



Bangkok Expressway and Metro Public Company Limited

Scan for reading Annual Report 2018



Extend Happiness to Sustainable Society



Bangkok Expressway and Metro Public Company Limited or **BEM** determines to be a leading service provider of the integrated transportation system of Thailand and ASEAN with its administration under corporate governance and social responsibility.

BEM's businesses consist of Expressway service, Mass transit system, and also Commercial development, which expands its business through infrastructure in forthcoming service providing networks.

Throughout its business administration, **BEM** has delivered good and efficient service to expressway and metro users for their convenience, rapidity and safety. **BEM** also has had a vital role in elevated civic quality of life and alleviated traffic congestion for building pleasant society, fulfilled with smiles of joy forever.



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Bangkok Expressway and Metro Public Company Limited and its Subsidiaries

Financial Highlights

Unit : Million Baht

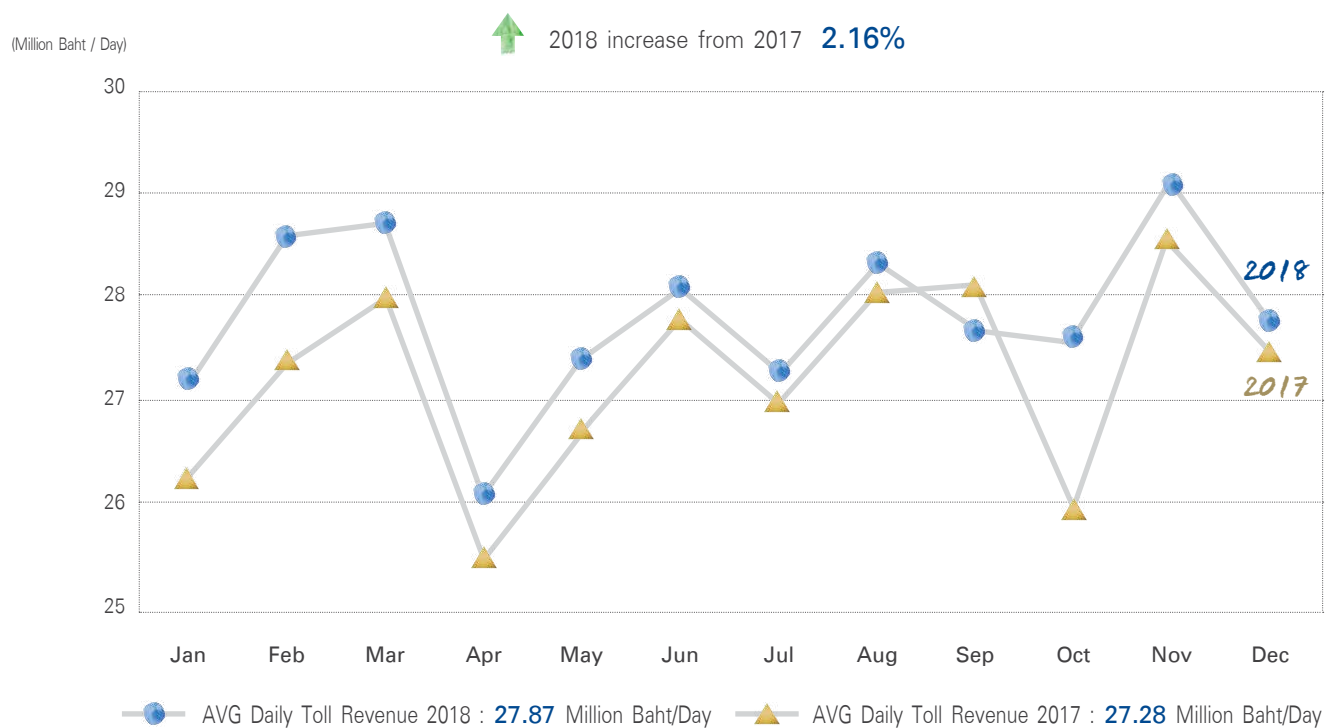
Financial Position (As at December 31)	2018	2017
Total assets	103,831	98,919
Total liabilities	68,219	67,740
Shareholders' equity	35,612	31,179

Operating Results (For the year ended December 31)	2018	2017
Revenue from expressway business	10,174	9,957
Revenue from rail business	4,736	4,521
Revenue from commercial development business	705	675
Total revenues	19,087	15,393
Gross profit	5,840	5,947
Net profit attributable to the Company	5,317	3,123

Financial Ratios	2018	2017
Net profit margin (%)	20.35	20.45
Return on equity (%)	9.90	10.31
Return on total assets (%)	3.76	3.75
Debt to equity ratio (times)	1.59	1.75
Interest bearing debt to equity ratio (times)	1.34	1.37
Book value per share (Baht)	2.32	2.03

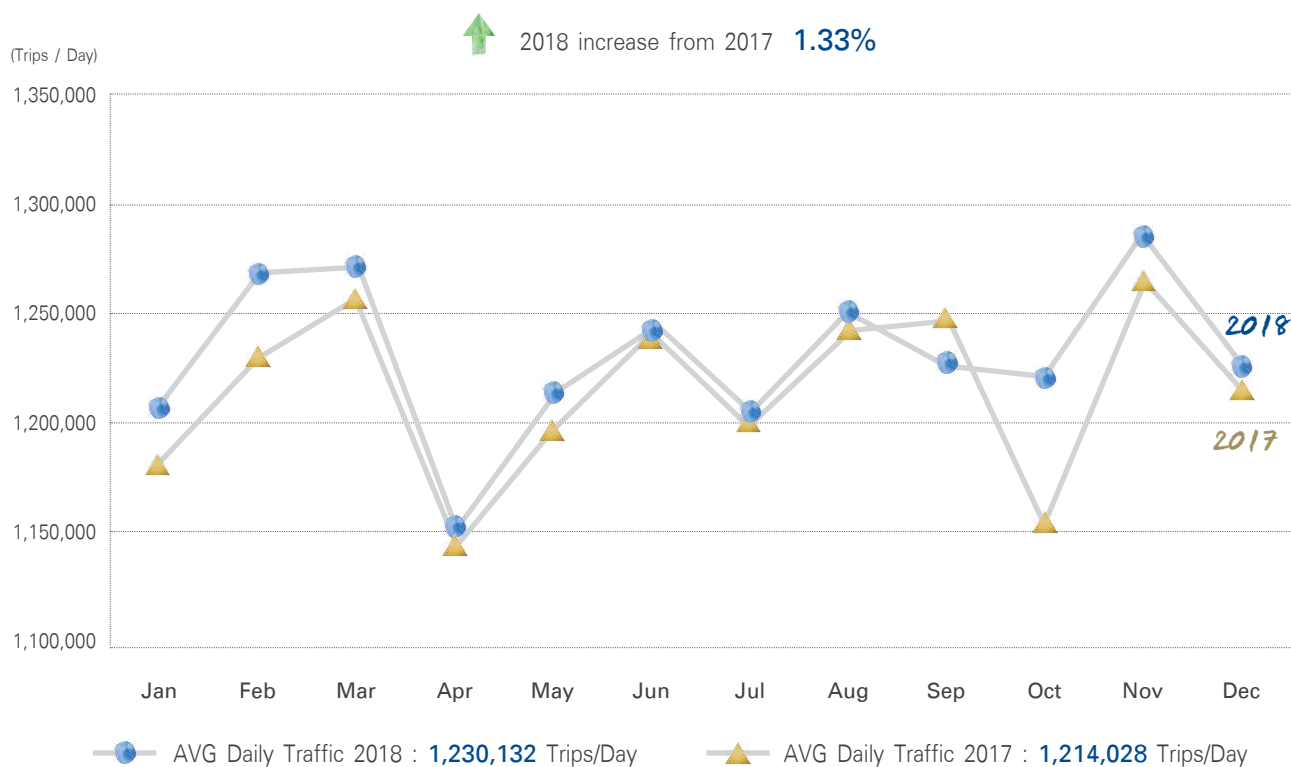
Average Daily Toll Revenue :

Chalerm Mahanakorn, Si Rat, Udon Rattthaya Expressway and Si Rat - Outer Ring Road Expressway



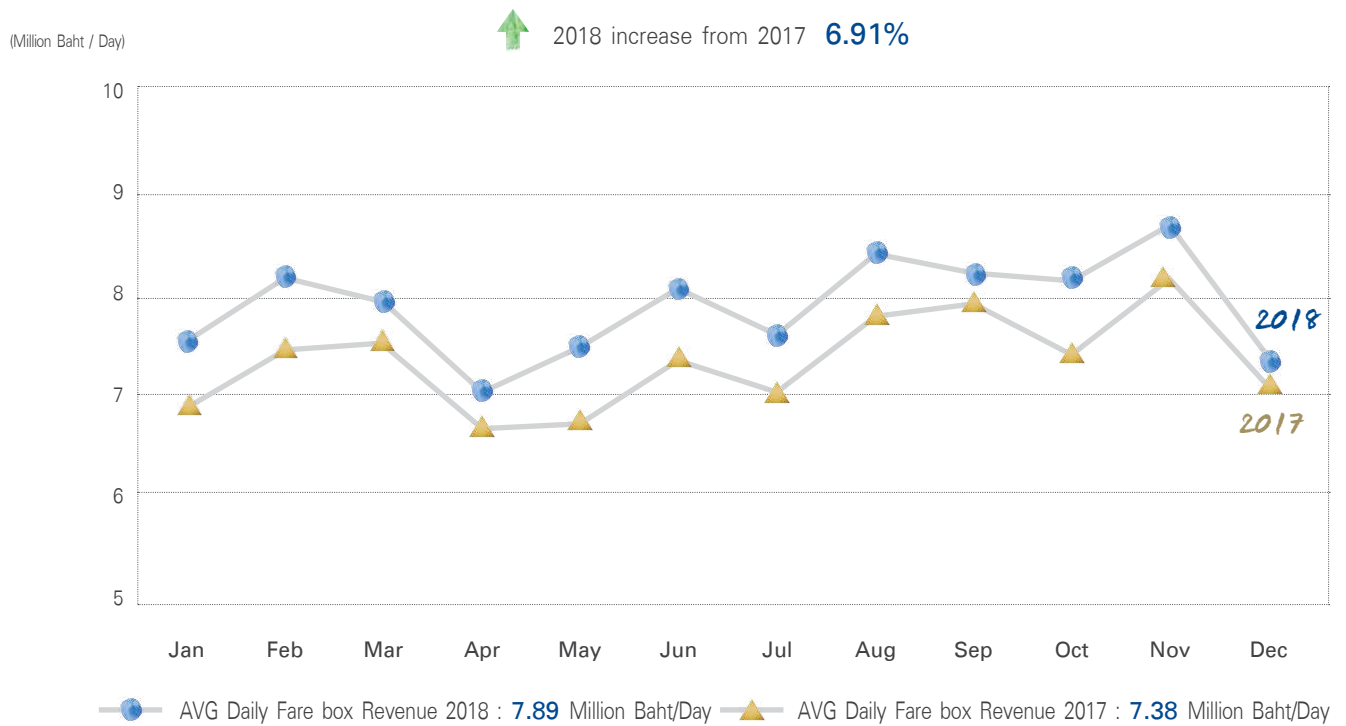
Average Daily Traffic :

Chalerm Mahanakorn, Si Rat, Udon Rattthaya Expressway and Si Rat - Outer Ring Road Expressway



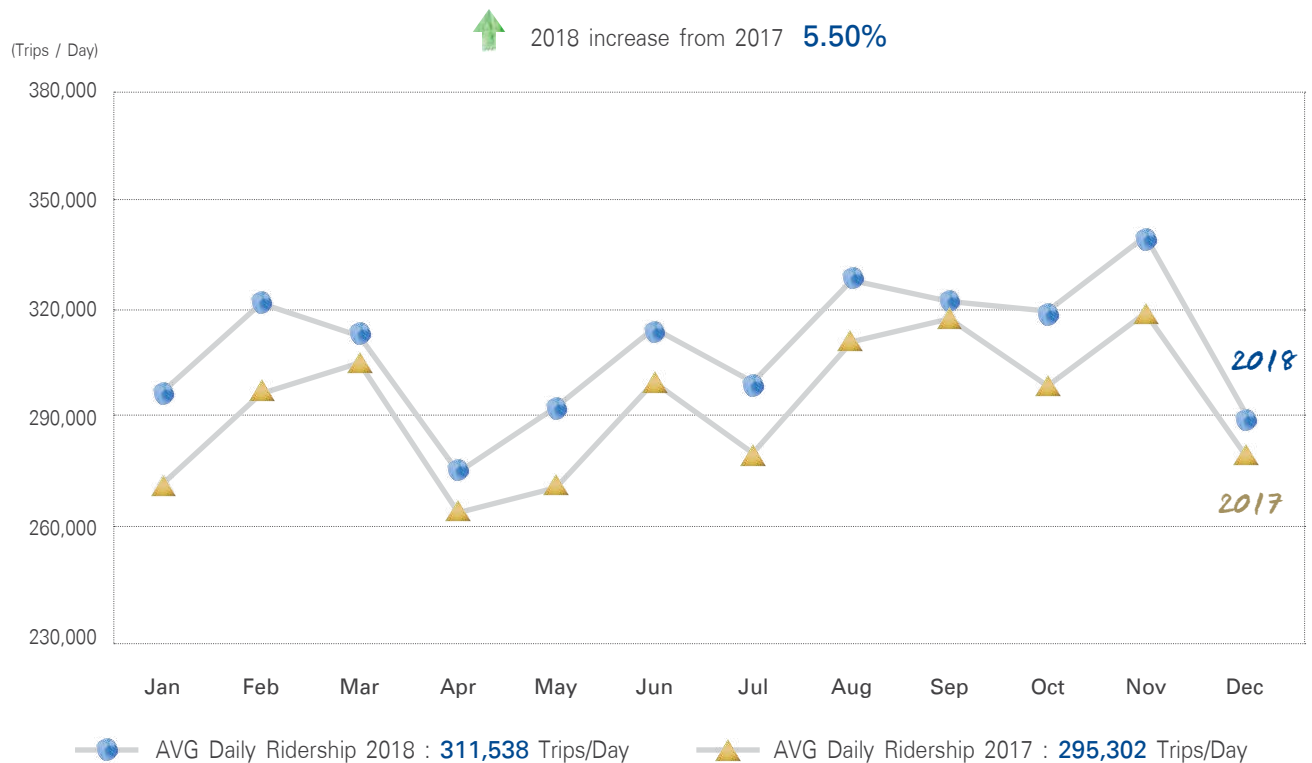
Average Daily Fare Box Revenue :

the MRT Blue Line



Average Daily Ridership :

the MRT Blue Line



Message from the Chairman of the Board of Directors



Bangkok Expressway and Metro Public Company Limited or BEM has always delivered the good and efficient services with convenience, rapidity and safety to the expressway users and the MRT passengers, playing a part in help mitigating the traffic problems and improving the quality of life for the people's travelling, and with our commitment to management in accordance with the sustainable development guidelines in environmental, social and corporate governance aspects, BEM has been then selected to be listed in Thailand Sustainability Investment 2018 (THSI) for the second consecutive year and BEM securities have also been in SETTHSI Index 2018 by the Stock Exchange of Thailand. Furthermore, BEM received the DRIVE AWARD 2018 for Finance Excellence from the excellent financial management, together with management based on corporate governance, by considering corporate social and environmental responsibility projects along with innovations ready to drive the organization into the macro-economy.

In 2018, BEM in association with the Expressway Authority of Thailand (EXAT) opened the connection between the Si Rat - Outer Ring Road Expressway and the Si Rat Expressway heading to Chaeng Watthana for service on September 30, 2018 so as to expand the expressway network from the western side to the northern side. Such connection project was additionally constructed by BEM to ensure more convenient travelling, and to give back to the society, such connection has been then available for free usage.

Moreover, BEM has operated the MRT Blue Line Extension Project as a way to link travelling between Bangkok and Thonburi sides with the MRT Blue Line Project (Chaloem Ratchamongkhon Line) and the MRT Purple Line Project (Chalong Ratchadham Line) to achieve the Through Operation. There are two phases as scheduled for service, namely, Hua Lamphong Station - Lak Song Station, by September 2019; and Tao Poon Station - Tha Phra Station, by March 2020. Once the two phases are opened for service, it would help alleviate traffic problems and bring more happiness in travelling of the people in Bangkok and its surrounding provinces.

With regard to the results of operations for 2018 of BEM and its subsidiaries, the net profit was Baht 5,317 Million. The Board of Directors of the Company resolved to propose that the Shareholders' Meeting approve the dividend payment for the second half period of 2018 at the rate of Baht 0.09 per share. During the year, the Board of Directors of the Company resolved to approve the interim dividend payment for the first half period to the shareholders at the rate of Baht 0.06 per share, and as such, the total dividends paid in 2018 were at the rate of Baht 0.15 per share.

We would like to extend our thanks to all stakeholders for your supports; to the government sector for giving BEM the opportunity to operate and manage the transportation systems; to our shareholders, counterparts and financial institutions for continued supports to our businesses; to the expressway and metro users for your trust in our services; and to all our staff for concerted efforts, contributions, and participation in creation of the sustainability for BEM. Rest assured that BEM will always be committed to the code of ethics, integrity and transparency in our business operations, including compliance with the good corporate governance principles, paying regard for all stakeholders in a comprehensive manner, to attain the balance between economic growth of the Company's business and social and environmental development in the pursuit of the sustainability.



(Dr. Virabongsa Ramangkura)

Chairman of the Board of Directors

Report of the Audit Committee



The Audit Committee of Bangkok Expressway and Metro Public Company Limited, as appointed by the Board of Directors, comprises four independent directors, namely, Mr. Vitoon Tejtassanasoontorn, as Chairman of the Audit Committee, General Chetta Thanajaro, General Sampao Choosri, and Dr. Annop Tanlamai, as Audit Committee Members. The Chairman of the Audit Committee and Dr. Annop Tanlamai specialize in accounting and finance, and the General Manager of Internal Audit Office serves as secretary to the Audit Committee.

The Audit Committee has performed its duties within the scope, duties, and responsibilities as assigned by the Board of Directors in line with the requirements of the Stock Exchange of Thailand. In 2018, the Audit Committee held six meetings for discussion and sharing of opinions with the management and internal auditor, and a meeting with the auditor without the management's presence, for discussion on the essence of the audit plan, independence in the performance of duties and expression of opinions of the auditor.

The key performance of duties of the Audit Committee can be summarized as follows:

1. Review of Financial Report: The Audit Committee reviewed the quarterly financial statements and the financial statements for 2018 of the Company and its subsidiaries, including changes in the accounting policy, the adjustments of the major accounting entries, and correct and complete disclosure of information, by receiving clarifications from the auditor, management, and internal auditor to its satisfaction that the financial statements were prepared in accordance with the legal requirements, the generally accepted accounting standards, and the financial reporting standards, with correct and sufficient disclosure of information in a timely manner for the benefit of users of the financial statements, and therefore approved such financial statements, as audited and reviewed by the auditor, representing a report on an unqualified opinion.

2. Review of Internal Control System: The Audit Committee reviewed the assessment results of the internal control in respect of the operating system and the IT system by using the Internal Control Adequacy Evaluation Form under the practice guidelines as specified by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) to ensure the efficient and effective performance in all work units in order to meet the specified objectives and targets, compliance with various laws and requirements, and adequate ability to control and prevent corruption. The Internal Audit Office independently reviewed and evaluated the sufficiency of the internal control, as well as reporting directly to the Audit Committee, by taking into consideration the operations, resource utilization, property management, risk prevention and minimization, and reliability of the financial report.

3. Supervision of Internal Audit: The Audit Committee reviewed the Internal Audit Unit to ensure its independence, with a duty to report directly to the Audit Committee, by approving the annual internal audit plan, and reviewed the operations as per the approved work plan, considered issues as a result of the audit and useful suggestions in order to enhance the efficiency of the internal

audit system, and regularly followed up the operational results under the suggestions, as well as approved the consideration for appointment, transfer, termination of employment of the Head of the Internal Audit Unit.

4. Review of Good Corporate Governance: The Audit Committee reviewed the Company's operations to ensure that its business operations were carried out under the corporate governance principles in compliance with the law on securities and exchange, rules and regulations of the Office of the Securities and Exchange Commission, requirements of the Stock Exchange of Thailand, and other laws relating to the business operations, including obligations which may arise from agreements executed with third parties, and found that the Company has duly and properly complied with the relevant laws and requirements in a timely manner.

5. Review and Provision of Opinions on Connected Transactions or Transactions which might give rise to conflicts of interest, including Disclosure of Information on such Transactions: The Audit Committee reviewed and provided opinions on execution of connected transactions or transactions which might give rise to conflicts of interest in compliance with the applicable laws and requirements of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, and found that the Company executed such transactions with transparency, justification, and benefit to the Company's business operations and shareholders as a whole, together with correct disclosure of information in a timely manner.

6. Consideration for Selection, Nomination of the Auditor and Annual Remuneration for the Auditor: The Audit Committee has the duties to consider selecting, nominating, re-electing, or terminating the engagement of the auditor, and consider the remuneration for the auditor, by taking into account the auditor's independence, knowledge, experience, previous audit performance, reasonableness of the auditing fee, and was of the view that the auditor from EY Office Limited was independent, knowledgeable, capable and experienced regarding the audit, provision of advice on the accounting standards, certification of the financial statements in a timely manner, and that the auditing fee was reasonable. Therefore, it resolved to propose the matter to the Board of Directors to consider and seek approval from the meeting of shareholders for the appointment of the auditor from EY Office Limited as the Company's auditor for 2019, with the remuneration in an amount not exceeding Baht 4,020,000 per year.

In summary, the Audit Committee fully performed its duties under the responsibilities as assigned by the Board of Directors, by applying various fields of knowledge and abilities in response to the business operations with due care, prudence, independence in line with those as specified in the Audit Committee Charter as approved by the Board of Directors, in providing opinions and suggestions for the fair benefit of all interested parties. It was of the view that the Company's report on financial information and operations was correct in compliance with the generally accepted accounting standards and the financial reporting standards, that the risk management was sufficient, with effective and proper internal control system and internal audit, and operations in accordance with the good corporate governance principles, as well as compliance with applicable laws, rules, and requirements relating to the business operations in all respects.



(Mr. Vitoon Tejtassanasoontorn)
Chairman of the Audit Committee

Report of the Nomination and Remuneration Committee



The Board of Directors of Bangkok Expressway and Metro Public Company Limited appointed the Nomination and Remuneration Committee by having General Chetta Thanajaro as Chairman of the Nomination and Remuneration Committee, Mr. Plew Trivisvavet, Mr. Vitoon Tejatussanasoontorn and Mr. Supong Chayutsahakij as Nomination and Remuneration Committee Members, with the duties to nominate and consider remuneration for directors and Managing Directors to ensure transparency and fairness.

In 2018, there were a total of two Nomination and Remuneration Committee's Meetings to consider various matters. The essence of the performance of duties can be summarized as follows:

1. Considering and selecting qualified persons to hold the position of the Company's directors in accordance with the Company's criteria and procedures for nomination by:

- 1) Nominating persons to be appointed as directors to replace those directors who retire by rotation in the ordinary general meeting of shareholders.

The Board of Directors considered the qualifications and roles in performance of duties in the previous year of directors who retired by rotation and proposed the 2018 Annual Ordinary General Meeting of Shareholders to re-appoint them for another term.

- 2) Nominating persons to be appointed as directors to replace those directors who vacate office.

The Board of Directors considered the qualifications of persons to be nominated as the Company's directors to replace two directors who vacate office, by proposing the Board of Directors' Meeting to appoint persons having knowledge, ability and experience which would be beneficial to the Company, and having qualifications in line with that of directors in listed companies.

2. Considering determining criteria on consideration of remuneration for directors and Managing Directors.

The Board of Directors considered reviewing the criteria on consideration of remuneration for directors and Managing Directors and was of the opinion that the Company's criteria remained appropriate.

3. Considering determining remuneration for directors and proposing the same to the shareholders' meeting for consideration and approval.

