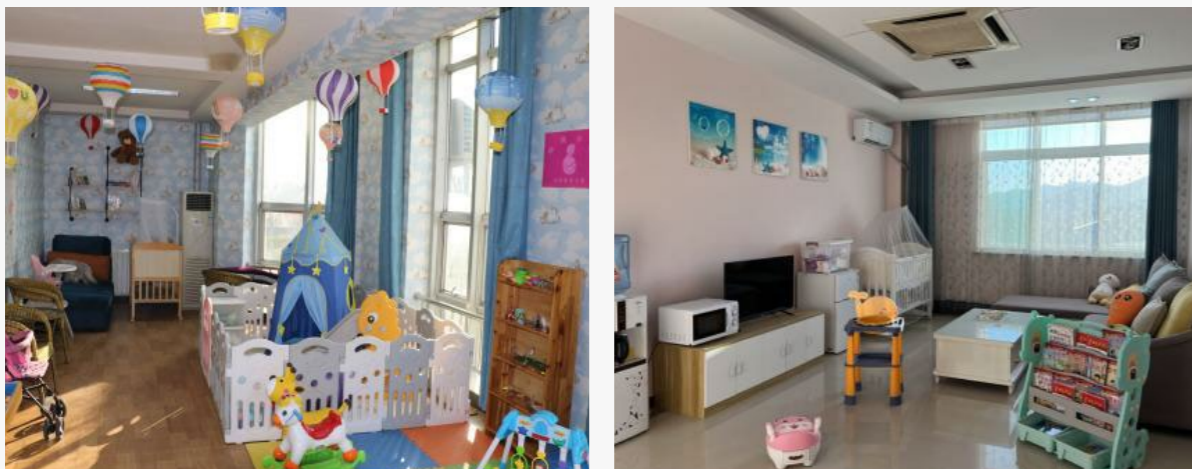
Case Workers' Home

The Company guides the ground-level trade unions to comprehensively build and improve 43 "Workers' home" facilities in the new era according to the "Eight-Having" standard of having activity place, having unified logo, having cultural and sports facilities, having employees' library, having management system, having activity plan, having fund guarantee and having personnel management, to effectively improve the quality of life of employees.



Case Mother Room

The Company organized the construction of "Mother Room" and "Harbor for Female Employees" facilities to create a "Room plus" service mode. Two "Mother Room" were awarded a license by the Provincial Federation of Trade Unions.



Case Employees Library

The Company built libraries for employees to enrich their spiritual world after work, and selected ten employees libraries to apply for the title of "Employees Library of Shandong Transportation" in 2021.



Safety and health are the foundation of happiness. Shandong Hi-speed is focused on building a "healthy, safe, and comfortable workplace," establishing and improving a safety and health management system, continuously publicizing a safety culture, and protecting employees' physical and mental health. In 2021, we continued to innovate and enrich the forms and contents of safety training to ensure our safety and long-term development. We held several safety qualification trainings, combined with the new contents of the Work Safety Law and the amendment to the criminal law, to explain the new regulations from the perspectives of toll collection safety, road management safety, information security, and emergency management, in order to improve the overall safety quality of all employees. In addition, to promote the three-year unique rectification action of work safety and the primary investigation and action of work safety, we held the "work safety month" event in 2021, solidly carried out emergency drills, and fully improved employees' awareness and skills of safe operation.



Qualification training for safety personnel

Employees of Xiajin Operation Management Centers went to Quancheng Safety Education Center for experience and learning

Contributing to Public Welfare for the Harmonious Development of Society

Shandong Hi-speed always bears in mind its responsibilities as a state-owned enterprise that actively performs corporate social duties and strives to achieve the unity of social and economic benefits. We spared no effort to assist in disaster areas, devoted ourselves to public welfare undertakings, paid close attention to daily pandemic prevention and control, served the society with love, enthusiasm, and responsibility, and guarded our beautiful homeland together.

59 / "Hi-speed" Support for Combating Disaster

61 / Implementing Targeted Poverty Alleviation and Devoting to Public Welfare Undertakings


64 / Jointly Combating the Pandemic for Safety Development




"Hi-speed" Support for Combating Disaster

In July 2021, severe floods struck many areas in Henan Province. When trouble occurs at one spot, help comes from all quarters. After hearing about the disaster, Shandong Hi-speed responded swiftly, participated in rescue and disaster relief activities, played a good role in emergency rescue, traffic support, and material supply, and fulfilled its responsibility as a state-owned enterprise.