The Board of Directors considered determining remuneration for directors for 2018 and was of the opinion that the criteria on consideration of remuneration for directors was appropriate for and in line with the scope of duties and responsibilities of each director; remuneration stayed at the same rate as that of the same industry to attract and retain knowledgeable and qualified directors to perform duties for the Company; elements of remuneration were clear, transparent and easy to understand, by proposing the same to the shareholders' meeting for consideration and approval.

In conclusion, the Nomination and Remuneration Committee has fulfilled their duties as specified in the Nomination and Remuneration Committee's Charter which has been approved by the Board of Directors, by employing their knowledge, ability with due care and independence as sufficient to provide the opinions and suggestions for the overall benefits of the Company.

General 

(Chetta Thanajaro)

Chairman of the Nomination and Remuneration Committee

Report of the Corporate Governance and Risk Management Committee



The Board of Directors of Bangkok Expressway and Metro Public Company Limited has realized the significance of compliance with the good corporate governance principles and risk management and thus appointed the Corporate Governance and Risk Management Committee by having General Sampao Choosri as Chairman of the Corporate Governance and Risk Management Committee, Mrs. Vallapa Assakul, Mr. Phongsarit Tantisuvanitchkul, Dr. Sombat Kitjalaksana and Mrs. Payao Marittanaporn as Corporate Governance and Risk Management Committee Members, with the duties to formulate policies and directions of operations in respect of the good corporate governance of the Company to ensure performance of duties with transparency and independence in compliance with the guidelines for the good corporate governance, consider risk management plan, risk management process, as well as monitoring, inspecting and reviewing the Company's overall risks to stay at an acceptable level.

The Corporate Governance and Risk Management Committee has performed its duties as assigned by the Board of Directors and in 2018, convened its four meetings with the high-ranking management team to consider reviewing policies and follow up the progress of compliance with the good corporate governance principles and risk management plan of the Company. The key performance of duties can be summarized as follows:

1. Monitoring to ensure the Company's compliance with the good corporate governance principles.


The Board of Directors followed up and reviewed the practice guidelines for the good corporate governance by proposing the Board of Directors' Meeting to consider the appropriateness in adopting it as guidelines for

the Company's operations. In this regard, the Board of Directors considered reviewing and improving the good corporate governance policy relating to shareholders' rights; treatment towards shareholders and stakeholders; disclosure of information; and the Board of Directors' responsibility in line with the requirements of the Stock Exchange of Thailand. In 2018, the results of the Company's corporate governance survey were shown at the very good level and the results of the assessment of the Annual Ordinary General Meeting of Shareholders were shown at the excellent level, and the Company was selected as one of 79 listed companies on the Thailand Sustainability Investment.

2. Risk management.

The Board of Directors, in association with the high-ranking management, considered compliance with the annual risk management plan, reviewed and followed up the risk management on a regular basis as well as following up movement, tendency for review of plan and strategies to manage risks to stay at the level which was acceptable, appropriate, in a timely manner with the ongoing changing situations and in line with the Company's work plan.

In conclusion, the Corporate Governance and Risk Management Committee is certain that the Company has complied with the good corporate governance principles and guidelines, has continuously and efficiently conducted risk management, as well as making prudent emergency response preparedness in advance for enabling the Company to carry out operations uninterruptedly and continue to exist sustainably.

General 
(Sampao Choosri)

Chairman of the Corporate Governance and
Risk Management Committee

The Board of Directors



Dr. Virabongsa Ramangkura

- Chairman of The Board of Directors

Academic Achievement

- Doctor of Law (Honorary), Webster University, St. Louis, USA
- Ph.D. (Economics), University of Pennsylvania, USA
- M.A. (Economics), University of Pennsylvania, USA
- B.A. Political Science (First Class Honors), Chulalongkorn University
- National Defence Course for the Joint State Private Sector, National Defence College
- Director Certification Program (DCP), Thai Institute of Directors Association



Mr. Plew Trivisvavet

- Vice Chairman of The Board of Directors
- Chairman of The Executive Board
- Nomination and Remuneration Committee Member
- Authorized Signatory Director

Academic Achievement

- Honorary Doctorate (Civil Engineering), Kasetsart University
- Honorary Doctorate of Engineering, Civil Engineering, Rajamangala University of Technology Isan
- Honorary Doctorate of Engineering, Thai-Nichi Institute of Technology
- M.Sc. (Electrical Engineering), Osaka University, Japan
- B.Sc. (Electrical Engineering), Osaka University, Japan
- National Defence Course for the Joint State Private Sector, National Defence College
- Director Certification Program (DCP), Thai Institute of Directors Association
- Director Accreditation Program (DAP), Thai Institute of Directors Association
- Finance for Non-Finance Directors (FND), Thai Institute of Directors Association
- Capital Market Academy Leader Program, Capital Market Academy



Mr. Vitoon Tejatussanasoontorn

- Director
- Chairman of The Audit Committee
- Nomination and Remuneration Committee Member

Academic Achievement

- B.A. in Commerce, Thammasat University
- Director Certification Program (DCP), Thai Institute of Directors Association
- IOD Chartered Directors, Thai Institute of Directors Association
- Audit Committee Program (ACP), Thai Institute of Directors Association
- Advanced Audit Committee Program (AACP), Thai Institute of Directors Association
- Role of the Compensation Committee (RCC), Thai Institute of Directors Association



General Chetta Thanajaro

- Director
- Chairman of The Nomination and Remuneration Committee
- Audit Committee Member

Academic Achievement

- Master of Arts (Political Science), Ramkhamhaeng University
- Bachelor of Science, Chulachomklao Royal Military Academy
- Infantry Basic Officer Leadership Course, United States Army Infantry School
- The Royal Thai Army Command and General Staff Course
- The Joint State-Private Sector Regular Course, National Defence College
- Director Certification Program (DCP), Thai Institute of Directors Association
- Finance for Non-Finance Directors (FND), Thai Institute of Directors Association



General Sampao Choosri

- Director
- Chairman of The Corporate Governance and Risk Management Committee
- Audit Committee Member

Academic Achievement

- Chulachomklao Royal Military Academy
- Royal Military Academy (Saint Cyr), France
- The Army Command and General Staff College
- National Defence Course for the Joint State Private Sector, National Defence College
- Director Accreditation Program (DAP), Thai Institute of Directors Association



Dr. Annop Tanlamai

- Director
- Audit Committee Member

Academic Achievement

- Ph.D. Engineering Management, University of Missouri, USA
- M.B.A (Quantitative Business Analysis), Indiana University, Bloomington, USA
- M.S. in Engineering Management, University of Missouri, USA
- Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University
- Director Certification Program (DCP), Thai Institute of Directors Association



Mrs. Vallapa Assakul

- Director
- Corporate Governance and Risk Management Committee Member

Academic Achievement

- Master of Economics, University of Detroit, USA
- Bachelor of Economics (Second Class Honors), Chulalongkorn University
- Audit Committee Program (ACP), Thai Institute of Directors Association
- Director Certification Program (DCP), Thai Institute of Directors Association
- Director Accreditation Program (DAP), Thai Institute of Directors Association
- Role of the Compensation Committee (RCC), Thai Institute of Directors Association



Mr. Supong Chayutsahakij

- Director
- Nomination and Remuneration Committee Member
- Executive Director
- Authorized Signatory Director

Academic Achievement

- Honorary Ph.D. (Management Science), Phranakhon Rajabhat University
- Master of Political Science (Politics and Government), Sukhothai Thammathirat Open University
- Executive Master of Business Administration, Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Master of Engineering (Electrical), University of Tokyo, Japan
- Bachelor of Engineering (Electrical), University of Tokyo, Japan
- Director Certification Program (DCP), Thai Institute of Directors Association
- Audit Committee Program (ACP), Thai Institute of Directors Association



M.L. Prasobchai Kasemsant

- Director

Academic Achievement

- M.S. (Civil Engineering) and M.S. (Operations Research), Stanford University, USA
- B.S. (Civil Engineering, Mathematics), Virginia Military Institute, Virginia, USA
- Thailand Energy Academy Course for Management
- National Defence Course, National Defence College
- Director Certification Program (DCP), Thai Institute of Directors Association



Mr. Phongsarit Tantisuvanitchkul

- Director
- Corporate Governance and Risk Management Committee Member
- Executive Director
- Authorized Signatory Director

Academic Achievement

- Master of Engineering (Construction and Management), University of Michigan - Ann Arbor, USA
- Bachelor of Engineering (Mechanical Engineering), Kasetsart University
- Director Certification Program (DCP), Thai Institute of Directors Association
- Finance for Non-Finance Directors (FND), Thai Institute of Directors Association
- Understanding the Fundamental of Financial Statements (UFS), Thai Institute of Directors Association



Mr. Werapong Suppasedsak

- Director

Academic Achievement

- Master of Economics (Financial Economics), National Institute of Development Administration
- Bachelor of International Economics, Ramkhamhaeng University
- National Defence Course, National Defence College, National Defence Studies Institute
- Corporate Governance for Capital Market Intermediaries (CGI), Thai Institute of Directors Association
- Director Certification Program (DCP), Thai Institute of Directors Association
- TLCA Executive Development Program (EDP) Thai Listed Companies Association
- Director Accreditation Program (DAP), Thai Institute of Directors Association
- Executive Development Program (EDP) Fiscal Policy Research Institute Foundation (FPRI)



Mr. Panit Dunnvatanachit

- Director

Academic Achievement

- M.B.A. (Finance), Washington University, St. Louis, USA
- Bachelor of Arts & Science, Washington University, St. Louis, USA
- Director Certification Program (DCP), Thai Institute of Directors Association
- Capital Market Academy Leader Program, Capital Market Academy
- Broadcasting Executive Forum, Office of the National Broadcasting and Telecommunications Commission
- Thailand Energy Academy Course for Management, Thailand Energy Academy



Mr. Yuttana Yimgarund

- Director

Academic Achievement

- Master of Public Administration, National Institute of Development Administration
- Bachelor of Laws, Ramkhamhaeng University
- Graduate Diploma in Public Law, Thammasat University
- Sukarak School Graduate Diploma, Customs Department
- Capital Market Academy Leader Program, Capital Market Academy
- Anti-Corruption Strategic Management Course for Senior Executive
- Corporate Governance for Directors and Senior Executives of State Enterprises and Public Organization



Mrs. Natamon Bunnak

- Director

Academic Achievement

- Master of Economics (Business Economics), University of the Thai Chamber of Commerce
- Master of Public and Private Management Program, National Institute of Development Administration
- Bachelor of Science (Agricultural Economics), Kasetsart University
- Director Accreditation Program (DAP), Thai Institute of Directors Association



Mr. Wichan Ekarintrakul

- Director

Academic Achievement

- Master of Engineering (Traffic and Transportation Engineering), Chulalongkorn University
- Bachelor of Engineering (Civil Engineering), Chulalongkorn University



Dr. Sombat Kitjalaksana

- Director
- Corporate Governance and Risk Management Committee Member
- Executive Director
- Managing Director
- Authorized Signatory Director

Academic Achievement

- Dr. Techn. (Soil Mechanic), University of Innsbruck, Austria
- Bachelor and Master of Engineering (Civil), Chulalongkorn University
- Director Certification Program (DCP), Thai Institute of Directors Association
- Finance for Non-Finance Directors (FND), Thai Institute of Directors Association
- Director Accreditation Program (DAP), Thai Institute of Directors Association



Mrs. Payao Marittanaporn

- Director
- Corporate Governance and Risk Management Committee Member
- Executive Director
- Managing Director
- Authorized Signatory Director

Academic Achievement

- M.B.A., Chulalongkorn University
- Higher Diploma in Auditing, Thammasat University
- Bachelor of Accountancy, Chulalongkorn University
- Director Certification Program (DCP), Thai Institute of Directors Association
- Role of the Compensation Committee (RCC), Thai Institute of Directors Association
- Capital Market Academy Leader Program, Capital Market Academy

Management Team



Dr. Sombat Kitjalaksana

Managing Director



Mrs. Payao Marittanaporn

Managing Director



Mr. Sanguan Kunatinun

Deputy Managing Director
Expressway Engineering



Mrs. Sudruthai Prommart

Deputy Managing Director
Expressway Operation



Miss Panan Tosuwanthaworn

Deputy Managing Director
Finance



Mr. Witoon Hatairatana

Deputy Managing Director
Railway System Operation and
Engineering



Mr. Alvin Gee

Deputy Managing Director
Operation Support



Dr. Vites Techangam

Deputy Managing Director
Technology and E-Business



Mr. Anawash Suwanarit

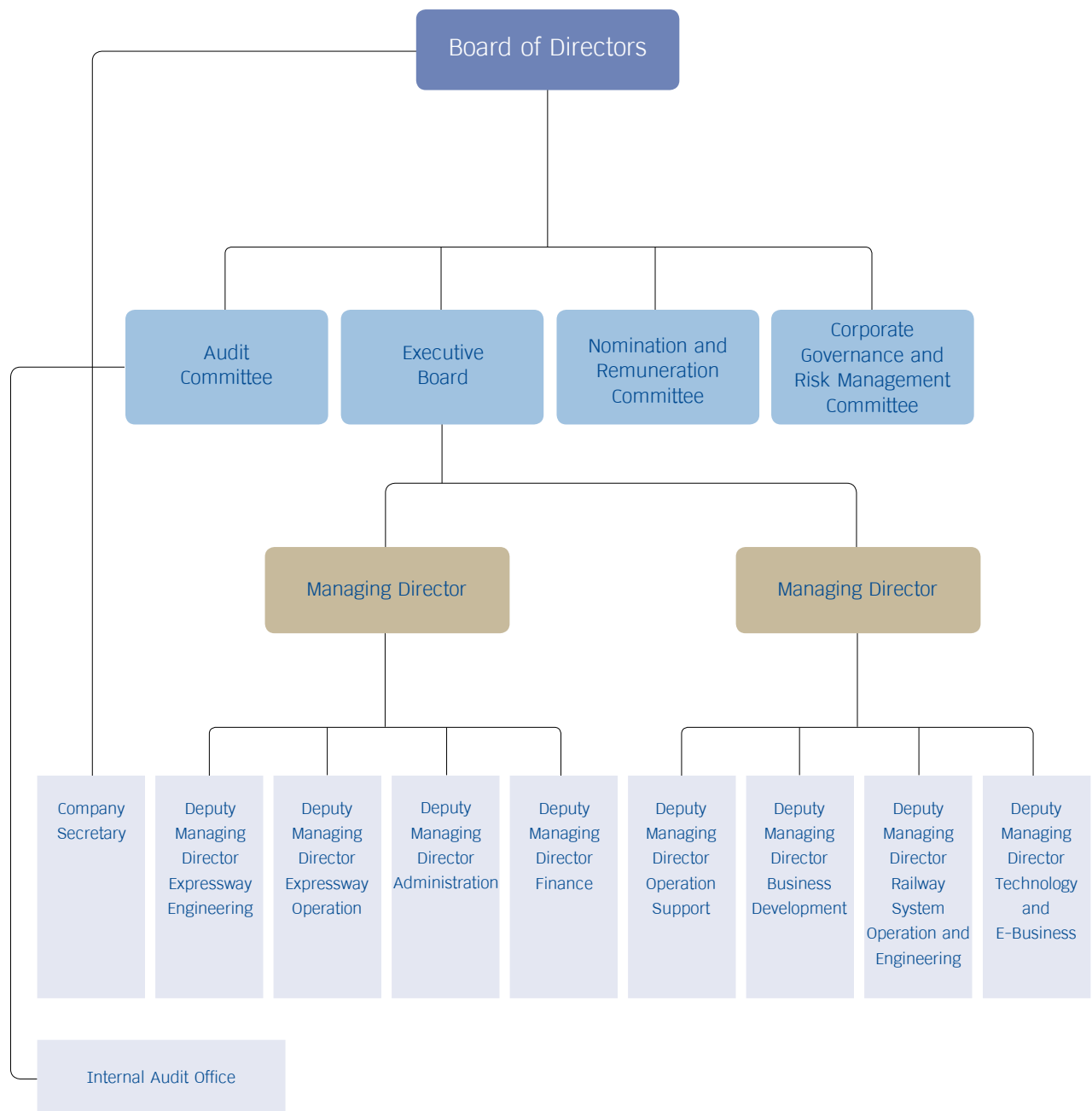
Deputy Managing Director
Business Development



Mr. Phakpoom Thaweewittayarut

Deputy Managing Director
Administration and
Company Secretary

Organization Structure





BEM Received THE DRIVE AWARD 2018

BEM received the DRIVE AWARD 2018 for Finance Excellence from the excellent financial management, together with management based on corporate governance, by considering corporate social and environmental responsibility projects along with innovations ready to drive the organization into the macro-economy.

“DRIVE AWARD 2018” were presented by MBA Chula Alumni, in collaboration with the Master of Business Administration Program, the Faculty of Commerce and Accountancy, Chulalongkorn University, to the top seven business group from the country’s 32 leading companies with the outstanding performance in efficiently driving the macro-economy, as well as having innovations ready to actively encourage the organization to play a key role in driving the country’s economy. It was regarded as an award guaranteeing that the Company was determined and committed to excellent management and corporate governance.



“ BEM was Selected for
the List of Thailand
Sustainability Investment (THSI)
for the Second Consecutive Year ”

BEM was selected to be listed in Thailand Sustainability Investment 2018 or THSI for the second consecutive year and was also selected to be in SETTHSI Index 2018 by the Stock Exchange of Thailand, as the listed company with the commitment to the business operations under the sustainable development guidelines in environmental, social and corporate governance aspects.

*BEM Giving Back to the Society by Opening the Free Service
of the Connection of the Si Rat - Outer Ring Road Expressway Heading
to Chaeng Watthana*



**INCREASE THE CONVENIENCE
FOR TRAVELING TO**

- Prachanukun Intersection
- Si Saman
- Ngam Wong Wan
- Bang Pa-in, Ayutthaya Province
- Chaeng Watthana

BEM, in association with the Expressway Authority of Thailand or EXAT, held the opening ceremony of the Connection between the Si Rat - Outer Ring Road Expressway and the Si Rat Expressway Heading to Chaeng Watthana, with an aim of expanding the expressway network from the western side to the northern side of Bangkok and making it more convenient for the service users of the Si Rat - Outer Ring Road Expressway heading to Chaeng Watthana and continuing along the Udon Rattaya Expressway heading to Bang Pa-in, Ayutthaya Province. It was BEM's intention to give back to the society by opening the Connection for service at no charge.



Site Visit

On September 26, 2018, Mr. Pailin Chuchottaworn, Deputy Minister of Transport, made a site visit to the Construction Project of the Connection between the Si Rat – Outer Ring Road Expressway and the Si Rat Expressway Heading to Chaeng Watthana before the service opening, warmly welcomed by Mr. Surong Bulakul, Chairman of the Board of the EXAT, Dr. Suchart Chonsakpipat, Governor of the EXAT, and Mrs. Payao Marittanaporn, Managing Director of BEM, along with the management of both agencies.

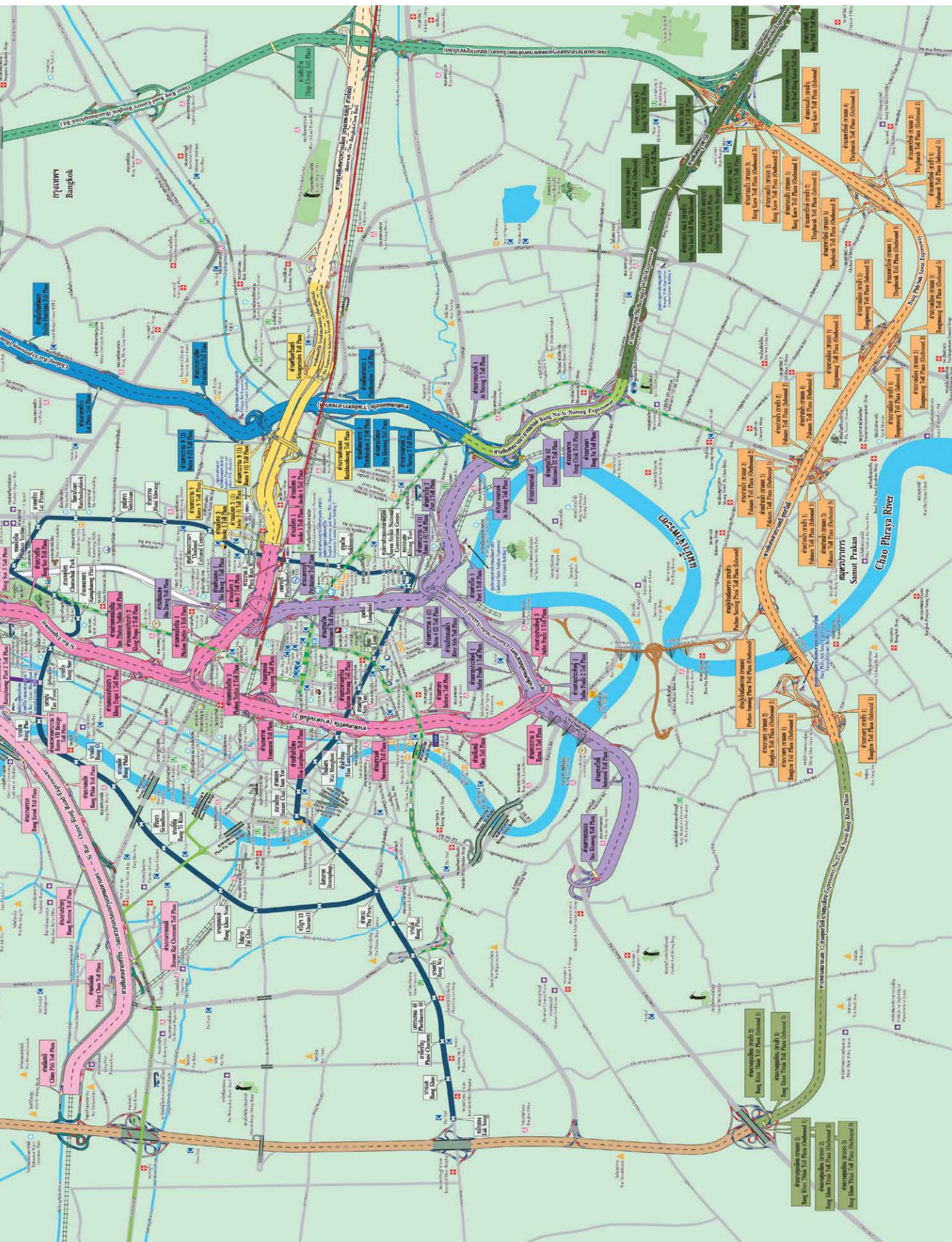


The opening ceremony of the Connection between the Si Rat – Outer Ring Road Expressway and the Si Rat Expressway Heading to Chaeng Watthana.

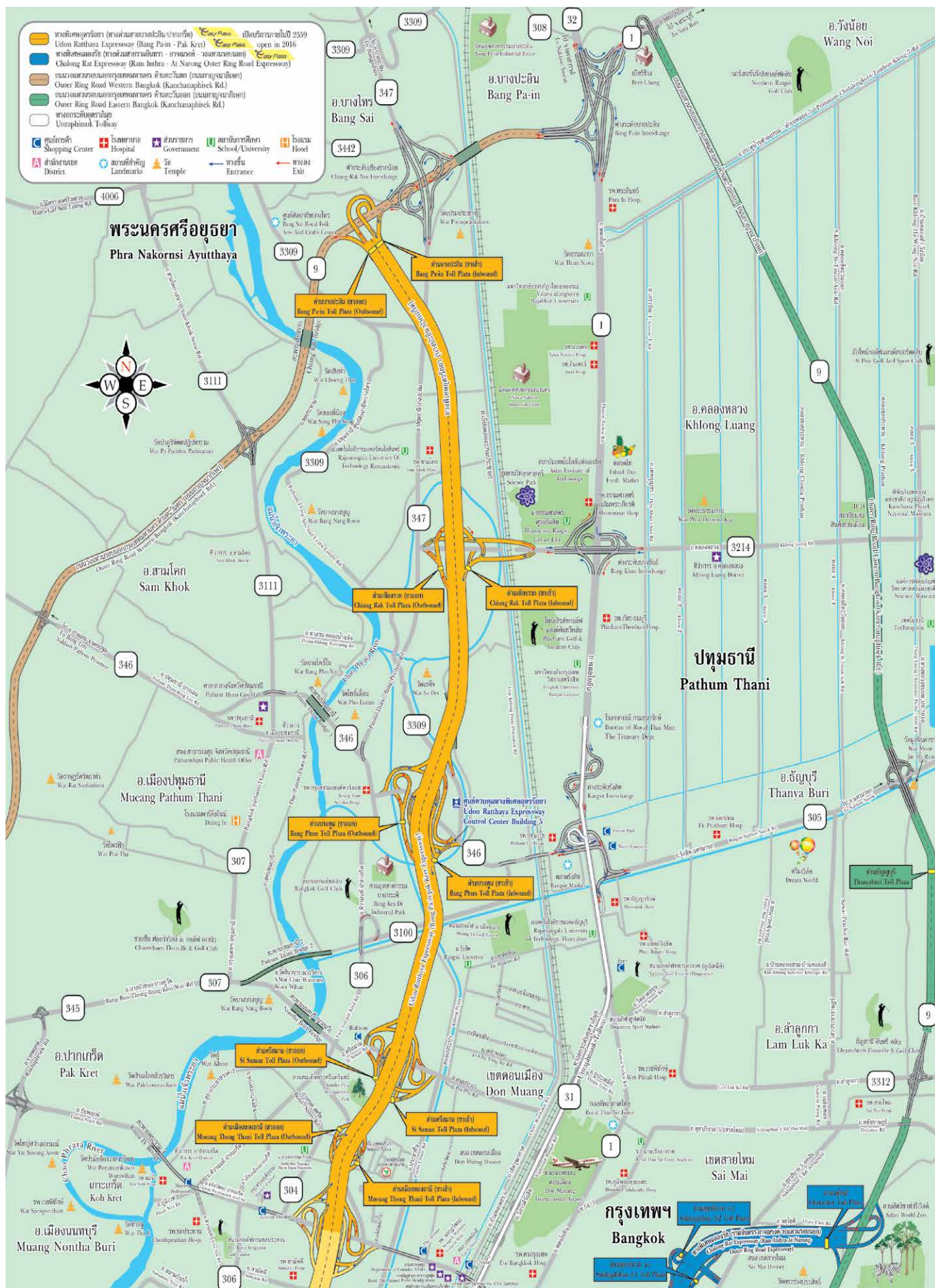
On September 30, 2018, it was a great honor for us that the opening ceremony of this project was presided over by Mr. Surong Bulakul, Chairman of the Board of the EXAT, accompanied by Dr. Suchart Chonsakpipat, Governor of the EXAT, and Mrs. Payao Marittanaporn, Managing Director of BEM, together with the management of both agencies.



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Udon Rattaya Expressway Map



First Class Expressway Services

Services on the Expressway are the core of BEM's management, therefore, over the past period, The Company has been determined to develop and enhance the efficiency of its services so as to ensure that motorists will be impressed by the convenience, rapidity and cost-efficiency of the services. In regards to the first class services, BEM provides various services as follows:



Communications and Facilities

The Company established the expressway system control centers by having communication staff to coordinate with the rescue operation units as well as police officers on the expressway and at the ground level roads so as to service the motorists 24 hours a day. The communications facilities comprise:

- **Closed-circuit Television (CCTV)**

Closed-circuit televisions are installed at intervals throughout the Expressway to monitor traffic flow and various events on the Expressway, hence, motorists can be assured of prompt assistance should there be any emergency.



- **Emergency Telephones (ETS)**

Emergency telephones are installed at intervals of every 500 metre 1 kilometer on the Expressway so as to enable motorists

to contact communication staff at the control centers by pressing the metal shaft or green button to call the center, then the communication staff pans the closed-circuit television which is nearest to such SOS telephone to the location of such telephone. This enables the communication staff to monitor the calling site and simultaneously, sound and video recorders record the conversation between the motorist and the communication staff.

- **Variable Message Sign (VMS)**

The Company publicizes various information on traffic flow and significant events to motorists by VMS which are installed prior to various intersections on the Expressway.

Traffic Management

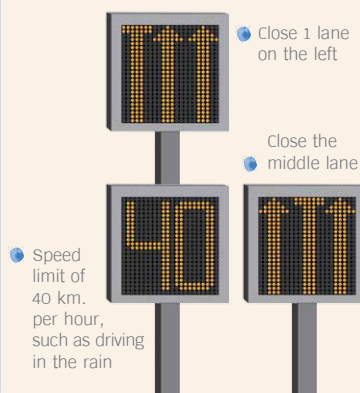
Traffic management is a routine operation that the Company coordinates with the Traffic Division, EXAT and the police officers at the Si Rat Expressway Police Station so as to ensure rapid and safe passage for motorists, especially at on-off ramps or at any areas with heavily congested traffic. The traffic management facilities comprise:

- **Traffic Signs**

The Company has installed traffic signs to ensure the motorists' safe and careful use of the Expressway, namely, speed limits on the Expressway when it is raining or traffic direction indicators.

- **Weighing Stations**

The Company takes into account the safety of motorists by providing weighing station so as to control the weight limits in accordance with the legal standards. Any truck loaded in excess of the weight limit will not be allowed to enter the Expressway.



Rescue and Trailer Services

Should any motorist encounter any accident or engine trouble on the Expressway, the rescue staff will help repair the engine to working condition or if it is unable to be repaired, the staff will help tow such vehicle on the Expressway to exit at the nearest off ramp without any expense, except for:

- **Fuel Cost**

Should the vehicle be out of gas, the staff will refuel the vehicle to enable such vehicle to exit the Expressway and reach a gas station whereby the rate of gas to be charged at the market rate which is merely approximately Baht 100.- on average.

- **Chemical Powder Cost**

Should any vehicle encounter any problem causing oil to leak onto the road, it is necessary for the staff to apply chemical powder to clean up such oil spill for the safety of other motorists.



Useful Telephone Numbers

Accident / Breakdown Car / Traffic Information	Tel.	1543 / 66 (0) 2664 6400
Chalerm Mahanakorn Expressway Control Center	Tel. / Fax.	66 (0) 2240 0709
Si Rat Expressway Control Center	Tel.	66 (0) 2664 6400 / 66 (0) 2248 7574-6 / 66 (0) 2641 4611 ext. 7007
	Fax.	66 (0) 2247 1994
Si Rat - Outer Ring Road Expressway Control Center Building (CCB7)	Tel.	66 (0) 2555 0255
	Fax.	66 (0) 2555 0281
Chalong Rat Expressway Control Center	Tel.	66 (0) 2319 9730-9 ext. 4610-11
	Fax.	66 (0) 2319 9730-9 ext. 4623
Udon Ratthaya Expressway Control Center	Tel.	66 (0) 2567 5700 ext. 7171 / 66 (0) 2567 5680
	Fax.	66 (0) 2567 5700 ext. 7155
Buraphawithi Expressway Control Center	Tel.	66 (0) 2746 9800-4 ext. 5501
	Fax.	66 (0) 2746 9799
Kanchanaphisek Expressway Control Center (Bang Phli Suk Sawat)	Tel.	66 (0) 2442 0876-7
	Fax.	66 (0) 2442 0899
Chalerm Mahanakorn Expressway Police Station	Tel.	66 (0) 2249 8007
	Fax.	66 (0) 2249 8007 / 66 (0) 2240 0147
Si Rat Expressway Police Station	Tel. / Fax.	66 (0) 2248 6891-5
Si Rat - Outer Ring Road Expressway Police Station	Tel.	66 (0) 2555 0275
	Fax.	66 (0) 2555 0281
Udon Ratthaya Expressway Police Station	Tel.	66 (0) 2567 5682-3
Bangkok Expressway and Metro Public Company Limited Branch Office (1) Expressway Business	Tel.	66 (0) 2641 4611
	Fax.	66 (0) 2641 4610
Expressway Authority of Thailand	Tel.	66 (0) 2579 5380-9 / 66 (0) 2558 9800
	Fax.	66 (0) 2561 2984 / 66 (0) 2579 8737

The MRT Blue Line Extension Project, Hua Lamphong - Bang Khae Section and Bang Sue - Tha Phra Section



Itisaraphap Station Sanam Chai Station Sam Yot Station Wat Mangkon Station

This is the Project which makes a travelling connection between Phra Nakhon side and Thonburi side with the M.R.T. Chaloen Ratchamongkhon Line, Hua Lamphong - Bang Sue Section, to ensure the through operation service for widespread coverage and to improve the quality of life for the people. This Project has a total length of 27 kilometers, divided into Hua Lamphong - Bang Khae Section (Lak Song Station) of approximately 14 kilometers in length with 4 underground stations and 7 elevated stations; and Bang Sue - Tha Phra Section of approximately 13 kilometers in length, with 8 elevated stations.



“Book Journey @ MRT X'Mas Fest”

On December 24-25, 2018

Bangkok Expressway and Metro Public Company Limited in association with Bangkok Metro Networks Limited and Matchon Publishing House organized the “Book Journey @ MRT X'Mas Fest” activity at MRT Chatuchak Park Station, (Exit 3). In this activity, there were giveaways of more than 3,000 different books with 40 covers of Matchon Publishing House as Christmas and New Year gifts to MRT passengers.

Government Welfare Smart Card Opening Ceremony

On July 20, 2018

Bangkok Expressway and Metro Public Company Limited in association with Ministry of Transport, Ministry of Finance, Mass Rapid Transit Authority of Thailand and Krung Thai Bank Public Company Limited, participated in the opening ceremony of the government welfare smart card usage for access to the MRT system under the concept “Welfare Smart Card & MRT System”, presided over by Mr. Arkhom Termpittayapaisith, Minister of Transport. With government welfare smart cards, the cardholders would be able to have access to both MRT lines, the M.R.T. Chaloem Ratchamongkhon Line and the Chalong Ratchadham Line.



Safety Activities for 2018

Safety of passenger service is always top priority of the company, according to the mission statement of metro business, whereby the Safety and Quality Group had planned and conducted safety communication and promotion activities throughout the year 2018 focusing on safety in use of the MRT system with the aim to educate and let passengers to understand how to proper and safe use of our MRT system, e.g. retaining from walking, using mobile phone, carrying large belongings while using of escalators, and beware of pick pocketing via communication channels which are;

The Safety Share Safety All On Tour 2018 The activities were held at top five stations which had highest accident statistics both in the MRT Blue Line and The MRT Purple Line, during March - December 2018. As a result, from the activities conducted, the statistics showed that there was a decreasing tendency of the accident comparing with the year 2017.

Activities with Internal and External Agencies, such as, the National Children's Day activity



National Children's Day activity in collaboration with CSR Division



M Care activity in collaboration with CSR Section

Incident management exercise, including the exercise that was conducted with the Transport Safety Center, Ministry of Transport in accordance with the Risk Management Plan.



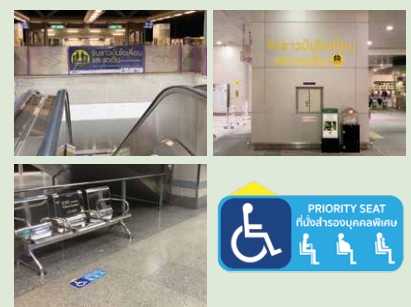
Safety Promotion medias have been published on...



Safety promotion media



Safety information updates in BEM website



Posters and signs within stations



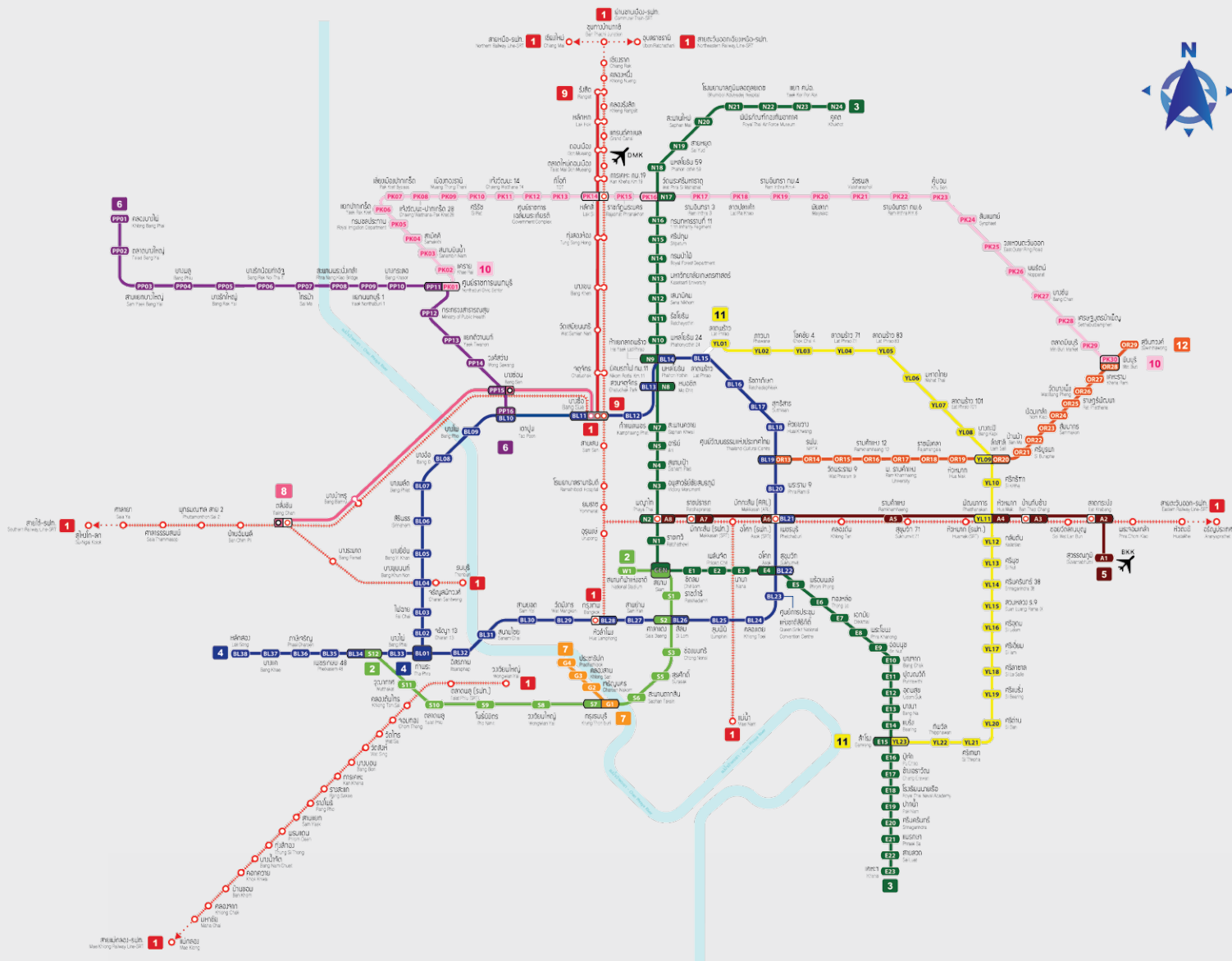
On TVM screen



Media which broadcast via PID on safety while using escalators



Mass Rapid Transit & Commuter Train Network



สัญลักษณ์ Legend

- 1 รางรถไฟประเทศไทย State Railway of Thailand
- 2 รางสีเขียวก่อน (สายสีชมพู) Green Line (Pink Line)
- 3 รางสีเขียวก่อน (สายสีม่วง) Dark Green Line (Purple Line)
- 4 รางสีฟ้า Blue Line
- 5 รางสีฟ้า สายแอร์พอร์ต เรล ลิงก์ Airport Rail Link
- 6 รางสีม่วง Purple Line
- 7 รางสีทอง Gold Line
- 8 รางสีชมพู สายสีน้ำเงิน Light Red Line
- 9 รางสีชมพู สายสีน้ำเงิน Dark Red Line
- 10 รางสีชมพู สายสีน้ำเงิน Pink Line
- 11 รางสีเหลือง Yellow Line
- 12 รางสีส้ม Orange Line

สถานีเชื่อมต่อการเดินรถ Interchange Stations



สถานีเปลี่ยนสายการเดินรถ Connecting Stations



สถานีในอนาคต Future Stations



ฉบับที่ 1 : ปรับปรุงครั้งก่อนที่ 15 มีนาคม 2561
Ver 1 : Updated 15-March-2018

Facilities for MRT Passengers



MRT Tickets

Faster and More Convenient Travelling with MRT Tickets

MRT tickets are available for travelling by the Chaloem Ratchamongkhon Line (MRT Blue Line) and the Chalong Ratchadham Line (MRT Purple Line) and can accumulate the values for multiple rides. MRT tickets can be purchased only at Ticket Offices of the MRT Blue Line, at an initial price of Baht 180 for the purchase of a new ticket (Baht 100 Fare Value; Baht 50 Deposit; and Baht 30 Issuing Fee).

Ticket Categories

Stored Value Cards

These cards can be add revalue and stored value for use in multiple journeys in the MRT system, comprising:

- Adult Card
- Student Card
- Elder Card
- Child Card

Business Traveler Cards

These cards are available for corporate customers to build the uniqueness and the loyalty for business and can be also combined with other functions to offer multi-functions on a single card, comprising:

- Business Traveler Card
- Co-brand Card

To apply for cards for corporate customers, please contact the Customer Relations Section, Tel. 02 354 2000.

2. Activities for Good Relationships with Customers/Passengers

2.1 Privileges for MRT cardholders

2.1.1 To enjoy discounts when MRT tickets are topped up, by collaborating with alliances, namely, AIS, Muang Thai Smile Club, FWD, KRUNGSRI, UOB, Citi Cash Back Platinum, KTC, Standard Chartered (TISCO).



2.2 Off-peak journey promotion project through the “MRT Lucky Hour for Early Birds to Celebrate New Year’s Eve 2018” activity **MRT organized the MRT Lucky Hour** for Early Birds activity to promote off-peak journeys to ease the passenger density in the MRT system during 07.00 - 08.00 a.m., by encouraging MRT passengers of all types to travel by the MRT system before 7.00 a.m. on Mondays-Fridays for a chance to win a free-ride reward. In 2018, MRT held this activity for two times, viz., the first time held during March 2 - May 31, 2018; and the second time held during November 12 - December 11, 2018. For further details of the activities and announcement of the reward winners, *please check out at www.bemplc.co.th or Bangkok MRT Application.*



2.2 Public Relations Activities and Good Relationships with Customers



Exhibition booths for activities and enrollment for MRT Club membership. Public relations were undertaken to promote activities and privileges for MRT Club membership and the membership application method via the application was also introduced.

To apply for the membership, please visit the website at www.bemplc.co.th or use Bangkok MRT Application.

Facilities for MRT Passengers

Metro Mall

Metro Mall is opened for service at 18 MRT stations, Situated within Kamphaeng Phet Station, Chatuchak Park Station, Phahon Yothin Station, Phra Ram 9 Station, Thailand Cultural Centre Station, Sukhumvit Station, Phetchaburi Station, Khlong Toei Station, Working hours is normally from 6.30 AM - 9.00 PM Besides, Latphrao Park & Ride (Basement Level) at Latphrao station where Gourmet Market Is opened for service from 7.00 AM - 9.00 PM.



More than 165 shops available within the space of Metro Mall.



Great Fair with special price.



Many facilities within Metro Mall.

Automated self-service machines

More than 200 automated self-service machines has been installed within 18 MRT stations. For example, ATM, cash deposit machines, bill payment machines, including foreign currency exchange booths to serve passengers within the MRT system.



Telecommunications

In 2018,

1. 3G and IRDN 3G were upgraded for all 18 stations.
2. POI was upgraded with receiver devices of DTAC (2300) for all 18 stations.
3. Mobile phone network installation between Bang Sue Station and Tao Poon Station to create a better communication efficiency and to enable passengers to contact and communicate uninterruptedly within the MRT system.

Promotion and Campaign Activities for Using the MRT System in 2018

National Children's Day

The “MRT Share Happiness by Giving Free MRT Ride for Children” activity was held on the occasion of the National Children's Day 2018 for children not taller than 140 centimeters to take the MRT rides for free on January 13, 2018 throughout the service hours.



Songkran Day

Activities on the Songkran Day, the National Elderly Day, and the Family Day, comprising two activities as follows:

- The “Celebrating Songkran Day with MRT” activity was held to provide MRT passengers an opportunity to make merit under the Thai tradition during April 10 - 15, 2018 for blessing by performing a bathing rite for Buddha images at 9 MRT Blue Line stations, namely, Hua Lamphong Station, Si Lom Station, Sukhumvit Station, Phra Ram 9 Station, Thailand Cultural Centre Station, Lat Phrao Station, Phahon Yothin Station, Chatuchak Park Station, Bang Sue Station, and at 16 MRT Purple Line stations.
- “Free MRT ride for Elderly (60+)” activity was held on April 13 - 15, 2018 by providing free MRT rides for elders aged 60 or over throughout the service hours.

MRT Participated the “Bike Un Ai Rak” Cycling Event

The Mass Rapid Transit Authority of Thailand (MRTA) and Bangkok Expressway and Metro Public Company Limited (BEM) participated in the “Bike Un Ai Rak” cycling event by granting an exemption of fares to those who carried bicycles of all types to use the MRT system service on the Chaloem Ratchamongkhon Line (MRT Blue Line) and the Chalong Ratchadham Line (MRT Purple Line). Those passengers could request to get free-ride coupons at Ticket Offices of both MRT lines on Sunday, December 9, 2018 throughout the service hours, in order to suit the convenience of the MRT users who would take part in such event, while encouraging the people to use the mass rapid transit system.

National Mother's Day

The “12 August, Free MRT riding for Mom” activity was held to provide mothers with free MRT journeys on August 12, 2018 throughout the service hours.



National Father's Day

The “5 December, Free MRT riding for Dad” activity was held to provide fathers with free MRT journeys on December 5, 2018.



New Year's Day

The “MRT Extended Service Hours on New Year's Day until 2 AM” activity was held on the occasion of the New Year's Day, whereby service hours were extended from 06.00 AM on December 31, 2018 until 02.00 AM on January 1, 2019.



Corporate Social and Environmental Activities

The Company has a policy and is determined to continuously take care of every sector of society in respect of the management of improved operational results, and creation of value added to shareholders, and giving priority to nearby communities as well as taking care of both nearby and remote communities. In 2018, the Company organized the corporate social and environmental contribution activities as follows:

Activities
for Development
of Quality of Life
on **Safe**
Travelling



“Lady Safety Driving”

The Company organized the Lady Safety Driving activity to promote safe driving, provide driving techniques for handling emergencies to reduce possible accidents, together with basic car care tips for women, as well as taking them to visit the Si Rat - Outer Ring Road Expressway Control Center.

The Company aims to serve safety and reduce the road accident by held the safety driving training to develop driving skill, coping with unexpected emergency skill, and basic car care tips with free access to the activity.



Good Family Relationships



“Moms & Kids Strengthen Relationships with BEM by Visiting Lawo Kingdom”

The activity was held on the occasion of the National Mother's Day, as a special opportunity for family members to express their love and affection for each other, and to play a part in strengthening family relationships, the Company then invited the expressway users to travel on the Si Rat Outer - Ring Road Expressway to trace the history of the golden age during the early Ayutthaya period by visiting, for example, Somdet Phra Narai National Museum, The Twelve Royal Store Buildings, and Official Residence for Ambassadors (Wichayen House) as formerly reserved for welcoming the French ambassadors, etc., as well as doing activities to strengthen family relationships by cooking the original Thai dessert and making flower garlands for moms to express kids' gratitude towards their moms while telling moms that I love mom in the midst of a heartwarming atmosphere.