Shandong Hi-speed focused on the disaster situation in Henan Province. Focusing on the disaster situation and striving to meet people's needs in disaster areas, we rushed to Henan for disaster relief for the first time. All branches actively communicated with local governments and took multiple measures to ensure road safety and smoothness.



We immediately opened special lanes for rescue vehicles and dispatched special personnel to direct traffic to ensure rescue vehicles' safe and rapid passage.



We also improved traffic information dissemination, released road condition information via LED display screens, offered the latest road traffic and weather conditions to the passing rescue vehicles, and did an excellent job in traffic guarantee for rescue and disaster relief vehicles.



Additionally, we enhanced our comprehensive services and supplied free carsickness medicine, cold medicine, food, hot water, and vehicle maintenance tools to gather strength for disaster relief in Henan.

Henan Development Company took the lead in participating in the front-line disaster relief, launching emergency plans right away, and finishing the critical and dangerous tasks like backflow rescue at Xuchangxi Toll Gates and flood discharge protection Jialu river at Fugou Toll Gates. We dispatched over 600 personnel, performed 32 electronic inspections, conducted manual joint inspections covering more than 19,000 km of roads, handled 15 traffic accidents, and conducted traffic smoothness management 18 times at main roads and toll gates. Also, we employed 107 sets of rescue and disaster relief equipment, maintained 81 sections damaged by floods, handled mechanical and electrical equipment failures 57 times, and dredged 11,232 linear meters of drainage facilities in the roadbed section, with a total cumulative investment cost of over RMB 2.4 million. Besides, we granted free passage to 4,193 emergency rescue vehicles, exempted over RMB 454,200, and helped and guided 8,198 trapped vehicles to pass safely, effectively maintaining the safety and smoothness of roads.

In addition to doing a solid job in emergency rescue and traffic support, we supplied a wide variety of emergency rescue support services. During heavy rainfall, based on the requirements of Henan Joint Traffic Command Center, we implemented traffic control at the entrance of the toll gates, provided instant food like instant noodles, sausage, bread, and milk for a large number of stranded vehicles, and received praises from the drivers and passengers. During an inspection, our highway property management personnel discovered a mentally disabled person on the slope of the expressway. After many twists and turns, we finally reached his family and received a banner of praise. We constantly implemented the concept of putting people first and serving the people in subtle details and further polished the "Shandong Hi-speed" service brand outside the province.



Maintenance personnel are dredging and changing the direction of water flow on the bridge floor



The Party Secretary of Henan Development Company went to the front-line of flood control immediately

At 04:33 on September 16, 2021, an earthquake of magnitude 6.0 occurred in Luxian County of Luzhou City in Sichuan Province. The closest distance between the epicenter and the road section under the jurisdiction of the Company is about 54 kilometers. When the earthquake occurred, the tremor of the houses can be felt obviously.

After the earthquake, Luzhou Southeast Expressway Development Company immediately established an earthquake relief leading group and launched its emergency plan at the same time. First, ten special lanes for earthquake relief were opened at each toll gates, and special personnel were arranged to be on duty 24 hours to ensure the smooth flow of the special lanes; Second, 300 conical barrels were allocated to support the Luxian Road section brigade of the third branch of the Highway Public Security Bureau to help quickly complete traffic control; Third, more than 30 kinds of reminding messages were released on 17 information boards in the road sections under the Company's jurisdiction to orderly guide the disaster relief vehicles; Fourth, the Company actively responded to the proposal of the relevant offices of Luzhou Transportation Bureau on the work related to earthquake relief, fulfilled its social responsibilities, and provided a batch of urgently needed tents, folding beds, bedding and other materials for the disaster area, totaling worth of more than RMB 40,000.

First, ten special lanes for earthquake relief were opened at each toll gates, and special personnel were arranged to be on duty 24 hours to ensure the smooth flow of the special lanes;

Second, 300 conical barrels were allocated to support the Luxian Road section brigade of the third branch of the Highway Public Security Bureau to help quickly complete traffic control;

Third, more than 30 kinds of reminding messages were released on 17 information boards in the road sections under the Company's jurisdiction to orderly guide the disaster relief vehicles;

Fourth, the Company actively responded to the proposal of the relevant offices of Luzhou Transportation Bureau on the work related to earthquake relief, fulfilled its social responsibilities, and provided a batch of urgently needed tents, folding beds, bedding and other materials for the disaster area, totaling worth of more than RMB 40,000.