“Dads & Kids to Strengthen Relationships with BEM by Following the Trace of the King's Trip to Bang Pa-In Royal Palace”

The activity was held to strengthen family relationships on the occasion of the National Father's Day, the Company then organized the “BEM Invites Dads & Kids to Follow the Trace of the King's Trip to Bang Pa-In Royal Palace in Ayutthaya Province” activity by inviting the expressway users to travel on the Si Rat - Outer Ring Road Expressway connecting to the Si Rat Expressway heading to Chaeng Watthana continuing on the Udon Rattaya Expressway to the Bang Pa-In Royal Palace in Ayutthaya Province to make a visit to the exquisite architecture as perfectly mixed between Thai and Western arts as well as learning the history and pay homage to the Buddha image at Wat Niwet Dhamma Prawat, together with participation in an activity to strengthen family relationships by planting Hoya in glass terrariums for giving it to dads while saying that I love dad in a heartwarming atmosphere.



“Charitable Rally”

The Company organized the BEM Rally activity, by taking participants to travel on the Si Rat - Outer Ring Road Expressway to do activities and play games about Thai way of life in Nakhon Pathom Province and granted income without deduction of expenses to Thai Heart Foundation in the program “treating congenital heart disease in child by surgery and cardiac catheterization after office hours”.

The cooperation for the provision of good services to meet the utmost satisfaction of the expressway users is regarded as a key goal of the three collaborating authorities, namely, staff of the Company, staff of EXAT, and police officers of the Expressway Police Station 2. To strengthen relationships among them in order to ensure unity and maximum efficiency of the services, the Company organized activities, as follows:

Good Relationships with Related Authorities



"Let's Watch Movie with Expressway"

The Company invited families of staff of EXAT and police officers of the Expressway Police Station 2 as well as families of the Company's staff to meet, enjoy games, and watch an inspiring movie titled "A Wrinkle in Time", the classic fantasy adventure movie, at Esplanade Cineplex.



"Lawo Kingdom Tour with BEM"

The Company invited the management and staff of toll collection division of EXAT and toll revenue division, toll collection division of the Company, to tour the city of history in the early Ayutthaya period by visiting Somdet Phra Narai National Museum, The Twelve Royal Store Buildings, to strengthen relationships among agencies.



"Let's Love Environment with BEM"

To sustainably maintain the balance of nature, and the environmental preservation is of great importance to everyone and requires active participation, the Company then organized the program titled Let's Love Environment with BEM to instill awareness of environmental preservation by taking a group of management and staff to jointly grow coral and take away trash to clean up the Toei Ngam Beach in Chonburi Province to raise awareness of environmental preservation and jointly restore the marine ecosystem.

Awareness of Environmental Preservation



Promotion of Youth Learning

Education represents a key foundation for youths' sustainable development of knowledge, abilities, thoughts, and values in order to become decent and quality citizens of society. The Company continues to encourage and support youth education every year through various activities as follows:



"Scholarships to Adjacent Schools"

The Company organized the BEM Grants Scholarships to Underprivileged Students with Good Academic Records and Funds for Development of 9 Schools adjacent to the Si Rat Expressway, the Udon Raththaya Expressway and the Si Rat - Outer Ring Road Expressway activity, to raise morale of the youth in studying hard and grow up as a quality adult in the country's development in the future.



Support for Outdoor Learning Experience

Outdoor experience is an opportunity for children to fully gain experiences, which will help them to understand various things clearly and comprehensively, and be able to apply the gained knowledge to their life in the future. The Company thus organized outdoor learning experience activities as follows:

“Hero in my mind”

The Company organized the Hero in my mind activity on the occasion of the National Children’s Day to broaden experience of children to use their imagination to create books and pencils, and to have a great enjoyment with super heroes as well as meeting the real “rescue heroes” who kept taking care of them and shared their experience, knowledge, along with seeing the expressway operating cars closely, in which a lot of staff’s children, students from nearby schools and neighboring residents participated.



“MRT Happy Children’s Day”

The Company organized the National Children’s Day activity for 2018 by presenting gifts to children to bring them happiness at MRT, i.e., the M.R.T. Chaloom Ratchamongkhon Line (MRT Blue Line), at Hua Lamphong Station, and the M.R.T. Chalong Ratchadham Line (MRT Purple Line), at Nonthaburi Civic Center Station, in order to enhance their outdoor learning. Such activity was very enjoyable and attractive to both children and their parents.



"MRT Happy Blue Line Activity"

The Company held the MRT painting competition titled "MRT Happy Blue Line Spread the Happiness Everyday" in which the primary school nearby the MRT route participated the art skills activity and also learned the MRT safety system.

On this occasion, General Prayut Chan-o-cha, the Prime Minister, accompanied by the Council of Ministers, as welcomed by the Governor of the Mass Rapid Transit Authority of Thailand (MRTA) and the Chairman of the Executive Board of Bangkok Expressway and Metro Public Company Limited, attended the competition and gave the reward to the winner. His group also made a visit to the M.R.T. Chaloem Ratchamongkhon Line and the Seats or the Thrones taken by His Majesty the late King Bhumibol Adulyadej and Her Majesty Queen Sirikit when they graciously presided over the official opening ceremony of the M.R.T. Chaloem Ratchamongkhon Line Project (Hua Lamphong - Bang Sue) on July 3, 2004, as well as ending up with the Give Book Get Back with MRT activity and visiting the foundation stone for the M.R.T. Chaloem Ratchamongkhon Line within MRT Hua Lamphong Station.



"Let's Learn The Golden Jubilee Museum of Agriculture"

The Company brought a group of teachers and students, totaling 50 persons, from Wimuttayaram School, adjacent to the Si Rat - Outer Ring Road Expressway to visit the Golden Jubilee Museum of Agriculture to widen their experience in agriculture by cultivating paddy straw mushrooms in baskets, seeing a 3-dimension movie titled Phai Ruak Kap Tantawan Phu Yaso (The Ruak Bamboo and the Arrogant Sunflower), as well as touring the Forest Museum and experiencing agricultural livelihood to support children's outdoor learning.



"Let's See the Inspiring Movie with BEM"

The Company brought a group of teachers and students, totaling 190 persons, from Wat Pracha Saththatham School and Watuthaitharam School, adjacent to the expressways, to see a movie titled 2,215 Believe Crazy Dare to Walk, the inspiring documentary film from behind the scenes of the historic charitable marathon under the Kao Kon La Kao project by Toon Bodyslam, with the marathon distance from Amphoe Betong to Amphoe Mae Sai, at Esplanade Cineplex.





“Share 2 Child Activity”

The Company organized the “Share2Child activity” to widen youth’s experience in outdoor learning by inviting a group of teachers and students from Wat Paknam School (Phibunsongkhram) in Nonthaburi Province, to go on a school trip to Wat Phra Chetuphon Vimolmangklararm Rajwaramahaviharn by paying homage to the Reclining Buddha as well as travelling to learn the history at the Museum Siam, together with participation in the lecture and learning about the safety in use of the MRT system, and appreciating the Happy Blue Line exhibition, travel from the M.R.T. Chaloem Ratchamongkhon Line (MRT Blue Line) connecting to the M.R.T. Chalong Ratchadham Line (MRT Purple Line). This school trip activity significantly created an impression and increased knowledge of the children.

“Give Books Get Back with MRT”

The Company invited the MRT passengers to jointly donate books for children both new and second-hand books, the passengers jointly donated a lot of books at Lat Phrao Station and Queen Sirikit National Convention Centre where received the donation. For sharing the books, the Company further delivered them to other projects, such as Mobile Library for Market People Project as initiated by Her Royal Highness Princess Maha Chakri Sirindhorn, Books For Children Foundation, Baannokkamin Foundation, the northern and southern border schools, Chiangrai Central Prison, community libraries in Nonthaburi Province. Summary donate More than 22,500.



“BEM Development Learning Center for Kid Project”

The Company jointly presented learning and teaching equipment and the books donated by the MRT passengers under the Give Books Get Back with MRT project to three institutions, i.e.,

- Nursery Child Center, Suan Phak Community, Bangkok;
- Child Development Center, Soi Suanruen Community, Wongsawang, Bang Sue, Bangkok;
- Preschool Center in Wat Wimut Yaram, Bang Phlat District, Bangkok, to develop the education quality of kids and youth, nearby the MRT routes and the Si Rat - Outer Ring Road Expressway. The Company also continued to hold educational center development activities and recreational activities for kids and youth.





“ Lankilaphat 2 ”

The Company played a part in humbly fulfilling the royal wishes of His Majesty the late King Bhumibol Adulyadej and Her Majesty Queen Sirikit to improve the quality of life of the people which not only contributed to healthy body, but also healthy mind, by endowing a fund and joining the board of committee and the subcommittee of the Lankilaphat Project. There were pilot projects, i.e., Lankilaphat 1, located in Khlong Chan Housing Community, Bang Kapi District; and Lankilaphat 2, located under the expressway (Urupong section), Ratchathewi District.

Support for Other Social Activities



“ BEM Development the Sport Field ”

The Company organized an activity for improving the quality of social life and enhancing sport skills of kids and youth residing nearby the MRT routes and the Si Rat - Outer Ring Road Expressway, The Company, in association with Soi Suk San 1 Community, Bang Sue District, Bangkok, improved and developed the sport field in the community as well as providing it with sport equipment and also held a friendly futsal match between the Company’s staff and youth in Suk San 1 Community. This sport field would be available as public space for allowing youth in the community and youth nearby to play sports and exercise to improve mental and physical health of the people as a whole.



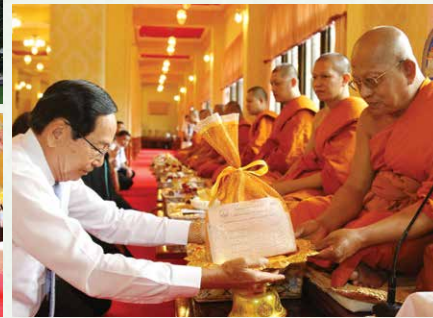
“ Happy Smile Happy the Elderly ”

The Company, in collaboration with Duang Prateep Foundation, organized the activity “Happy Smile Happy the Elderly” by bathing rite for Buddha images and pouring water on the hands of the elderly and for blessing, as well as delivering a lecture on safety of use the MRT system for the elderly, the luncheon, and ending with the recreational activities to bring the elderly happiness, for promoting the family institution. There were executives and staff actively participating in this activity.



“Thot Pha-pa Ceremony for 2018”

Bangkok Expressway and Metro Public Company Limited and CH.Karnchang Public Company Limited jointly hosted Thot Pha-pa Samakki Ceremony for 2018 at Wat Kalayanamitr Varamahavihara, Bangkok, and Wat Hongratanaram Rajawaravihara, Bangkok, to participate in donation for development of educational quality and as a scholarship to Phrapariyattidhamma School, and also, to renovate the temples, preserve and nurture the Buddhism.



“Thot Kathin Ceremony for 2018”

The Company, in association with communities surrounding the expressway project route, the MRT route and the MRT passengers, together with a group of management and staff, hosted Thot Kathin Ceremony for 2018 at Wat Paknam, Nonthaburi, to participate in donation for renovation of the hall of the temple.

Activities
for Development of
Quality of Life
on Public Health



“M Care Activity”

The Company, in association with hospitals and its partners, organized exhibition booths to provide information on health, safety, and free health checkups for MRT passengers and people surrounding the MRT routes and nearby communities at Phahon Yothin Station and Lat Phrao Station comprising; Health checkup service by conventional medicine namely, monitoring blood pressure, blood glucose test, pulmonary function test, exercise stress test, screening for hepatitis B / C, oral and dental checkup, initial visual test including demonstrating properly exercise, MOVE Hobbit exercise, basic life support and choking first aid, AED using, first aid plus providing knowledge and suggestion about breast cancer. Health checkup service by alternative medicine, integrative medicine, and traditional Chinese medicine namely, providing initial health checkup together with health care suggestion plus providing service of basic body massage and body massage therapy under the physiological basis.



1. Business Policy and Overview

Bangkok Expressway and Metro Public Company Limited (the “Company”) was incorporated from the amalgamation, pursuant to the Public Limited Company Act, between Bangkok Expressway Public Company Limited (“BECL”) and Bangkok Metro Public Company Limited (“BMCL”) on December 30, 2015, and the Company has assumed all assets, rights, duties and responsibilities of both companies by operation of law. As at December 31, 2018, the Company’s registered and paid-up capital amounted to Baht 15,285,000,000, divided into a total of 15,285,000,000 ordinary shares, at the par value of Baht 1 per share.

The Company’s main businesses are the provision of the expressway and metro services, including commercial development relating to the expressway and metro systems, which will lay a foundation for business expansion through future extension of the routes and the service network, both in the expressway and metro systems, thereby enabling the Company to be a leading mass rapid transit and transportation service operator in Thailand and in the region. Moreover, the Company may extend its businesses to other fast-growing businesses with good returns, such as, other infrastructure projects, commercial development or real estate development, both at home and abroad, etc.

1.1 Vision, Mission, Goals, Business Strategies and Business Overview

Vision

The Company’s vision is to become a leading, fully-integrated transportation service provider in Thailand and ASEAN.

Mission

The Company is committed to:

1. Providing services of the expressway and metro systems with safety, convenience, rapidity, reliability, punctuality, and efficiency, in order to improve the quality of people’s lives;
2. Improving the quality and efficiency of the modern and full-service transportation network in order to alleviate traffic problems, preserve the environment, and improve society and the country;
3. Creating value-added and utmost benefit to shareholders based on fairness to all stakeholders.

Goals and Business Strategies

To achieve the Company’s objectives and mission, the Company has formulated major strategies in its business operations, as follows:

1. To invest in the transportation system projects, expressway and connecting road projects, metro system projects, and related projects under the government policy for public-private partnership (PPP) in respect of infrastructure, including related business, such as, various commercial development, taking into consideration the projects which are beneficial to society and the country, with reasonable business yields;
2. To strengthen the businesses by generating revenues for continued growth, and managing costs and expenses efficiently, in order to maintain good financial standing;
3. To build relationships with stakeholders through the corporate social responsibility process and communicate with internal and external personnel about it;
4. To develop personnel ready for the provision of quality services of the expressway and metro systems;
5. To build social recognition of the corporate good image.

Business Overview of the Company

The Company is committed to being a leading, fully-integrated transportation service provider, which builds up a good journey for a better living. The Company's businesses comprise the provision of the expressway and metro services, including commercial development directly related to the main businesses. The Company's business overview is as follows:

1.1.1 Expressway Business

The Company and one of its subsidiaries, namely, Northern Bangkok Expressway Company Limited ("NECL"), have been granted concessions for construction and operation of a total of four expressways, comprising:

1) The Si Rat Expressway (Sector A, B, and C)

The Si Rat Expressway (Second Stage Expressway) (Sector A, B, and C) under the Second Stage Expressway Agreement with the Expressway Authority of Thailand ("EXAT") for a concession period of 30 years from March 1, 1990, comprising 3 Sectors, namely, Sector A (Rama 9-Ratchadapisek), Sector B (Phayathai-Bangkhlo), and Sector C (Ratchadapisek-Chaeng Watthana), covering a total distance of 29.8 kilometers.

2) The Si Rat Expressway, (Sector D)

The Si Rat Expressway (Sector D), is under the Agreement for the Extension of the Second Stage Expressway System (Sector D), with EXAT, for a concession period of 30 years from April 22, 1997. The route from Rama 9 road to Srinagarindra road connects to the Si Rat Expressway Part A, from Rama 9 road east heading to Ramkhamhaeng road and ending at Srinagarindra road, covering a distance of 8.7 kilometers.

3) The Si Rat - Outer Ring Road Expressway

The Si Rat - Outer Ring Road Expressway under the Concession Agreement for Investment, Design, Construction, Operation, Service, and Maintenance of the Si Rat - Outer Ring Road Expressway Project, with EXAT for a concession period of 30 years from December 15, 2012. The route starts from the Outer Ring Road (Khanapisek Road around Mahasawat Water Treatment Plant) heading eastbound along the right of way of the existing Southern railway, crossing the Chao Phraya River around the Rama VII Bridge, ending around Bang Sue Grand Station (Chatuchak), connecting with the Si Rat Expressway around the Bus Terminal (Mo Chit 2), and running down to at-grade level around Kamphaeng Phet 2 Road, covering a total distance of 17 kilometers. The connection to the north heading to Chaeng Watthana was further opened for service on September 30, 2018.

4) The Udon Ratthaya Expressway

The Udon Ratthaya Expressway (Bang Pa-in - Pak Kret Expressway), operated by NECL under the Bang Pa-in - Pak Kret Expressway Agreement with EXAT for a period of 30 years from September 27, 1996, comprising 2 Stages, namely, Stage 1, Chaeng Watthana - Chiang Rak, and Stage 2, Chiang Rak - Bang Sai, connecting to the Si Rat Expressway around Chaeng Watthana Road, covering a total distance of 32 kilometers.

1.1.2 Rail Business

The Company has been granted concessions for the operation of two mass rapid transit rail system projects from the Mass Rapid Transit Authority of Thailand (“MRTA”), namely:

- 1) The MRT Blue Line Project, comprising the M.R.T. Chaloem Ratchamongkhon Line Project (Hua Lamphong Station - Bang Sue Station), which is the first underground metro project of Thailand, covering a total distance of 20 kilometers, with 18 underground stations, opened for train operation service on July 3, 2004; and the MRT Blue Line Extension Project (Hua Lamphong - Lak Song and Bang Sue - Tha Phra Sections), covering a total distance of 27 kilometers, comprising 5-kilometer underground track and approximately 22-kilometer elevated track, with 20 stations, 4 of which are underground stations and 16 of which are elevated stations, with a connection to the M.R.T. Chaloem Ratchamongkhon Line Project at Bang Sue Station and Hua Lamphong Station, and a connection to the MRT Purple Line Project at Tao Poon Station.

As for the MRT Blue Line Extension Project, the operations during supply and installation of the M&E Equipment for opening for service are divided into 3 phases, namely, Phase 1: Bang Sue Station - Tao Poon Station, was opened for service on August 11, 2017; Phase 2: Hua Lamphong Station - Lak Song Station, by September 2019; and Phase 3: Tao Poon Station - Tha Phra Station, by March 2020.

The Company is entitled to farebox revenue and undertake activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and in the trains of the MRT Blue Line Project, for a period of 30 years from the date of opening for service of the whole route; and

- 2) The M.R.T. Chalong Ratchadham Line Project or the MRT Purple Line Project, Bang Yai - Rat Burana, Bang Yai - Bang Sue Section (Klong Bang Phai Station - Tao Poon Station), Contract 4: Concession for Supply of M&E Systems and O&M Services, on a PPP Gross Cost basis, whereby MRTA invests in all civil works and the Company invests in the M&E Systems and the rolling stocks, as well as provides the operation and maintenance services in accordance with the specified service standards. MRTA is entitled to all fare box revenue and commercial development revenue from the utilization of the civil infrastructure and the railway systems and MRTA shall make a gradual repayment of the M&E Equipment to the Company on a monthly basis for a period of 10 years, and shall engage the Company for the O&M Services throughout the concession period of 30 years from September 4, 2013.

The M.R.T. Chalong Ratchadham Line Project is an elevated metro project, for a distance of 23 kilometers, with 16 stations and a connection to the MRT Blue Line Project at Tao Poon Station of the MRT Purple Line Project, which was opened for service on August 6, 2016.

1.1.3 Commercial Development Business

The Company and one of its subsidiaries, namely, Bangkok Metro Networks Limited (“BMN”), operate the commercial development business of the MRT Blue Line Project, as follows:

- 1) Procurement and/or production of advertising media of various forms in the trains and metro stations;
- 2) Lease of retail spaces in the MRT Blue Line stations and spaces in the basement level of the Lat Phrao park and ride facility;
- 3) Provision of service and maintenance of telecommunications system equipment inside the metro stations.

In addition, as for the expressways, the Company and NECL allowed private entities and individuals to use spaces for commercial operation for installation of Intelligent Traffic Signs and various advertising boards, including retail spaces around toll plazas, and other business activities, such as, the use of the expressway areas for installation of 3G signal boosters, etc.

1.2 Significant Changes and Developments

The Company was incorporated from the amalgamation, under the Public Limited Company Act, between BECL and BMCL on December 30, 2015. It operates the businesses of construction and operation of the expressways and operation of the metro system, including commercial development relating to the expressway and metro systems, whereby such businesses were transferred from BECL and BMCL by operation of law.

Significant Changes and Developments prior to the Amalgamation

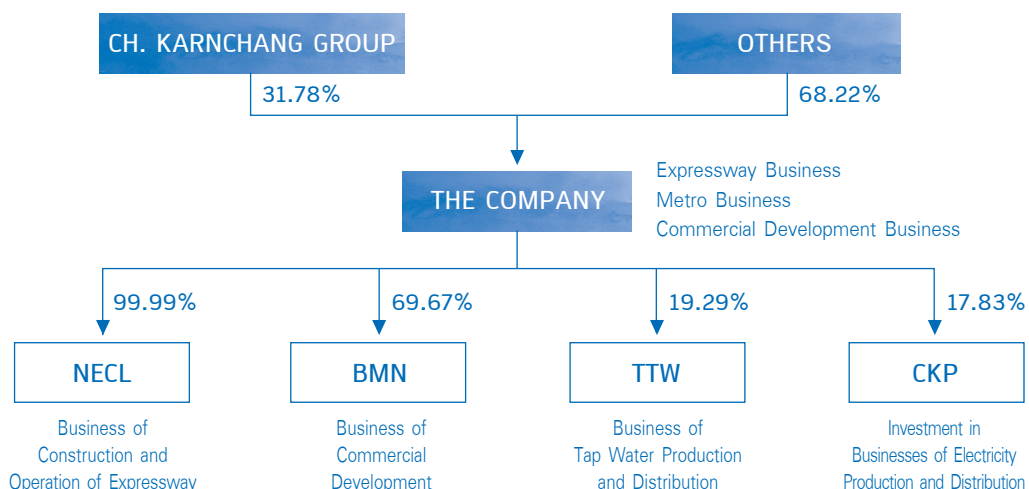
- BECL registered its incorporation on December 23, 1987, and was listed on the Stock Exchange of Thailand (“Stock Exchange”) since August 31, 1995. Prior to the amalgamation, BECL’s registered and paid-up capital amounted to Baht 7,700,000,000, divided into 770,000,000 ordinary shares, at the par value of Baht 10 per share.
- On December 22, 1988, BECL entered into the Second Stage Expressway Agreement with the Expressway Authority of Thailand (EXAT) for construction and operation of the Si Rat Expressway for a concession period of 30 years from the construction commencement date, namely, March 1, 1990.
- On September 25, 1996, BECL established Northern Bangkok Expressway Company Limited (NECL), whereby NECL entered into the agreement with EXAT for construction and operation of the Udon Ratthaya Expressway (Bang Pa-in - Pak Kret Expressway) for a period of 30 years from the execution date of the agreement, namely, September 27, 1996.
- On April 17, 1997, BECL entered into the Agreement for the Extension of the Second Stage Expressway System (Sector D), for construction and operation of the Si Rat Expressway (Sector D), with EXAT for a period of 30 years from the construction commencement date, namely, April 22, 1997.
- On September 14, 2012, BECL entered into the Concession Agreement for Investment, Design, Construction, Operation, Service, and Maintenance of the Si Rat - Outer Ring Road Expressway Project with EXAT for a concession period of 30 years from the date of EXAT’s Notice to Proceed, namely, December 15, 2012.
- BMCL registered its incorporation on February 18, 1998, and was listed on the Stock Exchange since September 21, 2006. Prior to the amalgamation, BMCL’s registered and paid-up capital amounted to Baht 7,585,000,000, divided into 20,500,000,000 ordinary shares, at the par value of Baht 0.37 per share.
- BMCL entered into the Agreement for the M.R.T. Chaloem Ratchamongkhon Line Project with MRTA on an AOT (Acquire, Operate and Transfer), PPP Net Cost basis, whereby BMCL was entitled to farebox revenue and undertaking activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and in the trains for a period of 25 years, from July 2, 2004 to July 1, 2029. Under such Agreement, BMCL was obliged to make payment of remuneration from fares and commercial development to MRTA at the rates as mentioned in the Agreement.
- On February 25, 2009, BMCL established Bangkok Metro Networks Limited (BMN) for operating the commercial development business, by the amalgamation of three companies, namely, BMCL Network Limited, Metro Mall Development Limited, and Triads Networks Co., Ltd. BMN accepted the transfer of all three companies’ businesses, as well as all rights, duties, assets, liabilities and staff.
- On September 4, 2013, BMCL entered into the Agreement for the MRT Purple Line Project with MRTA for a period of 30 years on an ATO (Acquire, Transfer and Operate), PPP Gross Cost basis, namely, MRTA invested in all civil works and BMCL invested in the M&E Systems and the rolling stocks, provided that MRTA shall make a gradual repayment of the M&E Equipment to BMCL, and BMCL shall provide the O&M services in accordance with the service provision standards as specified in the Agreement. In this regard, MRTA is entitled to all farebox revenue and commercial development revenue from the utilization of the civil infrastructure and the railway systems and MRTA shall make payment to BMCL in the form of service fee for the O&M Services from the date of BMCL’s operation service until the end of the Concession Agreement.

Significant Changes and Developments of the Company in 2018

April 5, 2018	The Company issued and offered for sale the debentures No. 1/2018, with a maturity of 3-7 years, in the total amount of Baht 10,000 Million, at the fixed interest rate of 2.05 percent to 3.01 percent per annum, for use in replacement of the loan from the financial institutions under the financial restructuring plan of the Si Rat - Outer Ring Road Expressway Project.
June 15, 2018	The Company received a credit rating at “A”, with “Stable” outlook from TRIS Rating Co., Ltd. (TRIS Rating).
June 19, 2018	The Company received an “Excellent” rating with 92 scores in the assessment of the quality of the 2018 Annual Ordinary General Meeting of Shareholders from the Thai Investors Association.
June 27, 2018	The Company received the Drive Award 2018 for Finance Excellence as a result of excellent financial management, together with management based on corporate governance, by considering the corporate social and environmental responsibility projects, along with innovations ready to drive the organization into the macro-economy, from Chulalongkorn University.
June 28, 2018	The Company sold all of its shares in Xayaburi Power Public Company Limited (XPCL) representing 7.50 percent to CK Power Public Company Limited (CKP) in consistency with the investment objective of the Company.
July 2, 2018	The Company was selected by the Stock Exchange as a listed company engaging in the sustainable business operations with the social, environmental and governance commitment (Thailand Sustainability Investment or THSI) of the group of listed companies on the Stock Exchange with market capitalization of more than Baht 100,000 Million, for the second year in a row.
July 13, 2018	The Company constructed another three lanes for toll collection at Chim Phli Toll Plaza in order to accommodate an increase in traffic volume of the Si Rat - Outer Ring Road Expressway which opened for service in the late year 2018.
July 16, 2018	The Company sold 111.2 million shares in CK Power Public Company Limited (CKP), as a result, its shareholding percentage in CKP represented 17.83 percent.
September 30, 2018	The Company opened for service the connection between the Si Rat - Outer Ring Road Expressway and the Si Rat Expressway heading to Chaeng Watthana in order to ensure the greater convenience for traveling to Chaeng Watthana and continuing along the Udon Ratthaya Expressway.
October 19, 2018	The Thai Institute of Directors Association (IOD) announced the results of corporate governance survey of listed companies for 2018, in which the Company received the “Very Good” score level.
October 31, 2018	The Company securities was positioned in the sustainability index 2018 (SETTHSI INDEX) and the company was selected to enlist in Thailand Sustainability Investment (THSI) 2018 and presented with SET Sustainability Awards 2018 in the capacity as listed company engaging in the sustainable business and serving as role model for other listed companies.
December 20, 2018	The Company additionally purchased 1.14 million shares in Bangkok Metro Networks Limited (BMN), as a result, its shareholding percentage in BMN represented 69.67 percent.

1.3 Shareholding Structure of Company Group

Chart of Shareholding Structure and the Company's Shareholding Percentage as of December 31, 2018



Remark: CH. Karnchang Group comprises

- 1) CH. Karnchang Public Company Limited; and
- 2) CH. Karnchang-Tokyu Construction Company Limited.

1.4 Investment in Subsidiaries and Other Companies

The Company has a policy on investment in businesses of infrastructure or businesses supporting the Company's operations and creating opportunity and long-term yields to the Company including the sources of investment for future projects. The Company's investment as of December 31, 2018, was as follows:

1) Names of Companies invested by the Company and its Shareholding Percentage

Unit: Million Baht

Names of Companies	Nature of Business	Registered Capital	Paid-up Capital	Shareholding Percentage	Investment Value at Cost
Subsidiaries					
Northern Bangkok Expressway Company Limited	Construction and operation of the Udon Ratthaya Expressway	6,000	5,250	99.99%	2,604
Bangkok Metro Networks Limited	Operation of the commercial development business	254	254	69.67%	177
Other Companies					
CK Power Public Company Limited	Investment by holding shares in other companies (Holding Company) operating business of electricity production and distribution	9,240	7,370	17.83%	2,962
TTW Public Company Limited	Tap water production and distribution	3,990	3,990	19.29%	4,242

2) Details of Companies Invested by the Company

Expressway Business

1. Northern Bangkok Expressway Company Limited (“NECL”)

NECL’s registered capital amounts to Baht 6,000 Million, divided into 294 million ordinary shares and 306 million preferred shares, at the par value of Baht 10 per share, with the paid-up capital of Baht 5,250 Million. As of December 31, 2018, the Company’s shareholding was 99.99 percent of its registered capital. NECL entered into the Agreement with EXAT for construction and operation of the Udon Rattaya Expressway for a period of 30 years from September 27, 1996. The Udon Rattaya Expressway is northbound and continues from the Si Rat Expressway around Chaeng Watthana Road and passes Bang Phun, Chiang Rak and ends at Bang Sai.

Commercial Development Business

1. Bangkok Metro Networks Limited (“BMN”)

BMN has a total registered capital of Baht 254 Million, divided into 25.4 million ordinary shares, at the par value of Baht 10 per share, with the paid-up capital of Baht 254 Million. As of December 31, 2018, the Company’s shareholding in BMN was 69.67 percent of its registered capital.

BMN was established by the amalgamation of three companies, namely, BMCL Network Limited, Metro Mall Development Limited, and Triads Networks Co., Ltd. BMN accepted the transfer of all three companies’ businesses, as well as all rights, duties, assets, liabilities, and staff.

The Company currently engages BMN to serve as its sole management representative for commercial development in the MRT Blue Line Project as operated by the Company and also entitles BMN to be its management representative for commercial development, namely, procurement and production of advertising media of various forms in the metro stations and trains, lease of retail spaces in stations of the M.R.T. Chaloem Ratchamongkhon Line Project and at the basement level of the park and ride facility at the Lat Phrao Station, as well as providing service and maintenance of telecommunications system equipment in the stations and tunnels.

Other Infrastructure Businesses

1. CK Power Public Company Limited (“CKP”)

CKP is a listed company on the Stock Exchange, operating its main business by investing in other companies (Holding Company) which operate the business of electricity production and distribution. CKP has a total registered capital of Baht 9,240 Million, divided into 9,240 million ordinary shares, at the par value of Baht 1 per share, with the paid-up capital of Baht 7,370 Million. As of December 31, 2018, the Company’s shareholding was 17.83 percent of its registered capital. CKP invests in companies operating the business of electricity production and distribution from three types of energy, namely, hydropower business, by investing in SouthEast Asia Energy Limited and Xayaburi Power Company Limited; thermal power business (cogeneration system), by investing in Bangpa-in Cogeneration Limited; and solar power business, by investing in Bangkhenchai Company Limited, Nakhon Ratchasima Solar Limited, and Chiangrai Solar Limited.

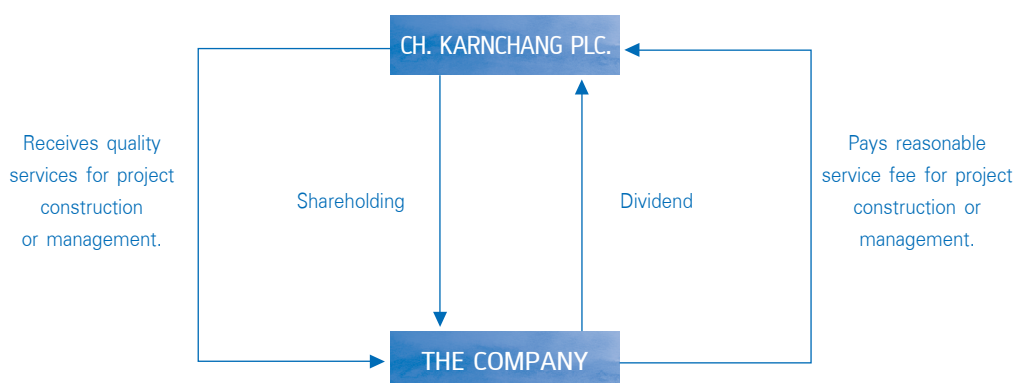
2. TTW Public Company Limited (“TTW”)

TTW is a listed company on the Stock Exchange, having a total registered capital of Baht 3,990 Million, divided into 3,990 million ordinary shares, at the par value of Baht 1 per share, with the paid-up capital of Baht 3,990 Million. As of December 31, 2018, the Company’s shareholding was 19.29 percent of its registered capital. TTW operates the business of production and distribution of tap water to the Provincial Waterworks Authority in the areas of Nakhon Pathom Province and Samut Sakhon Province, under the Water Purchase and Sale Agreement with the Provincial Waterworks Authority for a period of 30 years from July 21, 2004. In addition, TTW invests in Pathum Thani Water Co., Ltd., representing 98 percent of its registered capital, which operates the business of tap water production and distribution in the areas of Pathum Thani and Rangsit, under the Water Purchase and Sale Agreement with the Provincial Waterworks Authority for a period of 25 years from October 15, 1998, and also invests in Thai Water Operations Company Limited, which operates the business of management and operation of tap water production and distribution systems and water treatment system, as well as invests in the energy business by holding shares in CKP representing 25 percent of its registered capital.

1.5 Relationship with Business Alliance of Major Shareholder

CH. Karnchang Plc. is the Company’s major shareholder. As of December 31, 2018, CH. Karnchang Plc. was holding 4,722,121,829 shares in the Company, representing 30.89 percent of the Company’s paid-up capital. From the past until the present, the Company engaged CH. Karnchang Plc. for construction and operation of various projects, as CH. Karnchang Plc. is a large construction company in Thailand, with potential, knowledge, and expertise, and is familiar with the civil infrastructure of the expressway and metro projects, as well as M&E Equipment. In addition, CH. Karnchang Plc. has experience in the operation on a Lump Sum Turnkey basis, which enables it to deliver quality works timely, and is also the Company’s strategic investment partner, and as a result, CH. Karnchang Plc. has responsibility and commitment to operating the projects with success. Therefore, in the future, it is possible that the Company will engage CH. Karnchang Plc. for project construction or management. However, in the execution of transactions with CH. Karnchang Plc., which may have a conflict of interests, the Company will comply with its policy on the execution of connected transactions per details as disclosed in Item 12.Connected Transactions.

Chart of Relationship with Business Alliance of Major Shareholder



2. Nature of Business Operations

The Company and its subsidiaries have operated the businesses as concessionaires awarded by the government sector, as follows: 1) concessionaires for the expressway construction and operation, namely, the Si Rat Expressway (Sector A B C), the Si Rat Expressway (Sector D), the Si Rat - Outer Ring Road Expressway and the Udon Raththaya Expressway; 2) concessionaires for operation of the MRT Blue Line Project and the MRT Purple Line Project. Other than serving as the concessionaire, the Company has also operated the commercial development business pursuant to the relevant Concession Agreements. Currently, the revenue structure of the Company and its subsidiaries is set forth below.

(Unit: Million Baht)

Total revenue structure	Operated by	Shareholding Percentage of the Company	Consolidated Financial Information					
			For Year Ended December 31, 2018		For Year Ended December 31, 2017		For Year Ended December 31, 2016	
			Million Baht	%	Million Baht	%	Million Baht	%
Revenue from expressway business			10,174	53.3%	9,957	64.7%	9,301	70.3%
Toll revenue	Company		8,718	45.7%	8,573	55.7%	7,978	60.3%
Toll revenue	Subsidiary	99.99	1,456	7.6%	1,384	9.0%	1,323	10.0%
Revenue from rail business			4,736	24.8%	4,521	29.3%	3,230	24.4%
Fare box revenue and metro operation service charges	Company		4,736	24.8%	4,521	29.3%	3,230	24.4%
Commercial development revenue			705	3.7%	675	4.4%	573	4.3%
Commercial development revenue	Company		240	1.3%	75	0.5%	78	0.6%
Commercial development revenue	Subsidiary	69.67	465	2.4%	600	3.9%	495	3.7%
Gain on change in investment category			2,496	13.1%	-	-	-	-
Gain on investments ⁽¹⁾			499	2.6%	12	0.1%	12	0.1%
Other income ⁽²⁾			477	2.5%	228	1.5%	117	0.9%
Total revenues			19,087	100%	15,393	100%	13,233	100%

Remarks: ⁽¹⁾ Gain on investments includes gain on sales of investments in CKP, XPCL, TTW, and other temporary investments.

⁽²⁾ Other income comprises interest income, gain on fair value adjustment of investment.

2.1 Nature of Business Operations of the Company

The Company is committed to being a leading, fully-integrated transportation service provider, which builds up a good journey for a better living. The Company's businesses are composed of the expressway and metro system services, including commercial development business directly related to the main businesses. The Company's overall businesses are divided into three main sectors, as follows:

2.1.1 Expressway Business

1) Nature of Services

The Company and one of its subsidiaries, i.e., Northern Bangkok Expressway Company Limited ("NECL"), have been granted concessions for construction and operation of a total of four expressways, namely, the Si Rat Expressway (Sector A B C), the Si Rat Expressway (Sector D), the Si Rat - Outer Ring Road Expressway, and the Udon Raththaya Expressway, as per the following details:

(1) The Si Rat Expressway (Sector A B C)

The Si Rat Expressway (Second Stage Expressway) under the Second Stage Expressway Agreement with the Expressway Authority of Thailand (“EXAT”) for a concession period of 30 years from March 1, 1990.

The Si Rat Expressway is the first large-scale construction project in Thailand on the basis of public private partnership. This project is implemented on a BTO (Build Transfer Operate) basis, namely, the Company (formerly BECL) invested in the design, construction and operation of the Si Rat Expressway. In this regard, the title to various permanent constructions pertaining to or use of the Si Rat Expressway shall be vested in EXAT. This expressway comprises 3 Sectors, namely, Sector A (Rama 9 - Ratchadapisek), Sector B (Phayathai - Bangkhlo), Sector C (Ratchadapisek - Chaeng Watthana), covering a total distance of 29.8 kilometers. EXAT invested in the construction and operation of the Chalem Mahanakorn Expressway (First Stage Expressway), covering a total distance of 27.1 kilometers. The Company has the right to receive toll revenue sharing in respect of the Chalem Mahanakorn Expressway and the Si Rat Expressway in such proportions as specified in the Second Stage Expressway Agreement.

As for toll collection, expressway users shall pay tolls at the booths around the on-ramps of the Expressway. EXAT is responsible for the collection of all tolls and shares such toll revenue with the Company as specified in the Second Stage Expressway Agreement with effect from the Priority Component Opening Date. The toll revenue from the Chalem Mahanakorn Expressway and the Si Rat Expressway shall be encompassed and shared as per rules of area zoning. This is to say that in the urban network, for the first nine years, the Company and EXAT shall receive the revenue sharing at 60 percent and 40 percent, respectively. For the last nine years, the Company and EXAT shall receive revenue sharing at 40 percent and 60 percent, respectively. As for the period between the first nine years and the last nine years, the Company and EXAT shall receive the revenue sharing at 50 percent each. For the suburban network, namely, the Si Rat Expressway, Sector C, all toll revenue shall belong to the Company throughout the period of the Agreement.

(2) The Si Rat Expressway (Sector D)

The Si Rat Expressway (Sector D) (Rama 9 - Srinagarindra) is under the Agreement for the Extension of the Second Stage Expressway System, Sector D, with EXAT, for a concession period of 30 years from April 22, 1997.

The Si Rat Expressway (Sector D), is implemented on a BTO (Build Transfer and Operate) basis, namely, the Company invested in design, construction and operation of the expressway system; however, the title to permanent constructions pertaining thereto shall be vested in EXAT, covering a distance of 8.7 kilometers. In this regard, the Company has the right to receive consideration from toll revenue as specified in the Agreement, which shall be revised from time to time under the same criteria as that of the Second Stage Expressway Agreement.

(3) The Si Rat - Outer Ring Road Expressway Project

The Si Rat - Outer Ring Road Expressway under the Concession Agreement for Investment, Design, Construction, Operation, Service and Maintenance of the Si Rat - Outer Ring Road Expressway Project, with EXAT for a concession period of 30 years from December 15, 2012.

The Company has the duties to carry out design and construction, supply and installation of various equipment and systems, together with operation and maintenance of the expressway, including toll collection, in consideration of the right to receive toll revenue and other revenues (if any). The project is an elevated six-traffic lane expressway, for a distance of 17 kilometers, with 10 toll plazas. The project's route starts from the Outer Ring Road (Kanjapisek Road around Mahasawat Water Treatment Plant) heading eastbound along the right of way of the existing Southern railway, crossing the Chao Phraya River around the Rama VII Bridge, ending around Bang Sue Grand Station (Chatuchak), connecting with the Si Rat Expressway to the north of the Mo Chit 2 Bus Terminal, and running down to at-grade level around Kamphaeng Phet 2 Road. Moreover, the Company opened the connection of the Si Rat - Outer Ring Road Expressway with the northern part of the Si Rat Expressway (heading to Chaeng Watthana) for service on September 30, 2018, in order to ensure the greater convenience in travelling to Chaeng Watthana and continuing along the Udon Rattaya Expressway. In this regard, the Company is responsible for investment and all operating expenses, as well as sharing returns with or providing benefits to EXAT as specified in the Agreement.

In management of this project, the Company is responsible to collect tolls and shall have the right to receive all toll revenue and other revenues (if any) throughout the concession period, whereby the toll rates and revisions shall be agreed upon in the Agreement.

(4) The Udon Rattthaya Expressway

The Udon Rattthaya Expressway (Bang Pa-in - Pak Kret Expressway) is operated by the subsidiary (“NECL”) under the Bang Pa-in - Pak Kret Expressway Agreement with EXAT for a concession period of 30 years from September 27, 1996.

The Udon Rattthaya Expressway is implemented on a BTO (Build Transfer Operate) basis like the Si Rat Expressway, namely, NECL invested in the design, construction, and operation of the Udon Rattthaya Expressway, whereby the title to various permanent constructions pertaining to or use of the expressway shall be vested in EXAT, and EXAT is responsible to collect and deliver all tolls to NECL as specified in the Agreement. The Udon Rattthaya Expressway comprises 2 Stages, namely, Stage 1, Chaeng Watthana - Chiang Rak, and Stage 2, Chiang Rak - Bang Sai, connecting to the Si Rat Expressway around Chaeng Watthana Road, covering a total distance of 32 kilometers. As for the inbound route, expressway users shall pay tolls at the booths around the on-ramps of the expressway while in respect of the outbound route, expressway users shall pay tolls at the off-ramps of the expressway. EXAT is responsible to collect and deliver all tolls to NECL. All toll revenue in respect of the Udon Rattthaya Expressway shall belong to NECL.

2) The details of the expressway network connections are as follows:

Expressway Systems	Length (kilometers)	Constructed and Operated by
1. Chalem Mahanakorn Expressway (First Stage Expressway) (Bang Na - Din Daeng - Dao Khanong)	27.1	EXAT
2. Si Rat Expressway (Second Stage Expressway) 2.1 Urban Network (Sector A B) (Prachachuen - Phayathai - Bangkhlo - Asoke) 2.2 Suburban Network (Sector C) (Prachachuen - Chaeng Watthana)	29.8	Company
3. Si Rat Expressway (Sector D) (Rama 9 – Srinagarindra)	8.7	Company
4. Udon Rattthaya Expressway (Bang Pa-in - Pak Kret)	32.0	NECL
5. Uttaraphimuk Elevated Way (Don Muang Tollway)	28.0	Don Muang Tollway Public Company Limited
6. Chalong Rat Expressway including its Extension (Ramindra - At Narong and Ramindra - Outer Ring Road)	42.4	EXAT
7. Burapha Withi Expressway (Bang Na - Chonburi)	56.7	EXAT
8. Kanjanapisek Expressway (Bang Pli - Suksawad) and Highway No. 37 (Suksawad - Bang Khun Thien Section) including a connecting road to Bhumibol Bridge 1 and Bhumibol Bridge 2	42.3	EXAT
9. Si Rat - Outer Ring Road Expressway and Connection of the Si Rat - Outer Ring Road Expressway with the northern part of the Si Rat Expressway (heading to Chaeng Watthana)	17.0	Company
Total Length	284.0	

3) Toll Revenue Sharing

Effective from March 1, 2011, the Company and EXAT have received the toll revenue sharing in respect of the urban network at 40 percent and 60 percent, respectively, while the Company has received all toll revenues for the suburban network, in accordance with the terms of the Agreements.

Expressway	Network	Length (km.)	Opening Date	Revenue	Revenue Sharing Company : EXAT
Chalerm Mahanakorn Din Daeng - Port Bang Na - Port Port - Dao Khanong	Urban Urban Urban	8.9 7.9 10.3	January 4, 1981 January 17, 1983 August 8, 1987	Company and EXAT	- 60:40 for the first nine years - 50:50 for the period between the first nine years and the last nine years - 40:60 for the last nine years
Si Rat Sector A: Rama 9 - Ratchadapisek Sector B: Phayathai - Bangkhlo	Urban Urban	12.4 9.4	September 2, 1993 October 6, 1996	Company and EXAT	- 60:40 for the first nine years - 50:50 for the period between the first nine years and the last nine years - 40:60 for the last nine years
Sector C: Ratchadapisek - Chaeng Watthana	Suburban	8.0	September 2, 1993 Section 1	Company	- 100 : 0
Si Rat (Sector D): Rama 9 - Srinagarindra	Suburban	8.7	December 2, 1998 Section 2 March 1, 2000	Company	- 100 : 0
Si Rat - Outer Ring Road	Suburban	17.0	August 22, 2016	Company	- 100 : 0
Udon Ratthaya Chaeng Watthana - Chiang Rak Chiang Rak - Bang Sai	Suburban Suburban	22.0 10.0	December 2, 1998 November 1, 1999	Subsidiary (NECL)	- 100 : 0

4) Toll Rates

Expressway/Toll Plaza	Toll Rates (Baht/Trip)		
	4 wheels	6-10 wheels	More than 10 wheels
Chalerm Mahanakorn Expressway (First Stage Expressway)	50	75	110
Except: At Narong 1 Toll Plaza (to Bang Na)	40 *	65 *	100 *
Si Rat Expressway (Sector A B C) (Second Stage Expressway)	50	75	110
Except: Prachachuen Toll Plaza (inbound)	60	90	140
Prachachuen Toll Plaza (outbound)	10	15	30
Prachachuen 1 Toll Plaza (from Prachachuen Road) Prachachuen 2 Toll Plaza (to Prachachuen Road) Ngam Wong Wan 1 Toll Plaza (outbound) Ngam Wong Wan 2 Toll Plaza (inbound)	15	20	35
Si Rat Expressway, Sector D	25	55	75
Si Rat - Outer Ring Road Expressway	50	80	115
Udon Ratthaya Expressway	45	100	150
Except: Muang Thong Thani Toll Plaza	35 **	90 **	140 **
Bang Pa-in Toll Plaza	55	120	180

Remarks: * This is the rate after Baht 10 discount for all types of vehicles.

** This rate is the rate after Baht 10 discount for all types of vehicles.

The revision of the toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway is in accordance with the Second Stage Expressway Agreement, which shall be made every five years, and the calculation and revision shall be based on the most recent increase of the Consumer Price Index of Bangkok as issued by the Ministry of Commerce. Each increase shall be rounded up to the nearest whole multiple of Baht 5, provided that such revision shall not increase by more than Baht 10 during the first 15 years of the Contract Period. If there is an unusually high rate of inflation or an occurrence of Force Majeure or Exceptional Event, the Company and EXAT shall consider the toll revision as appropriate. The most recent toll revision was made on September 1, 2013. For the revision of the toll rates on 2018, EXAT hasn't revised and still use the same rates as the year 2013.