Implementing Targeted Poverty Alleviation and Devoting to Public Welfare Undertakings

"To build a moderately prosperous society in an all-round way, no one should be left behind; on the road to common prosperity, no one can be left behind." Under the guidance of the Party's policies, Shandong Hi-speed effectively carried out targeted poverty alleviation for a shared moderately prosperous society and joined hands with local communities to build a harmonious society.

During the first year of rural revitalization, Shandong Hi-speed followed General Secretary Xi Jinping's thought of targeted poverty alleviation, bravely assumed its social responsibility, adhered to scientific planning, made painstaking efforts, completed the fourth round of "First Secretaries" targeted poverty alleviation, and continued to select the fifth round of "First Secretaries" to the Jiazhai Village of Wanghaotun Town in Mudan District, Heze City and the Dali Village of Yidukou Town in Lingcheng District, Dezhou City to conduct the Party building and promote rural revitalization. During poverty alleviation, the Company adhered to the principles of guiding rural regeneration by Party building and announced infrastructure construction to meet people's needs, focused on humanistic care for people's well-being, and centered on production and living to improve pandemic prevention and control, contributing to rural revitalization and implementing targeted poverty alleviation.

Shandong Hi-speed poverty alleviation in 2021

In 2021, the Company invested a total of RMB 220,000 in poverty alleviation, and coordinated RMB 1.7 million as project funds with relevant local departments. By the end of December, the utilization rate of the First Secretaries' assistance funds was more than 95%. In February 2021, the "First Secretaries" team selected by Shandong Hi-speed in Mudan District of Heze City was awarded the honorary title of "national advanced collective for poverty alleviation."

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Agricultural production assistance

Coordinated the establishment of rural cooperatives, and transferred more than 200 mu (1 mu equals to 0.0667 hectares) of land in the two phases of "First Secretaries" projects.



Living assistance

Purchased more than 100 books about Party history and children's books, over 1,000 masks and 10 plus boxes of disinfection products.



Infrastructure construction

Invested RMB 220,000 in farmland and water conservancy construction to effectively meet the production and living needs of the masses.



Beautiful rural construction

The First Secretary in the village coordinated with the Municipal Bureau of Agriculture and Rural Areas and obtained RMB 1.5 million project fund to build a cultural fitness square for the village; Coordinated with the Transportation Bureau of Mudan District for RMB 200,000, and newly built 500 meter-long concrete cement pavement in the village.

Case

The "First Secretaries" team selected by the Company in Mudan District of Heze City was commended as the national advanced collective for poverty alleviation

Shandong Hi-speed dispatched a "First Secretary" team to Mudan District, Heze City. During its assignment, the team successively assisted two administrative villages, Youlou Village and Zhangzhuang Village, and four nature villages, successfully completed the task of "party building and poverty alleviation", and handed over a satisfactory answer to the Party and the masses.



Established a Party service center for Bangbao Village



Provided office equipment for Bangbao Village



Built an agricultural sightseeing demonstration park for Bangbao Village



Newly built a villagers' cultural plaza for Bangbao Village

"Coming together as one to show loving hearts, and devoting compassion for charity" Shandong Hi-speed carries forward the traditional virtue of the Chinese nation of being charitable, advocates the trend of helping others and assisting the poor, and promotes employees to participate in voluntary activities widely and actively devote their compassion.