The revision of the toll rates of the Si Rat - Outer Ring Road Expressway is in accordance with the Concession Agreement for Investment, Design, Construction, Management, Operation and Maintenance of the Si Rat - Outer Ring Road Expressway Project, which shall be made every five years from the date of service operation of the project for five years, at the rates of Baht 15, Baht 25 and Baht 35 for four-wheeled vehicles, six-wheeled to ten-wheeled vehicles; and more than ten-wheeled vehicles, respectively, as specified therein.

With respect to the Udon Ratthaya Expressway, the revision of toll rates every five years shall be based on the most recent increase of the Consumer Price Index of Bangkok as issued by the Ministry of Commerce. Each increase shall be rounded up to the nearest whole multiple of Baht 5, provided that such revision shall not increase by more than Baht 15 during the first 15 years of the Contract Period. The first toll revision was made on November 1, 2003 and the latest toll revision was made on November 1, 2013.

Despite EXAT's issuance of the Notifications of the Ministry of Transport with approval of the Deputy Minister of Transport in charge, namely, the toll rates for the Chaleram Mahanakorn Expressway and the Si Rat Expressway were enforced on September 1, 2018, and the toll rates for the Udon Rattaya Expressway were enforced on November 1, 2018, the Company and one of its subsidiaries (NECL) were of the view that the revised toll rates under the said Notifications did not comply with the provisions of the relevant Agreements since the toll rates is still the same rates as the year 2013 which the company and subsidiary are opposing to EXAT about such subject.

5) Marketing and Competition of Expressway Business

• Customer Characteristics and Target Customers of Expressway Business

Target customers of the Chaleram Mahanakorn Expressway, the Si Rat Expressway, the Si Rat - Outer Ring Road Expressway and the Udon Rattaya Expressway refer to those motorists who desire a convenient and rapid transportation or who desire to shorten the traveling distance to their destinations as well as to avoid the traffic congestion along the normal roads in Bangkok and its vicinity. The customers by the types of vehicles using the expressways may be divided into four-wheeled vehicles; six-wheeled to ten-wheeled vehicles; and more than ten-wheeled vehicles, which in 2018, accounted for 98.04 percent, 1.72 percent and 0.24 percent, respectively. The traffic volume from January 1 to December 31, 2018 using the expressways may be described by areas as follows:

Expressway Systems	Average Traffic Volume (trips/day)	%
1. Chaleram Mahanakorn Expressway (First Stage Expressway) (Bang Na - Din Daeng - Dao Khanong)	372,759	30.30
2. Si Rat Expressway (Second Stage Expressway)		
2.1 Urban Network (Sector A and B) (Prachachuen - Phayathai - Bangkhlo - Asoke)	322,050	26.18
2.2 Suburban Network (Sector C) (Prachachuen - Chaeng Watthana)	186,911	15.20
3. Si Rat Expressway (Sector D) (Asoke - Srinagarindra)	201,248	16.36
4. Udon Rattaya Expressway (Bang Pa-in - Pak Kret)	91,077	7.40
5. Si Rat - Outer Ring Road Expressway	56,090	4.56
Total Traffic Volume	1,230,135	100

Given the fact that the provision of the expressway services is considered a form of public service for motorists requiring convenient, rapid and safe traveling, as target customers of the expressway systems, customers are broad depending on their destinations, residences and workplaces. In this respect, the revenue of the expressway systems will not depend on any particular group of customers.

6) Marketing Policy and Strategies of Expressway Business

• Marketing Strategies of Expressway Business

The marketing highlight is that the Si Rat Expressway is designed to respond to the transportation needs through the expressway network which connects to and covers major areas in Bangkok, whether from the Chaleram Mahanakorn Expressway and the Si Rat Expressway, as well as the Chalong Rat Expressway (Ramindra - At Narong) which cover the areas from the North to the South and from the West to the East of Bangkok. Motorists may use the expressway to connect to the Burapha Withi Expressway (Bang Na - Chonburi), and the Chaleram Mahanakorn Expressway and the Chalong Rat Expressway, thereby rendering the service of the expressway systems to become more complete for users to reach their destinations more conveniently and rapidly than using at-grade roads.

On August 22, 2016, the Company opened for service the Si Rat - Outer Ring Road Expressway, a route connecting between Bangkok - Thonburi sides, starting at the off-ramp from the Second Stage Expressway at Mo Chit (Chatuchak) and across the Chao Phraya River at the Rama VII Bridge, and continuing along in parallel to the Southern railway via the districts of Bang Phlat, Bang Bamru, Taling Chan, connecting to the Boromarajonani Elevated Road passing Ratchaphruek Road, and ending at the Outer Ring Road (the West). As such, such route enables motorists to conveniently and rapidly commute from and to Bangkok-Thonburi sides. Moreover, on September 30, 2018, the connection of the Si Rat - Outer Ring Road Expressway with the northern part of the Si Rat Expressway, Sector A, was opened for service to ensure the greater convenience in expressway users' travelling to Ratchadaphisek, Prachachuen, Chaeng Watthana, and Bang Pa-in.

The marketing disadvantage is the physical limitation which prevents the release of traffic around the expressway exits during rush hour, which depends on the traffic on at-grade roads, representing an uncertain factor beyond the Company's control. However, the Company continuously coordinates with traffic police in police stations of such areas, including linking video signal from CCTVs on the expressways to police stations of such areas, to provide assistance in releasing and facilitating traffic flow in the expressway systems by improving various on- and off-ramps for motorists to save time and facilitate motorists with more convenience and better quality of living in their commute in the downtown. Motorists should then appreciate these benefits over the price factor.

In view of various marketing strategies, the Company has proceeded as follows:

o Service and Product Strategies of Expressway Business

- The prime location and connections to major roads in the city allow the expressway network to respond to the transportation needs of motorists to reach their desired destinations. In this regard, the Company has improved the quality of the routes and its services and given priority to the customers' needs, which will be integrated as key strategies to efficiently accommodate the traffic volume flowing in the system.
- The feasibility study on improvement of the on- and off-ramps of the expressways serves as another measure to facilitate the traveling and to continually maintain the quality of the expressways in terms of engineering safety to meet international standards.
- The Company has continuously monitored the traffic volume statistics to enhance the efficiency of its Easy Pass service as appropriate in order to improve the service provision and accommodate the increased volume of expressway users. The Company has added Easy Pass lanes at various Toll Plazas on the Si Rat Expressway and the Si Rat - Outer Ring Road Expressway to accommodate the increased volume of Easy Pass users. In addition, the Company has moved the Easy Pass lanes for more convenience and safety of the Easy Pass service users and to minimize the cross traffic between the cash lanes and the Easy Pass lanes, which will mitigate the traffic congestion at the front of the toll plazas.
- The study on new routes in response to the urbanization in the future, particularly in Bangkok, as well as the study on traveling behavior of motorists are conducted to prepare for the expansion of the scope of the expressway services, and serve well as additional channels of services in response to needs of the motorists in the future.
- The Company has added communication channels on traffic information via Smart Traffic and Variable Message Signs (VMS) to keep motorists informed of the traffic conditions on expressways, as well as suggesting routes on expressways for more convenience and rapidity.
- The Company has improved signboards regarding the expressway usage on the at-grade main road and various alleys in Bangkok and its vicinity so as to facilitate motorists and boost confidence to access and use the expressways. To this effect, the Company focuses on introducing such landmarks adjacent to the on- and off-ramps of the expressways on the website, various public relations media, and social media to ensure that customers, as the expressway users, would travel more conveniently and rapidly.
- The company has organized the Roadshow activity to advertise and introduce the connecting route of the Si Rat - Outer Round Road Expressway and the Si Rat Expressway heading to Chaeng Watthana by exploring the places along the Si Rat - Outer Round Road Expressway and Chaeng Watthana. Furthermore, the Company also received the suggestions and feedbacks from the expressway users.
- The company has also conducted a survey on the satisfaction of the toll collection of the Si Rat - Outer Round Road Expressway with a result at the "Very Good" level.

o Price Strategies of Expressway Business

- Toll rates are agreed upon and specified in the Agreements, including the calculation for revisions of toll rates ahead of time. It is mutually agreed that the rates are considered reasonable and based on the feasibility study for the investment of each project. Under the Second Stage Expressway Agreement, the Agreement for the Extension of Second Stage Expressway (Sector D), and the Bang Pa-in - Pak Kret Agreement, toll rates shall be revised at every five years interval in accordance with changes in Consumer Price Index of Bangkok as announced by the Ministry of Commerce, which serves as the basis of calculation for the intrinsic value of the toll rates during the given periods under the Agreements. Furthermore, the revision of the toll rates of the Si Rat - Outer Ring Road Expressway is in accordance with the Concession Agreement, which shall be made every five years from the date of service operation of the project at the rates specified therein.
- The Company continues to provide discount on tolls on certain routes for a limited period of time to attract motorists to increasingly use the expressway services, especially such routes with connections between the expressway systems, e.g., At Narong 1 Toll Plaza (from the Chalong Rat Expressway to enter the Chalerm Mahanakorn Expressway around Bang Na), and Muang Thong Thani Toll Plaza of the Udon Ratthaya Expressway, which the Company, together with EXAT, continued to provide discount.

o Distribution and Distribution Channel Strategies of Expressway Business

- Payment of Tolls
 - Users of the Chalerm Mahanakorn Expressway and the Si Rat Expressway may choose to use the expressway services from various on- and off-ramps covering major areas in Bangkok throughout the total distance of 65.6 kilometers. Expressway users shall pay tolls at the on-ramps of toll plazas, totaling 52 locations, 20 toll plazas of the Chalerm Mahanakorn Expressway (e.g., Din Daeng, Bang Na, Dao Khanong, Sukhumvit, Rama 4 Toll Plazas, etc.) and 32 toll plazas of the Si Rat Expressway (e.g., Asoke, Rama 9, Srinagarindra, Yommaraj, Surawong, Hua Lamphong, Khlong Prapa, Yan Phahon Yothin, Prachachuen, Rama 3, etc.). Users may pay tolls in two channels, in cash, or via Easy Pass.
 - Users of the Udon Ratthaya Expressway which connects to the expressway system towards the North of Bangkok has a total distance of 32 kilometers, with 10 toll plazas, shall pay tolls at the on-ramps for the inbound direction and at the off-ramps for the outbound direction. There are five on-ramps and five off-ramps. Users may pay tolls in cash or via Easy Pass
 - Users of the Si Rat - Outer Ring Road Expressway which connects to the Si Rat Expressway System towards the West of Bangkok has a total distance of 16.7 kilometers, with 9 toll plazas, shall pay tolls at the on-ramps in cash or via Easy Pass.

o Electronic Toll Collection System

The Company, in association with EXAT, introduces the Electronic Toll Collection system in the toll collection, in order to serve as an alternative channel for motorists and facilitate and speed up the toll payment at the front of the Toll Plazas during rush hour, as well as accommodating the increasing traffic volume in the future. Currently, there are Easy Pass users representing approximately 39.51 percent.

In the interest of convenience to the Easy Pass users, the Company has arranged for the Easy Pass Fast Service, including film cutting service for Easy Pass installation and testing, whereby the expressway users are able to bring their cars to use the services at the Easy Pass Fast Service, free of charge, at the Si Rat Expressway Control Center, Asoke - Dindaeng Road, every day during the office hours from 9:00 - 17:00 hours.

To ensure more benefits of the Easy Pass users, the Company, in association with EXAT and the Department of Highways, improved the efficiency of the toll collection via the Electronic Toll Collection System by way of integration between the Easy Pass system and the M-Pass system to enable the service users to pay tolls with only one pass for seven expressway routes and two of the Intercity Motorway Projects (Motorways) of the Department of Highways from November 1, 2016.

o Marketing Promotion and Communication Strategies of Expressway Business

The Company provides a discount on tolls on certain routes within a limited period of time, aimed at attracting target customers to continue to use the expressway services and eventually become regular customers. In 2018, the Company continued to provide a discount on the Udon Rattaya Expressway of one of its subsidiaries (NECL), to motorists at Muang Thong Thani Toll Plaza.

Furthermore, during the remarkable festivals, such as, Songkran Festival and New Year's Festival, the Company also holds activities promoting the use of the expressways for motorists by cooperating with EXAT to distribute souvenirs to motorists, including arranging for motorist service points, demonstrating our positive image and good relationship with motorists under the theme that we provide the best services to customers throughout the routes, as well as educating them about applicable traffic laws during Songkran Festival. In addition, to celebrate on the occasion of the previous New Year's Eve, the Company jointly supported EXAT in public relations of offering a discount on application fee for Easy Pass. EXAT also organized a pilot project to give a discount of Baht 5/trip to the Easy Pass users at Asoke Toll Plaza 4 or representing a 10-percent discount from Baht 50, remaining Baht 45, only on business days during off-peak hours (6.00 - 9.00 hrs.) from November 1, 2018 to December 28, 2018, in order to encourage the expressway users to use more Easy Pass, thereby reducing accumulated traffic congestion at the front of the toll plaza.

The Company, as a private company that provides the expressway services, implemented in response to the government policy by participating in the drive safety campaign known as "Driving Slowly, Daytime Headlight Switching on, Seat Belt Fastening", for the motorists' facility and safety during the Songkran and New Year Festivals, and the Company promoted the drive safety campaign via social media on the expressways and traffic radio station to the target customers to raise awareness of safe journey among them, as well as resting assured of the quality service on the expressways, and activities supporting use of the services of the Company.

The activities on the occasion of the National Mother and Father Days were held for the lucky motorists, offering toll discounts, dissemination of the expressway network maps, including connections of the expressways with various routes in order to facilitate the expressway users' travelling. This year, the Company organized the Lady Safety Driving activity to promote safe driving and reduce accidents, as well as giving tips on basic car care for women, including how to handle emergencies on the expressways.

The channels of public relations used by the Company to disseminate information comprise documentary programs on radio and television, radio spot, leaflets, Variable Message Signs (VMS), and our website: www.bemplc.co.th, as well as social media (www.facebook.com/bangkokexpresswayandmetro), including BEM Magazine bimonthly newsletters as a medium for sharing information and news between the Company and motorists, and to educate, satisfy and attract new customers to use the services more, as well as organizing various social activities throughout the year to ensure the positive attitude of our services towards customers and society.

7) Industrial Outlook and Competition of Business Expressway

In 2018, the economy continued to grow from the previous year so the income of consumers was high accordingly. In November 2018, the Manufacturing Production Index (MPI) increased by 0.98 percent from the previous year, which had a positive effect on the automobile industry in a way which it expanded accordingly, partially resulting from the distribution of new vehicles to the market, sale promotion and economic situation which was improved as a whole. Thus, the volume of car sales in the 36th Thailand International Motor Expo was more than 40,000 cars, partially due to the end of the 5-year first new car scheme, consumers then had purchasing power for new cars instead, together with a supporting factor from automobile companies' sale promotion, including steady oil prices. As a result, the volume of car sales continued to rise (The Office of Industrial Economics, December 25, 2018).

Such factors contributed to the worsening traffic problems in Bangkok and its surrounding provinces which had been encountering the traffic congestion problems. Moreover, there was the growing development of the mass rapid transit systems, together with infrastructure construction, e.g., electricity system, tap water system, along with the problem of on-street parking as a hindrance to the traffic and violation of traffic rules, as such, the traffic congestion problems continued endlessly and inevitably.

Furthermore, in 2018, the statistics showed that there were a total of 10,217,694 registered vehicles in Bangkok and there were 905,593 new registered vehicles, with a daily average of approximately 1,517 registered vehicles. It could be seen that in 2018, the daily number of registered vehicles increased by two times from the previous year while the road distance in Bangkok was only 5,500 kilometers in length. Consequently, there remained the traffic congestion problems throughout Bangkok where the number of vehicles exceeded the capacity that its roads could accommodate. As a result, the average speeds of vehicles in Bangkok were 23.69 kilometers per hour during off-peak hours in the morning and 16.12 kilometers per hour during off-peak hours in the evening (Daily News, January 1, 2019 Issue), thereby having an impact on the growth the traffic volume on the expressways as a whole.

8) Procurement of Products and Services of Expressway Business

• Nature of Procurement of Products of Expressway Business

EXAT is an authority responsible for the construction of expressways to provide service for convenient, rapid and safe traffic, as well as to mitigate traffic problems. EXAT invited interested parties to submit investment proposals; the Company then conducted a feasibility study and submitted its proposals for investment in projects with appropriate returns and conditions.

The expressway projects under the Second Stage Expressway Agreement, the Bang Pa-in - Pak Kret Expressway Agreement, the Agreement for Extension of the Second Stage Expressway (Sector D), and the Concession Agreement for the Si Rat - Outer Ring Road Expressway Project are implemented on a BTO basis. According to the essence of the Agreements, EXAT shall have the duty to determine the characteristics of the expressways, expressway routes and areas to be used for construction and arrange for land expropriation for delivery to the Company for construction within the time specified in the Agreements. Thereafter, the Company would carry out construction in accordance with the designs approved by EXAT, subject to the supervision of the quality of construction work by EXAT's Consulting Engineer, Independent Certification Engineer, and Independent Design Checker. Upon completion of the construction, the Independent Certification Engineer shall inspect the work and issue Certificate of Completion to evidence that the construction work is completed in accordance with the specified standards and is ready for service, at which time, the Company shall be entitled to obtain toll revenue under the conditions of the Agreements. In the previous constructions, the Company engaged project managers to carry out construction and operate the Expressway Projects on a lump sum turnkey basis. This was due to the fact that the expressway projects are large-scale projects, which may sustain cost overrun issues and delayed completion of the construction. The lump sum turnkey engagement is intended to prevent such risk. In the engagement of project managers, the Company will select specialists with experience to act as project managers and construction contractor to ensure the accomplishment of quality work on time.

With respect to the Si Rat - Outer Ring Road Expressway Project, the Company and EXAT executed the Concession Agreement for Investment, Design, Construction, Operation, Service and Maintenance of the Project on September 14, 2012, for a concession period of 30 years from December 15, 2012 to December 15, 2042, and with a construction period of not exceeding 48 months. EXAT shall determine the expressway route and areas to be used for construction and arrange for land expropriation for delivery to the Company within the specified time. The Company shall have the duty to carry out the design and construction in accordance with the designs approved by EXAT, subject to the supervision of the quality of construction work by EXAT's Engineer and Independent Certification Engineer. Upon completion of the construction, the Independent Certification Engineer shall inspect the work and issue Certificate of Completion to evidence that the construction work is completed in accordance with the specified standards and is ready for service. The Company engaged CH. Karnchang Public Company Limited, which specializes and has extensive experience in construction and management of all expressway projects under the concessions of the Company, to act as project manager and construction contractor as well as the operator of the project on a lump sum turnkey basis.

Under this Concession Agreement, the Company shall have the right to manage and provide service, e.g., toll collection, rescue operation and maintenance, whereby the Company shall be entitled to receive all tolls throughout the concession period.

9) Environmental Impact (Expressway Business)

The Company and its subsidiaries have always operated the construction and expressway business with environmental responsibility, by adhering to the business guidelines which can be summarized as follows:

In the construction of the expressways, the Company and its subsidiaries complied with the measures to prevent pollution in accordance with the regulations of the National Environment Committee and other relevant laws, which form an integral part of the Agreements. The Company and the subsidiaries implemented the measures and procedures as appropriate for the construction carried out in the urban areas with high populations. In so doing, the Company employed the Segmental Box Girder construction technique, which allowed it to complete the construction faster than other techniques in those days, so as to prevent any impact to nearby communities and affect the at-grade traffic at the least possible extent during the construction. Furthermore, the Company had no records of committing any environment-related offenses.

Even during the course of the operation of the expressway systems, the Company remained concerned about the eco-friendly business operations affecting the quality of life of staff, motorists and communities surrounding the expressways, including all groups of stakeholders. The Company improved and reviewed its internal procedures to conform to the environmental requirements for applying for the Certificate of ISO 14001 Environmental Management System. The Company has its commitment to ensuring environmental management in line with the following guidelines:

- To give priority to pollution prevention and control by managing and maintaining the expressways to meet international standards and keeping in mind the environmental impact on motorists, staff, and communities;
- To instill and encourage our staff with an awareness of efficient use of energy and natural resources;
- To comply with the environment-related laws and regulations;
- To review the purposes and goals for continued improvement of the environmental management system;
- To communicate our environmental policy to the public and all parties concerned.

Besides, the Company obtained certification from SGS (Thailand) Limited as follows:

- ISO 9001 : 2015 Quality Management System; and
- ISO 14001 : 2015 Environmental Management System.

In 2018, the Company continued to maintain the ISO 14001 Environmental Management System, by monitoring possible environmental issues, as well as optimizing the use of natural resources through its continued energy management measures. In so doing, the Company did change to use more efficient lamps on the expressways and around toll plazas, as follows:

1. The lamps in the Si Rat - Outer Ring Road Expressway were replaced by LED lamps as follows:
 - Replacement of the existing lamps in the Si Rat - Outer Ring Road Expressway Control Center Building with LED lamps, thereby saving up to 45 percent of energy.
 - Replacement of the existing lamps in the toll plazas with LED lamps, thereby saving up to 45 percent of energy.
2. The existing high pressure floodlight lamps were replaced by LED lamps in the merged area on the Udon Ratthaya Expressway, thereby saving up to 59 percent of energy by providing the brightness greater than the existing lamps, as well as minimizing the dispersed light.
3. The project to install solar cells on Rama VII Bridge Toll Plaza on the Si Rat Expressway - Outer Ring Road Expressway, thereby saving up to 20 percent of energy from the Metropolitan Electricity Authority.

With respect to safety management, the Company had an engineering analysis agency comprising knowledgeable and skilled personnel in traffic engineering and safety on the expressways to conduct studies on impacts from various factors. A traffic simulation was made for study of the suitability in the improvement of physical characteristics at the front areas of toll plazas, as well as inspection of road safety; analysis of risk areas on expressways; study of features and patterns in the installation of safety equipment, in order to improve the expressways to ensure the maximum safety for motorists, as well as to minimize environmental impact. The Company then put such study results into practice as follows:

- The safety on expressways was improved by inspecting and assessing the safety of the gore areas and installing safety equipment, e.g., crash cushions, cushion tanks, flexible guide posts, red-colored cold plastic road paint to alert for high accident risk areas.
- More Easy Pass lanes were added in response to the increased traffic volume in the Easy Pass lanes. After EXAT's policy on cancellation of the Easy Pass card deposit, the use of Easy Pass service has increased, which necessitates more Easy Pass lanes to accommodate the increased traffic volume, and as a result, motorists can save their commute time and fuels.
- Easy Pass lanes at Asoke Toll Plaza 4, Prachachuen Toll Plazas (inbound) and (outbound), were relocated to the farthest right lane for motorists to have more efficient and rapid access to the Easy Pass lanes.
- Easy Pass signboards were improved for expressway motorists' convenient and rapid passage through the Easy Pass lanes.
- All Easy Pass lanes on the Si Rat Expressway were improved as fast lanes to accommodate more rapid passage and minimize slow traffic in front of the Easy Pass lanes.
- As for the project to enhance the efficiency of Easy Pass lanes, the Company installed the second antennas in Easy Pass lanes to suit the convenience of the Easy Pass users in the event that a barrier gate is not opened despite their remaining credit adequate for passing through, in that case, the system will have the barrier gate opened without waiting staff to open it. Such system helps expedite the motorists' travelling, save time waiting in a queue and reduce traffic congestion in front of the toll booths, as well as minimizing air pollution.
- Cash toll collection lanes were improved to accommodate the Easy Pass users, namely, in 2018, the Company developed the toll collection system to ensure that one toll collection lane would be capable of facilitating the service users' payment for tolls both in cash and by Easy Pass (dual mode system) for the greater convenience of the Easy Pass users. Such system would be in service at Rama 9-1 Toll Plaza (Si Rat) by early 2019.

The Company continued to provide training for staff and executives on know-how and techniques for environmental management in accordance with the ISO 14001 : 2015 Environmental Management System, as well as various activities to raise awareness of environmental protection in the organization and social contributions in association with the communities nearby.

Moreover, the Company sets a policy to improve the toll collection system for control centers to ensure compliance with the standard of information security management system of the ISO/IEC 27001:2013 in order to tighten the information security of the toll collection system for the control centers, and to lay down a standard for management of significant information to ensure the continued business operations, enhancing the organization's worldwide reputation for reliability. For that reason, the Company did apply for accredited certification of the ISO/IEC 27001:2013 for development of process and information security management system (ISMS) in accordance with the ISO/IEC 27001:2013 for the toll collection system of the Si Rat Expressway Control Center (CCB2) and the Si Rat - Outer Ring Road Expressway Control Center (CCB7) as well as developing its personnel in line of information security management so that they were able to fulfill work under the process/system so developed.

2.1.2 Rail Business

1) Nature of Services

The Company has been granted concessions for two mass rapid transit rail system projects by the Mass Rapid Transit Authority of Thailand ("MRTA"), as per the following details:

- (1) The MRT Blue Line Project, comprising the M.R.T. Chaloen Ratchamongkhon Line (Hua Lamphong - Bang Sue Section) and the MRT Blue Line Extension Project (Hua Lamphong - Lak Song Section and Bang Sue - Tha Phra Section), under the Concession Agreement executed by the Company with MRTA on March 31, 2017, for a period of 33 years from MRTA's Notice to Proceed. The Company is entitled to fare box revenue as well as undertaking activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and in the trains of the MRT Blue Line Project, for a period of 30 years from the date the entire route is opened for service.

- The M.R.T. Chaloem Ratchamongkhon Line Project (Hua Lamphong - Bang Sue Section) is the first underground metro system of Thailand, covering the distance of 20 kilometers, with 18 stations, which was in service on July 3, 2004. The Company is entitled to fare box revenue as well as undertaking activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and in the trains. Currently, there are 19 a total of 19 trains in service every day without holiday from 6.00 hours - 24.00 hours.
- The MRT Blue Line Extension Project (Hua Lamphong - Lak Song Section and Bang Sue - Tha Phra Section), covering the distance of 27 kilometers, comprises 5 kilometers underground railway and 22 kilometers elevated railway, with a total of 20 stations, divided into 4 underground stations and 16 elevated stations, having a connection with the M.R.T. Chaloem Ratchamongkhon Line at Hua Lamphong Station and Bang Sue Station, as well as connecting with the MRT Purple Line Project at Tao Poon Station. The Company is responsible for investment, supply, installation, testing and commissioning of the M&E Equipment, whereby the supply and installation of the M&E Equipment for opening for service are divided into three sections, namely, Section 1: Bang Sue Station - Tao Poon Station, in service on August 11, 2017; Section 2: Hua Lamphong Station - Lak Song Station, to be in service by September 2019; Section 3: Tao Poon Station - Tha Phra Station, to be in service by March 2020, and provision of the service for the M.R.T. Chaloem Ratchamongkhon Line Project and the MRT Blue Line Extension Project to ensure the Through Operation. The Company is entitled to fare box revenue and commercial development throughout the concession period. On August 11, 2017, the MRT Blue Line Extension Project, Tao Poon - Bang Sue Section, covering a distance of 1.2 kilometers, was opened for service, to ensure the Through Operation among the M.R.T. Chaloem Ratchamongkhon Line (the existing MRT Blue Line), the MRT Blue Line Extension, and the M.R.T. Chalong Ratchadham Line (MRT Purple Line).

- (2) The M.R.T. Chalong Ratchadham Line (“MRT Purple Line Project”) Khlong Bang Phai Station - Tao Poon Station, covering a distance of 23 kilometers, with a total of 16 stations, starts from Khlong Bang Phai, where the Depot is located, Outer Ring Road (West), Kanchanaphisek Road, turning left to Rattana Thibet Road, crossing over the Chao Phraya River in parallel with Phra Nangklao Bridge and turning right to Tiwanon Road before reaching Khae Rai Intersection, and then turning left to Krung Thep - Nonthaburi Bridge and terminating at Tao Poon Intersection, where Tao Poon Station is located as an interchange station with Bang Sue Station of the M.R.T. Chaloem Ratchamongkhon Line Project, making it possible for passengers’ interchange from the MRT Purple Line to the MRT Blue Line at Tao Poon Station, which in the future, would be connected with the MRT Blue Line (Bang Sue - Tha Phra Section) and the MRT Purple Line (Tao Poon - Rat Burana Section).

The Company has been granted the concession for investment, the supply of M&E Systems and O&M Services, on a PPP Gross Cost basis. That is, MRTA invests in all civil works and the Company invests in the M&E Systems and the rolling stocks, as well as provides the operation and maintenance services in accordance with the specified service standards. MRTA is entitled to all fare box revenue and commercial development revenue from the utilization of the civil infrastructure and the railway systems and MRTA shall make gradual repayment for the M&E Systems to the Company on a monthly basis for a period of 10 years, and engage the Company to conduct the operation and maintenance throughout the concession period of 30 years from September 4, 2013.

There are a total of 21 trains available every day without holiday, from 5.30 - 24.00 hours on Mondays - Fridays, and from 6.00 - 24.00 hours on Saturdays - Sundays and public holidays.

Projects	M.R.T. Chaloem Ratchamongkhon Line Project (Hua Lamphong Station-Bang Sue Station)	MRT Blue Line Extension Project (Hua Lamphong Station-Lak Song Station and Bang Sue Station - Tha Phra Station)	MRT Purple Line Project (Khlong Bang Phai Station-Tao Poon Station)
Concession Type	PPP Net Cost	PPP Net Cost	PPP Gross Cost
Concession Period	33 years (from MRTA’s Notice to Proceed)		30 years (2013-2043)
Number of Stations	18 stations	20 stations	16 stations
Distance	20 kilometers	27 kilometers	23 kilometers

2) Revenue

The Company's revenues from the rail business can be divided into two categories, comprising fare box revenue and revenue from O&M services.

- **Fare box revenue**

Pursuant to the Concession Agreement for the MRT Blue Line Project between the Company and MRTA, the Company has the right to operate the train and collect fare box revenue and undertake commercial development throughout the concession period. The Company is obliged to make payment of remuneration from fares and commercial development to MRTA at the rates as mentioned in the Concession Agreement.

The fare rates of the metro as of the commencement date would be in accordance with the basic reference fare rates in force at the time of the revenue service commencement date. Under the Concession Agreement, the reference fare rates would be adjusted every 24 months based on the actual changes of the Bangkok Non-Food Consumer Price Index compared to the basic reference fare rates.

The Company adjusted the fare rates under the terms of the Concession Agreement accordingly. The current fare rates in force were adjusted on July 3, 2018, which will remain in force until July 2, 2020.

- **Revenue from O&M Services**

The Company receives service fees for train operation and maintenance from the MRT Purple Line Project Concession Agreement, Contract 4, Concession for Supply of M&E Systems and O&M Services (Klong Bang Yai Station – Tao Poon Station), Phase 2 (for a period of approximately 27 years). The service opening commenced on August 6, 2016.

3) Marketing and Competition of Rail Business

- **Customer Characteristics and Target Customers**

The Company's target customers can be divided into two groups, namely, residents nearby the metro routes and those who need to pass or head for other destinations along the metro routes, and categorized by purposes of journeys as follows:

1. Commute for work;
2. Commute to schools/educational institutes;
3. Commute by tourists/for leisure;
4. Commute for special activities, e.g., seminars or conferences; and
5. Commute for other purposes, e.g., business dealings.

4) Marketing Policy and Strategies of Rail Business

- **Service and Product Strategies of Rail Business**

- o Creativity and Development of Convenient Services for MRT Passengers

At present, the MRT route starts from Hua Lamphong Station and ends at Tao Poon Station, covering a total distance of 21 kilometers, passing through central business districts (CBD), residential areas and connecting with other mass rapid transit systems which may increase the number of passengers, e.g., connection with the Green Line (BTS) at Silom Station, Sukhumvit Station and Chatuchak Park Station, with the Red Line (Airport Rail Link) at Phetchaburi Station heading for Suvarnabhumi Airport, and connection with the MRT Purple Line Project at Tao Poon Station, and connections with Hua Lamphong and Bang Sue Railway Stations. Other connections between the metro stations and four buildings currently include 1) Chamchuri Square (residential, office and edutainment complex) at Sam Yan Station; 2) Union Mall at Phahon Yothin Station; 3) Interchange 21 Tower (office building) and Terminal 21 Tower (shopping center, hotel, office, and residential building) at Sukhumvit Station; and 4) Central Plaza Grand Rama 9, G Tower with Phra Rama 9 Station; and in the future, there would be a connection with One Bangkok Project at Lumpini Station.

Traveling behavior of service users mostly accounts for work, followed by schools, and they usually travel during rush hour, while other purposes account for off-peak journeys with potential higher number of trips. The Company thus strategically increases the number of off-peak journeys, which can be handled by the currently available capacity, to ease the passenger density on off-peak trains, with its effort to encourage passengers to adjust their travelling behavior to leave early to work through the “MRT Lucky Hour for Early Birds” activity, and promotes more journeys by passengers using the metro cards in order to increase revenues and the number of cardholder passengers. This strategy has been continuously implemented since 2013 in alliance with its partners along the routes by way of provision of discounts or special benefits for metro card issuance or top-up and information services on highlighted events and destinations for the MRT passengers. In the past, there were activities and information services in collaboration with its subsidiary (BMN) and partners, for instance, Metro Mall, Central Plaza Grand Rama 9, Queen Sirikit National Convention Center, Lumpini Park, etc.

o Quality Services

The Company focuses on quality services on the motto “Service above all else” so that the MRT service becomes “lifestyle of Bangkok residents” under the Company’s professional operations. Various activities have been undertaken to promote the image of the current MRT services and create value added to Bangkok residents’ lifestyle. Based on this policy, the Company sets out the following signs for quality services:

- Safety: The MRT passengers’ life and property safety is the Company’s top priority. All staff must be well aware of and expected to strictly follow the Company’s safety requirements. In the past, the Company conducted regular training on safety and supervised to ensure that the Company’s services meet Thailand’s safety standard requirements and comparable to those of the world’s leading mass rapid transit operators.
- Convenience: The Company takes care of all equipment and facilities in the MRT system to function properly, and proactively facilitates the passengers’ convenient commute during high seasons, such as festival events and activities or exhibitions along the routes, by arranging for more ticketing points to best serve the passengers.
- Fast: The Company keeps the average train speed aligned with the timetable in response to passengers’ needs during different periods.
- Reliability: The Company maintains the trains and signaling systems in good conditions without any impact on its services.
- Punctuality: The Company keeps the timetable and stops time at every station punctual with the least possible deviations.

o Metro Cards for Everyone

The Company analyzes the customer characteristics and target customers, both regular and non-regular passengers, and then plans for and produces various styles of metro cards to suit every group of customers and to attract non-regular passengers to increasingly use the MRT cards in travelling. These arrangements comprise keeping styles of metro cards modern to ensure conformity with technology and increase in efficiency of metro cards to ensure that metro cards can be commonly used with the MRT Blue Line and the MRT Purple Line, as well as drawing up a plan to cover the MRT Blue Line Extension to be partially opened for service in 2019 and to be entirely opened for service in 2020; cooperation with financial institutions in issuing co-branded cards for financial transactions and MRT services, namely, in alliance with KASIKORNBANK Public Company Limited and Siam Commercial Bank Public Company Limited, including Chulalongkorn University, Chulalongkorn Hospital, and other institutions or agencies. Moreover, top up vouchers were issued to Ananda Development Public Company Limited to distribute as welfare for its staff to top up their metro cards.

- **Price Strategy of Rail Business**

The Company collects distance-related fares in fairness to passengers according to different distance of their journeys and provides discounts to school/college students, and children/elderly, by taking into account the fare rate collection of other mass rapid transit systems. The fare rates are adjusted in accordance with the relevant Concession Agreements.

- **Marketing Promotion Strategies of Rail Business**

The Company's classification of target customers is intended to draw up a strategy on sales promotion to effectively cover all target customer groups. As such, the Company's sales promotion and marketing plans based on target customers' lifestyle and settings are described as follows:

- o To promote the park and ride facilities to encourage more passengers to park their personal cars at the service locations and use the MRT service to commute to such business districts as Sukhumvit Road, Silom Road, Ratchadaphisek Road, in order to help alleviate traffic congestion and minimize global warming.
- o To accept credit card payments for passengers' convenience, collaborate with leading companies and banks, namely, AIS, KTC, Citibank, UOB, Bank of Ayudhya, Muang Thai Life Assurance, FWD Life Insurance, for providing discounts and cash back, including credit card reward points, in order to create value added to the MRT service, and offer special benefits to metro card holders with an aim to change passengers' behavior from using token to using metro cards for the sake of convenience and special benefits.
- o To increase the number of passengers or trips in the system through information services on highlighted events along the MRT routes, and offer various types of customized metro cards bearing specific logos or signs of agencies, organizations, office buildings or hotels both along and beyond the routes, for public relations and sales promotion, in order to distribute the metro cards to both current and new target customers.
- o To create the Customer Relations Management (CRM) and build a network compatible with the CRM process, which will serve as a central mechanism for loyalty marketing, focusing on efficient and effective response to ensure customers' satisfaction and creation of the MRT Club community for relationship building by using social network and communication channels within the MRT stations to organize activities in alliance with partners on the win-win strategy through MRT Club memberships, for instance, offering gala movies in association with Major Cineplex Group, registering for a chance to win free concert tickets from BEC-TERO, offering the MRT cardholders discounts on SF Cinema movie tickets, etc.
- o To create brand loyalty and awareness through various activities to promote marketing campaigns, rewards to customers and society, and corporate image towards young customers and passengers by creating value added collaboration on a regular basis, namely, building relationships with alliances to seek privileges for the cardholder passengers in a form of discounts on shops, restaurants, movie theaters or events surrounding the MRT route.
- o To develop the electronic payment system for online top-up and mobile payment with TrueMoney Wallet, and draw up a plan to develop the electronic payment system for retail shops within Metro Mall to make it more convenient and rapid for the MRT passengers.
- o To encourage the people to use government welfare smart cards in travelling with the MRT system, by improving the automatic fare collection systems (AFC) of the M.R.T. Chaloem Ratchamongkhon Line (MRT Blue Line Project) and the M.R.T. Chalong Ratchadham Line Project (MRT Purple Line Project) to accommodate usage of their government welfare smart cards.

- **Marketing Communication Strategies of Rail Business**

- o To select effective channels of communication and public relations which are accessible to target groups of different marketing events through management of space and flows in the MRT system, e.g., standees within the stations, visual display on the token machines, event calendar media on monitors, digital media, social network media, including external public relations media from the alliances to provide service users with journey information in the MRT system. The Company also has emphasized development of the Mobile Application titled Bangkok MRT Application to accommodate travelling plans of the passengers.
- o To focus on publicizing news and information to new customers via exhibition booths, encourage customers to apply for MRT Club membership as well as introducing privileges, MRT lucky hour activity and various activities, benefits, including Trove games activity, giveaways of souvenirs, by emphasizing the punctuality, convenience, fast journey, family time-saving, and definite timetable, in order to stimulate provision of information on services and privileges to the service users.
- o To create destinations via regular communication, public relations and journey information along the MRT routes, prepare event calendar, route maps with attractive destinations, e.g., office buildings, schools, hotels, shopping centers, tourist attractions and other landmarks, convenient and rapid links to other mass rapid transit systems via the website and Mobile Application.
- o To assure the passengers and people of the safety in travelling and service provision through public relations via television, radio and other media, and organize activities for public relations of service provision and safety-related activities at various venues, e.g., schools, office buildings, to present the safety of the MRT system to the passengers and people for their understanding and confidence in the services.

- **Development Strategy of Rail Business**

The Company adopts a strategy for regular development of quality and its services to ensure service users' utmost satisfaction with convenience, rapidity and safety, which would attract more users of the MRT service. At present, the Company collaborates with financial institutions to hold single co-branded cards for multi-transactions.

- **Distribution Strategies and Channels of Rail Business**

The Company provides more sales outlets in addition to the ticket vending machines and ticket offices in the stations, by means of direct sales to various agencies, organizations, banks, schools, hotels and private sectors, etc., with customized cards on various occasions, such as, gifts for staff, customers or for brand promotion and public relations materials, as a result, the metro cards become even more flexible for various uses than just for the MRT service.

5) Industrial Outlook and Competition of Rail Business

Mass Rapid Transit Systems in Bangkok and its Vicinity

Bangkok is a large capital city, with a dense population and various modes of transportation systems, for example, personal cars, public buses, passenger vans, metro, micro buses, taxis. The traffic problem in Bangkok has extremely intensified due to the increase in population in urban areas and the rising travel demand of people, as a result, the traffic area capacity was not enough to accommodate such increase, which is considered a major problem which is not different from the problem in other highly populated capital cities around the world. Thus, the government adopts a policy focusing on the development of various public transport networks to resolve the traffic problem to accommodate an increase in population and the economic growth of the country.

In this regard, traveling by residents in Bangkok can be divided into two modes of transport systems, namely, personal transport system and public transport system.

- **Personal Transport System**

People's residences in Bangkok and its vicinity are spread all over, traveling by personal cars thus is popular. The growing number of highly-paid or middle-class people and the inadequacy of the existing transport systems, and travelling expenses as compared with that of travelling by personal cars, as well as the service quality and safety, have also caused personal cars to become essential and convenient for traveling. In this connection, the expansion of traffic area in Bangkok remained limited and inadequate to accommodate volume of vehicles.

- **Public Transport System**

As a result of the traffic congestion problem, particularly in peak hours, and the growth of the real estate projects surrounding the route, consumers' demand for the public transportation system of certain types was considerably high, especially for the metro system which was significantly expanding by reason of change in the urban people's behaviors of selection of residences and travelling by mainly focusing attention to convenience and rapidity in travelling.

- **Public Bus Service**

At present, there are various types of public buses for service at different service rates, but the number of public buses in service in Bangkok and its vicinity remained inadequate, owing to the fact that a certain number of buses were undergoing improvement and rearrangement of bus routes was made, and let alone the fact that there are more than 16,000 passenger vans, as another popular alternative for commuters because of the convenience and rapidity in travelling. In January 2018, the Department of Land Transport launched new model buses with developments in technologies to make it compatible with the GPS system and the E-Ticket system for service on certain routes. Nevertheless, as a result of the ongoing traffic congestion on roads, especially during rush hours in the morning from 6:30 to 8:30 hours, and in the evening from 16:30 to 18:30 hours, traveling is inefficient and time-consuming, not to mention the impact from the safety issues and the pollution produced by the vehicle exhaust system.

- **Trains**

In the past, the government sector formulated a policy to satisfy the low-income earners' requirements to use the government welfare smart cards for their spending, in a manner which the government welfare smart cardholders were able to use such card for travelling by buses, passenger vehicles served by The Transport Co., Ltd. and trains for free in the amount not exceeding Baht 500 per travelling mode per month. Unfortunately, there remained a lack of convenience and safety owing to unpleasant train condition and non-air conditioning of trains, let alone the limited routes not covering the entire city, as a result, the State Railway of Thailand (SRT) expedited additional dual track rail system construction projects on many routes, together with the new depot construction project in order to accommodate old and new locomotives and for the purpose of development of the Thai railway system in accordance with Thailand's transportation infrastructure development strategy. In this regard, the SRT's train service is not considered the Company's direct competitor due to different service routes, namely, the SRT aims to provide the service to suburban areas.

- **BTS**

BTS Skytrain was Thailand's first mass rapid transit rail system on the elevated dual tracks and directions. BTS opened for service on December 5, 1999, on 2 lines, namely, Sukhumvit Line and Silom Line, and currently, extended 49.05 kilometers, with 43 stations. In 2018, BTS Skytrain had the number of daily average passengers amounting to approximately 660,000 trips. As such, traveling by BTS Skytrain was a convenient alternative for commuters. Moreover, BTS Skytrain is intended to provide service to the heart of the city, not to mention the real estate development around the routes and connection with the MRT system, which makes it enormously popular, and thus, such factors have caused an increase in service user volume.

- **ARL**

The Suvarnabhumi Airport Rail Link or Airport Rail Link or Airport Link is a special mass rapid transit rail system project, as part of the project for construction of suburban and commuter rail systems, carried out and operated by the State Railway of Thailand (SRT). The structure of the Suvarnabhumi Airport Rail Link is both underground and elevated, with the alignment accommodating journeys from the eastern and northern outskirts, and passengers from the Suvarnabhumi Airport, to the center of Bangkok at Phaya Thai Station, covering a total of 8 stations, with a distance of 28.6 kilometers. Airport Link was opened for service on August 23, 2010. For the current service provision, a plan was set up to develop, improve and increase the train capacity, including purchase of new trains, together with a plan to reduce passengers' waiting time for the next incoming train from 12 minutes per train to 10 minutes per train in order to boost efficiency in the service provision. In 2018, the daily average passenger volume was approximately 80,000 persons per day, resulting from an ongoing increase in a number of the public transport system service users, reflecting the change in travel behavior of residents in Bangkok and its surrounding provinces from using personal car to use the public transport system. This indicated the development in terms of convenience, rapidity, safety and the extended coverage areas of travelling to ensure transit in the through operation system at present. However, owing to the traffic congestion, air and noise pollution, and potential accidents, the transit rail system is then regarded as a significant milestone for change and development of the mass rapid transit systems in Bangkok and its vicinity, which will help alleviate traffic problems, ensure safe, convenient and rapid journeys of service users, and result in a positive effect on the economy and environment. Therefore, the mass rapid transit system represented a traveling mode, which helped improve the quality of life of urban people and reduce the usage of national resources.

6) Industrial Outlook and Government Policy of Rail Business

Thailand's economic outlook in 2018 was expected to grow at approximately 4.2 percent, which was improved from 3.9 percent in the previous year, and in 2019, it was expected to grow by 3.5 - 4.5 percent, significantly resulting from an expansion of consumption and investment of the private sector and the continued expansion of spending and investment of the government sector (Source: Office of the National Economic and Social Development Board).

The government prioritizes its strategic plans for transportation development, particularly investment projects in the metro system, to resolve traffic problems in Bangkok and its vicinity, and as such, speeds up the bidding process for these projects by establishing the Public Private Partnership (PPP) Policy Committee and setting up a PPP Fast Track team by focusing on infrastructure investments in accordance with Thailand's PPP Strategic Plan 2017-2021. There were 10 megaprojects for transportation infrastructure in the initial phase, which were invested, worth Baht 4.4 Billion. The metro projects expected to be launched for bids in 2019 include the MRT Purple Line Project (Tao Poon - Kanchanaphisek Outer Ring Road) and the MRT Orange Line Project (West and East). Moreover, the PPP Committee followed up on progress of five PPP Fast Track projects of the Ministry of Transport, with an estimated investment value of Baht 240,126 Million, namely, 1) Rest Area Project of Bang Pa-In - Nakhon Ratchasima Motorway; 2) Rest Area Project of Bang Yai - Kanchanaburi Motorway; 3) Phuket Mass Transit System Project; 4) Chiang Mai Mass Transit System Project; and 5) Nakhon Ratchasima Mass Transit System Project, and also accelerated the development of the mass transit systems in principal cities in other provinces, such as, Khon Kaen Province and Songkhla Province, etc., in order to ensure diversification of investment and development of infrastructure in the region and alleviate the congested traffic problems of the principal cities. From the success of the PPP Fast Track, the Ministry of Transport then continued to expedite the projects into the PPP Fast Track for the next phase.

In this regard, the government sector's role in stimulating the economy through its expenditure and investment was considered the most crucial factor which would have an influence on the future economic situation. Giving priority to investment in infrastructure projects, particularly in the transportation system, would help make travelling and transport of goods convenient, which would attract Thai and foreign investments from the private sector and strengthen the economy conducive to the sustainable growth in the future.