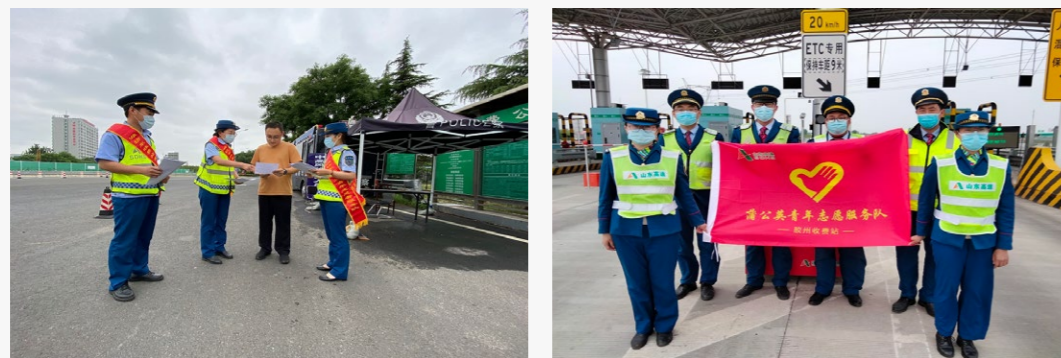
In 2021, we organized and carried out different forms of public welfare voluntary activities such as blood donation, caring donation, community service, condolences to employees in need, and "Golden Autumn Aid for Education" all over the country, employees widely joined. Shandong Hi-speed conveyed hi-speed warmth with practical actions and carried forward the positive energy of the society.

Case "Charity Day" donation activity

From December 20 to 23, 2021, Shandong Hi-speed organized a donation activity named "Charity Day". During the activity, leaders of the Company and cadres and workers of the headquarters responded positively, and made donations enthusiastically to show their loving hearts. The donations raised in this activity were remitted to Shandong Charity Federation for disaster relief, assistance and other charities.



The "Charity Day" donation activity



Voluntary services organized by the Company

Jointly Combating the Pandemic for Safety Development

To implement regular pandemic prevention and control measures, Shandong Hi-speed always centers on pandemic prevention and control, resolutely restricts employees from relaxing their vigilance, strictly and tightly implements various prevention and control measures, and curbs the spread of the pandemic. The Company united all employees and did overall planning to do an excellent job in pandemic prevention and production and operation at the same time. The cumulative anti-pandemic expenditure was RMB 4,318,665.41, and 5,231,982 pieces of materials were purchased, approximately 64.92 tonnes in weight.

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Furthermore, we timely formulated working support plans, issued emergency pandemic prevention handbooks in office areas, boosted pandemic prevention and control and personal protection of employees in critical areas like toll gates, service areas, construction sites, and offices, and implemented prevention and control measures like ventilation and cleaning, disinfection, wearing masks, temperature measurement and health QR code checking. We strictly enforce the 24-hour emergency duty, the "daily report," and the "report even in the absence of a new situation" systems for pandemic prevention, control, and disposal to ensure that problems are reported and addressed promptly, to protect the safety and health of employees and the general public through routine prevention and control measures, and to collaborate in building a strong defense line against the pandemic.

Case

Jinan Transportation Management Center along Beijing-Shanghai Expressway actively implemented pandemic prevention and control measures

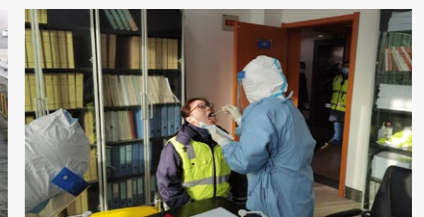
According to the requirements of pandemic prevention and control from the higher authorities, Jinan Transportation Management Center along Beijing-Shanghai Expressway continued to strengthen pandemic prevention and control measures and refined pandemic prevention processes. This year, it organized 16 pandemic prevention and control drills in the areas under its jurisdiction. In addition, the center strictly implemented the Company's requirements of four-month material reserve and effectively ensured the sufficient reserve of pandemic prevention materials. As of January 7, 2022, the transportation management center has stored up more than 40,000 masks, 13,000 pairs of gloves and 200 liters of various disinfectants, to ensure the sufficient supply of various pandemic prevention supplies during the pandemic.



Pandemic prevention and control drill of Jinan Transportation Management Center along Beijing-Shanghai Expressway



Regular disinfection of lanes



Regular nucleic acid testing for employees

Feedback

Dear readers,

Thank you very much for your attention and support to the ESG performance of Shandong Hi-speed Company Limited. To provide you with more professional and valuable environmental, social and governance information and further improve the quality of Shandong Hi-speed's ESG report, please help us by completing the following feedback form.

1. Are you satisfied with this report? Please make your comments.

2. Do you think our performance of social responsibility has been fully disclosed?

3. Has the information you want to know been fully disclosed in this report?

4. What are your suggestions for the improvement of this report?

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