Real estate development around the metro routes

As a result of the continued economic growth in 2018, the real estate market continued to grow, especially the real estate market surrounding the metro routes which became more hugely popular. It was evidenced by a diverse selection of new condominium launches, particularly those which were around the MRT Blue Line Extension Project (Hua Lamphong - Bang Khae Section and Bang Sue - Tha Phra Section), which would be in service in 2019 and are currently attractive to investors. The development of the public transport system to cover the wide-areas of Bangkok and its surrounding provinces became a key factor in accelerating the real estate development in various forms, such as, condominiums, building offices, shopping centers, markets, most-visited tourist attractions, hotels, apartments, restaurants and supermarkets, to ensure that they were growing rapidly accordingly.

7) Progress of Development of the Mass Rapid Transit Systems under the Government Policy

Project	Current Status of Project
SRT Dark Red Line (North - South) Suburban railway system, divided into 4 phases, covering a total distance of 80.5 km.: <u>Phase 1:</u> Bang Sue - Thammasat (Rangsit campus) <u>Phase 2:</u> Bang Sue - Hua Lamphong <u>Phase 3:</u> Hua Lamphong - Bang Bon <u>Phase 4:</u> Bang Bon - Mahachai	Bang Sue - Rang Sit, with a distance of 26 km. - SRT is proceeding with the following: <u>Contract 1:</u> Civil Work for Bang Sue Station and Depot, SRT executed the agreement for engagement of SU Joint Venture (Sino-Thai Engineering & Construction Public Company Limited and Unique Engineering and Construction Public Company Limited) on January 18, 2013. <u>Contract 2:</u> Civil Work for Bang Sue - Rang Sit Section, SRT executed the agreement for engagement of Italian-Thai Development Public Company Limited on January 31, 2013. <u>Contract 3:</u> M&E System, including the supply of carriages. - On December 20, 2018, the SRT Board approved an expansion of the construction term from 36 months to 54 months. It was expected to complete and be in service in January 2021.
SRT Light Red Line (West - East) SRT's suburban railway system, Bang Sue - Taling Chan, Taling Chan - Salaya, and Bang Sue - Makkasan - Hua Mak, covering a total distance of approximately 48 km.	Bang Sue - Taling Chan, with a distance of 15 km. - SRT engaged Unique - Chun Wo Joint Venture to carry out the construction. The construction was 100% completed. - The project was opened for a trial run during September 8 to November 30, 2012, for four trips per day (round trip) by diesel railcars in order to inspect the rail condition and systems relating to train operation. - It was opened for temporary service from December 5, 2012. Bang Sue - Phaya Thai - Makkasan - Hua Mak, with a distance of 19 km. - The project was in the process of design revision to make it compatible with the hi-speed rail linked 3 airport project, whereby both projects would use the foundation together in the area of Chitralada Royal Villa. Taling Chan - Salaya, with a distance of 14.8 km. - The project was approved by the Office of the National Economics and Social Development Board (NESDB). It was expected to propose the project to the Council of Ministers for approval by 2019.

Project	Current Status of Project
MRT Blue Line Extension	<p>Bang Sue - Tha Phra and Hua Lamphong - Bang Khae, with a distance of 27 km.</p> <ul style="list-style-type: none"> - On March 28, 2017, the Council of Ministers resolved to approve the results of the selection of the private entity. The Company entered into the Concession Agreement for the MRT Blue Line Project with MRTA, under which the Company shall invest in the M&E Systems and O&M Services. - On August 11, 2017, the MRT Blue Line Extension Project, Tao Poon - Bang Sue Section, covering a distance of 1.2 km., was opened for service. <p>Currently, it was in the process of supply, installation of the M&E Equipment. Hua Lamphong Station - Lak Song Station Section would be opened for service by September 2019 and Tao Poon Station - Tha Phra Station Section would be opened for service by March 2020. In this regard, the Company was accelerating the operations to ensure the early service opening.</p> <p>Bang Khae - Phutthamonthon Sai 4 (with a distance of 8 km.)</p> <p>It was in the process of consideration and review of passenger volume and justification of the project by the Ministry of Transport.</p>
MRT Green Line	<p>Mo Chit - Saphan Mai - Khu Kot, with a distance of 18.4 km.</p> <ul style="list-style-type: none"> - MRTA executed the civil work contracts, Contracts 1-4, on April 3, 2015, as follows: <p><u>Contract 1:</u> (Civil Works), Mo Chit - Saphan Mai, with a distance of 12 kilometers, operated by Italian-Thai Development Public Company Limited;</p> <p><u>Contract 2:</u> (Civil Work), Saphan Mai - Khu Kot, with a distance of 7.5 kilometers, operated by UN-SH-CH Joint Venture (Unique Engineering and Construction Public Company Limited, Sinohydro Corporation Limited, and China Harbour Engineering Company Limited);</p> <p><u>Contract 3:</u> (Depot and Park & Ride Facilities) operated by STEC-AS-3 Joint Venture (SINO-Thai Engineering and Construction Public Company Limited, A.S. Associated Engineering (1964) Co., Ltd.);</p> <p><u>Contract 4:</u> (Design and Construction of Trackwork) operated by STEC-AS-3 Joint Venture (SINO-Thai Engineering and Construction Public Company Limited, A.S. Associated Engineering (1964) Co., Ltd.).</p> <p>Bearing - Samut Prakan, with a distance of 12.8 km.</p> <ul style="list-style-type: none"> - On April 1, 2017, one station, namely, Samrong Station, was opened for service. - On December 6, 2018, the MRT Green Line, Bearing - Samut Prakan Section, was opened for a free trial for a period of 4 months.
MRT Orange Line	<p>Thailand Cultural Centre - Min Buri, with a distance of 20 km.</p> <ul style="list-style-type: none"> - On December 9, 2017, the contract signing ceremony was held for the civil work construction of the MRT Orange Line Project between MRTA and contractors as winning bidders in Contracts 1, 2, 3, 4, 5 and 6, as follows: <p><u>Contract 1:</u> (Civil Work), Thailand Cultural Centre - Soi Ramkhamhaeng 12, operated by CKST Joint Venture (CH. Karnchang Public Company Limited and Sino-Thai Engineering & Construction Public Company Limited);</p> <p><u>Contract 2:</u> (Civil Work), Soi Ramkhamhaeng 12 - Hua Mak, operated by CKST Joint Venture (CH. Karnchang Public Company Limited and Sino-Thai Engineering & Construction Public Company Limited);</p>

Project	Current Status of Project
MRT Yellow Line	<p><u>Contract 3:</u> (Civil Work), Hua Mak - Khlong Banma, operated by Italian-Thai Development Public Company Limited;</p> <p><u>Contract 4:</u> (Civil Work), Si Yaek Banma - Suvinthawong, operated by Unique Engineering and Construction Public Company Limited;</p> <p><u>Contract 5:</u> (Civil Work), Depot and Park & Ride Facilities, in the area of MRTA's office, Phra Ram 9 Road, operated by CKST Joint Venture (CH. Karnchang Public Company Limited and Sino-Thai Engineering & Construction Public Company Limited);</p> <p><u>Contract 6:</u> Design and Construction of Trackwork, operated by Unique Engineering and Construction Public Company Limited.</p> <p>Taling Chan - Thailand Cultural Centre, with a distance of 17.5 km.</p> <ul style="list-style-type: none"> - It was in the process of consideration of the Public Private Partnership Policy Committee (PPP Committee). It was expected to issue an announcement for the invitation to the private entities for bidding (TOR) by early 2019. <p>Lat Phrao - Samrong, with a distance of 30.4 km.</p> <ul style="list-style-type: none"> - On May 30, 2017, the Council of Ministers resolved to approve the results of selection of the private entity and draft Concession Agreement for the MRT Yellow Line Project, in collaboration with BSR Joint Venture (comprising BTS Group Holdings Public Company Limited, Ratchaburi Electricity Generating Public Company Limited and Sino-Thai Engineering & Construction Public Company Limited). - On June 16, 2017, MRTA signed the Concession Agreement with BSR Joint Venture. - On August 27, 2018, the construction of the project officially commenced, for a construction period of 39 months (3 years and 3 months). It was expected to complete and open for service in late 2021.
MRT Pink Line	<p>Khae Rai - Min Buri, with a distance of 34.5 km.</p> <ul style="list-style-type: none"> - On May 30, 2017, the Council of Ministers resolved to approve the results of selection of the private entity and draft Concession Agreement for the MRT Pink Line Project, in collaboration with BSR Joint Venture (comprising BTS Group Holdings Public Company Limited, Ratchaburi Electricity Generating Public Company Limited and Sino-Thai Engineering & Construction Public Company Limited). - On June 16, 2017, MRTA signed the Concession Agreement with BSR Joint Venture. - On August 27, 2018, the construction of the project official commenced, for a construction period of 39 months (3 years and 3 months). It was expected to complete and open for service in late 2021.
Red Line (Airport Link)	<p>Suvarnabhumi Airport Rail Link Extension Project, Don Mueang - Bang Sue - Phaya Thai Section, with a distance of 21.8 km.</p> <ul style="list-style-type: none"> - SRT is pending review of the appropriateness of the drawings and construction method to ensure that it is suitable to seamlessly combine with the hi-speed rail linked 3 airport project (Don Mueang - Suvarnabhumi - U-Tapao). - On March 27, 2018, the Council of Ministers resolved to approve the incorporation of the Suvarnabhumi Airport Rail Link Extension Project, Don Mueang - Bang Sue - Phaya Thai Section, into part of the hi-speed rail linked 3 airport project. SRT was assigned to implement the project. - On June 18, 2018, SRT opened for the sale of private sector selection document envelopes. It was expected to conclude the results of the private sector selection by early 2019.

Sources: www.railway.co.th, www.mrta-purpleline.com, www.bts.co.th, www.bkkmrt.com, and information collected by the Company.

8) Procurement of Products or Services of Rail Business

- **Nature of Procurement of Products**

The mass rapid transit system projects are awarded to the Company by way of concessions from MRTA, a state agency established and existing under the “Mass Rapid Transit Authority of Thailand Act B.E. 2543 (2000)” to operate the mass rapid transit systems in Bangkok and its vicinity, including other designated provinces, with safety and efficiency. MRTA is a state enterprise under the supervision of the Minister of Transport. The Company specializes in the metro business, conducts the project feasibility studies, and submits its investment proposals for such projects with appropriate returns and conditions. The existing concession projects were awarded for investment, supply of rolling stocks, operation and maintenance, whereby the government sector invests in all civil infrastructure, namely, stations and facilities, tunnels, ventilation systems and trackwork, etc., while the Company invests in the railway systems, namely, rolling stocks, signaling and operation systems, communications and SCADA systems, power supply, automatic fare collection, platform screen door, and depot workshop systems, etc.

The M.R.T. Chaloem Ratchamongkhon Line (Blue Line) (Hua Lamphong Station - Bang Sue Station)

The Company engaged Joint Venture CKET as the project manager for the MRT project (Project Manager) (from August 2000 to July 2009) to manage technical operations, such as procurement of the M&E Equipment as ordered from manufacturers and liaison with contractors and relevant authorities regarding the installation of the M&E Equipment. Upon expiration of the engagement agreement of CKET for project management, the Company was able to efficiently administer and manage the MRT Project, as well as improve and develop the efficient service provision on its own. In regard to the supply and maintenance of the M&E Equipment, the Company engaged Lincas and Siemens to manufacture the M&E Equipment. Lincas and Siemens are responsible for the design, manufacture, supply, installation, testing, and commissioning of the M&E Equipment. The Company also engaged Siemens as a contractor for maintaining the M&E Equipment.

The M.R.T. Chalong Ratchadham Line (MRT Purple Line), Bang Yai - Rat Burana, Bang Yai - Bang Sue Section, (Khlong Bang Phai Station - Tao Poon Station)

The Company executed the Concession Agreement for the MRT Purple Line Project, Bang Yai - Rat Burana, Bang Yai - Bang Sue Section, (Khlong Bang Phai Station - Tao Poon Station), with MRTA, on a PPP Gross Cost basis, namely, the government sector invests in all civil works and the Company invests in the M&E Systems and the rolling stocks. The government sector shall make repayment in installments to the Company for the costs of the M&E Systems after the delivery of the ownership. In this regard, the Company will provide the operation and maintenance services according to standards as specified in the Agreement. In addition, the government sector is entitled to all fare box revenue and commercial development revenue from the utilization of the civil infrastructure and the railway systems and the government sector shall make repayment to the Company in the form of service fee for the O&M Services, for a contractual period of 30 years, divided into two phases, namely, Works under Phase 1: Design, supply, installation, testing of the M&E Systems and other related systems, including trial run to ensure its readiness for public service until the commencement of the Operation Service, by means of engagement of CH. Karnchang Public Company Limited as Project Manager. As for the implementation of Works under Phase 1 of the Concession Agreement, the Company, and CH. Karnchang Public Company Limited engaged MTJV (Marubeni-Toshiba Joint Venture) for the supply of rolling stocks, power supply equipment, signaling system, control, and communications systems, as well as maintenance service.

9) Environmental Impact of Rail Business

In respect of the metro business, the Company is committed to continuing its environment-related activities in accordance with ISO 14000 standards, by implementing pollution prevention and control measures, mitigation environmental impact and sustainable use of resources on the basis of three aspects of sustainable development, namely, society, economy, and environment. In addition, the Company reported its operational results in line with the index on the operational results regarding energy conservation and environmental preservation in accordance with the Energy Conservation Promotion Act (No. 2) B.E. 2550 (2007), the ministerial regulations on standards, criteria and procedures for energy management in designated factories and buildings B.E. 2552 (2009), as well as the energy management manual for sustainable development.

Regarding the energy conservation and environmental preservation in the metro business, the Company has strictly complied with the relevant laws governing energy conservation and the environment, and also adopted the Energy Management System (ISO 50001) and the International Environmental Management System (ISO 14001) since the opening of its MRT service, as well as simultaneously organizing activities for participation by and listening to related parties' opinions to ensure proper understanding which leads to sustainable development. It was for this reason that the Company received the standard management certifications as follows:

- ISO 9001:2015 Quality Management System;
- ISO 14001:2015 Environmental Management System;
- OHSAS 18001:2007 and TIS 18001:2001 Occupational Health and Safety Management Systems;
- Safety Management System from Ricardo Rail Limited.

In addition, the Company has been paying attention to the potential environmental impact from the MRT services on the environment, quality of life, and lives of people and nearby communities, by strictly monitoring, preventing and mitigating the environmental impact that may arise during the implementation of the MRT projects (Environmental Impact Mitigation Measures and Monitoring Program - EMP) in service, namely, the M.R.T. Chaloem Ratchamongkhon Line, the M.R.T. Chalong Ratchadham Line and the MRT Blue Line Extension, Bang Sue - Tao Poon Section, as well as submitting reports on its compliance with such measures to the Office of Natural Resources and Environmental Policy and Planning (ONEP) for consideration twice a year. The environmental quality was followed up and monitored in key environmental issues as follows:

(1) Air Quality

The results of air quality measurement in the atmosphere around the projects showed that the total suspended particulate (TSP), particulate matter (PM10) and carbon monoxide (CO), nitrogen dioxide (NO2), and the total hydrocarbons (THC) did not exceed normal level.

(2) Air Quality in MRT Stations and Trains

The results of air quality measurement in the MRT stations and trains, during both peak and off-peak hours, showed that the total bacterial and fungal volume, ventilation rate, temperature, and relative humidity did not exceed normal level.

(3) General Noise Level

The results of general noise level measurement showed that the average noise did not exceed 70 dB(A), with the maximum level not exceeding 115 dB(A), which met the standard requirements.

(4) Vibration Level

The results of vibration level measurement did not exceed normal levels.

(5) Effluent Quality

The results of effluent quality measurement in stations, depot and administration building did not exceed normal levels. The wastewater treatment system could work efficiently according to its design.

(6) Waste Management

The results of waste management were found that segregation, collection and transport of waste for disposal were made efficiently in accordance with the management plan and applicable laws.

In addition to the environmental quality measurements, maintenance vehicles used in the depot area meet the EURO IV Standard, an emission standard for vehicles, which provides assurance that the use of such maintenance vehicles and the maintenance operations will in no way give rise to pollution at a hazardous level.

2.1.3 Commercial Development Business

The Company and its subsidiary, namely, Northern Bangkok Expressway Company Limited (“NECL”), have carried out commercial development in relation to the expressway system by allowing the private entities and individuals to use the space for commercial operations in the vicinity of the expressway system for installing Intelligent Traffic Signs and advertising boards in various forms and for installing shops in the areas of toll plazas and engaging in other business, such as, use of the areas in the expressway system for installing 3G signal boosters, etc. Moreover, the Company has operated and granted the rights to its subsidiary, namely, Bangkok Metro Networks Limited (“BMN”), to serve as the management representative in the commercial development of the M.R.T. Blue Line Project, per the following details:

1) Nature of Services

- **Commercial Development Relating to Expressway Systems**

As for the commercial development in the area of the expressway system, the Company and one of its subsidiaries, namely, NECL, allowed private entities and individuals to take on the lease of spaces for commercial operation, as follows:

- o Installation of Intelligent Traffic Signs and Advertising Boards

Private entities were allowed to install Intelligent Traffic Signs on the main routes and in front of toll plazas, and install advertising boards in various areas, such as, in front of toll plazas, toll booths, expressway columns, and expressway barriers, etc.

- o Retail Areas around Toll Plazas

Private entities and individuals were allowed to take on the lease of retail areas for providing service to expressway service users around Prachachuen, Srinagarindra, and Bang Pa-in Toll Plazas.

- o Other Business Operations

Private entities were allowed to use the expressway areas for installation of 3G signal boosters, etc.

- **Commercial Development Relating to Metro System**

In regard to commercial development revenue from the M.R.T. Blue Line Project, the Company has operated and granted the following rights to its subsidiary, namely, BMN, as the management representative in the commercial development of such project:

- o Procurement and/or Production of Advertising Boards

Procurement and/or production of advertising boards or media in all 18 stations, 19 trains (MRT metro), and the Tao Poon Extension connecting with the MRT Purple Line, as developed from the former style into modern style to make it attractive to the service users by making use of the media of the advertisers which do intend to build brand awareness of goods and services, e.g., media in a form of special-sized light boxes on a spot where they are visible from the further distance, change in the media in the prime location from stickers to be light boxes or digital media, etc., as well as enhancing creative thinking, in order to suit the change in passengers' commuting behaviors, while brightening up the journeys and surroundings within the MRT stations.

- o Lease of Retail Areas in MRT Stations

Lease of retail areas in 11 MRT stations, comprising Khlong Toei Station, Queen Sirikit National Convention Centre Station, Sukhumvit Station, Phetchaburi Station, Phra Ram 9 Station, Thailand Cultural Centre Station, Ratchadaphisek Station, Lat Phrao Station, Phahon Yothin Station, Chatuchak Park Station and Kamphaeng Phet Station, and spaces in the basement level of the Lat Phrao park and ride facility, covering the total commercial lease spaces of approximately 19,490 square meters (spaces for retail shops and sale promotions). To date, the retail shops are opened in nine stations, namely, Khlong Toei Station, Sukhumvit Station, Phetchaburi Station, Phra Ram 9 Station, Thailand Cultural Centre Station, Phahon Yothin Station, Kamphaeng Phet Station, and spaces in the basement level of the Lat Phrao park and ride facility. In early 2018, Chatuchak Park Station was closed for renovation to make the space of the retail shops beautiful and modern, create a new lifestyle of the space for retail shops within the MRT station to serve as a rest area or meeting point of the service users or the general public.

- o Provision of Service and Maintenance of Telecommunications System Equipment

Provision of service and maintenance of telecommunications system equipment, particularly mobile phone network, inside the metro stations and tunnels, as well as Hi-speed Internet, the Wi-Fi services, and the telecommunications signal systems in the metro stations and tunnels. Currently, the telecommunications network service is also available covering the 850, 900, 1800, 2100 and 2300 MHz frequency bands.

2) Marketing and Competition of Commercial Development Business

- **Customer Characteristics and Target Customers**

The commercial development in the M.R.T. Blue Line Project is comprised of procurement and/or production of advertising media of various forms in the metro stations and trains, lease of retail areas, as well as providing service and maintenance of telecommunications system equipment, with different customer characteristics and target customers varying on service types, therefore, customer characteristics and target customers for commercial development can be classified, as follows:

- o Procurement and/or Production of Advertising Media of Various Forms

The advertising media customer groups in the MRT system consists of advertising media purchasers via agencies and owners of goods and services. Currently, the percentage of advertising media purchasers via agencies is higher than that of advertising media purchase by owners of goods and services. However, the percentage of advertising media purchase by owners of goods and services increased from 30 percent to 40 percent in 2018.

The top five groups of goods and services using the MRT advertising media are comprised of group of communications equipment (mobile phone), followed by groups of financial institutions, food and beverage, entertainment business and real estate from various projects surrounding the MRT stations, which corresponds with the main groups of the MRT service users in the age range of 20-39 years old representing more than 60 percent, accounting for more than 30 percent of school and university students and more than 30 percent of workers.

- o Lease of Retail Areas in MRT Stations

In 2018, the group of lessees of retail areas in MRT stations was significantly changed whereby there was an increase in group of area leasing customers whose brands were well known and popular, by having an interest in expanding its branches in areas within more than two MRT stations and having an intention to be an alliance in branch expansion, if any, in the future. Moreover, the Company supported and promoted the expansion of provision of the government sector's services in the MRT system to the public, by way of support of opening the Legalization Office, Department of Consular Affairs, at Khlong Toei Station.

Other than the retail areas, the service expansion of the temporary event spaces to be in outside spaces of the retail areas was higher as compared with that in the previous year, in particular the event spaces outside the retail areas at Chatuchak Park Station, including the service provision of the event spaces in front of the retail areas at Phra Ram 9 Station and Phetchaburi Station.

- o Provision of Service and Maintenance of Telecommunications System Equipment

The provision of telecommunications system service relies on those who have obtained licenses to operate the telecommunications business from the Office of the National Broadcasting and Telecommunications Commission (the Office of the NBTC); therefore, the Company's customer group included AIS, DTAC, TRUE MOVE, TOT, and CAT.

3) Marketing Policy and Strategies of Commercial Development Business

- **Service and Product Strategies of Commercial Development Business**

- Commercial Development Relating to Expressway Systems

- o Intelligent Traffic Signs in the form of maps and text messages are provided to give traffic updates to expressway users, including advertising boards in front of toll plazas, barriers, expressway columns, and in front of toll booths.
- o Shops and public restrooms are provided to expressway users in 4 toll plazas of the Si Rat Expressway and the Udon Ratthaya Expressway, namely, Srinagarindra Toll Plaza, Prachachuen Toll Plaza (inbound), Bang Pa-in Toll Plaza (inbound), and Bang Pa-in Toll Plaza (outbound).

- Commercial Development Relating to Metro System

The commercial development service is provided for facilitating and ensuring pleasant journeys for MRT service users, including people living in the areas adjacent to the MRT stations, and such commercial development service generates more revenue, as follows:

- o As for the policy and strategy to develop retail areas, the strategy to improve the image of the stations was adopted to make it modern, attractive to both the area lessees and the service users; the selection of the retail shops in response to the commuting behaviors of the service users played a key factor in developing the service business of retail shops in MRT stations to achieve growth; and moreover, entering into an alliance with popular brands of goods and services in branch expansion in the retail shops within other stations also was a part of supporting and promoting the image. It was then evident that the service provision of the retail areas in 2018 was changed.
- o The marketing strategies in 2018 of static media and dynamic media were to give priority to collaboration with advertising media agencies and designers to ensure the integration of advertising media and to meet the requirements of the customers by allowing advertising media to serve as a communication channel with the MRT service users to achieve the utmost efficiency. Moreover, change in advertising media from static media to dynamic media or enhancement of creative thinking enabled MRT advertising media to build brand awareness because of its distinguishing form different from general static media, or development of dynamic media to make it more attractive and interesting by means of using software to help add dimensions to the dynamic media, for instance, Octagon and Digital Media Set, at Phetchaburi Station and Sukhumvit Station.
- o As for communication service in 2018, the Company conducted a study to improve efficiency in the MRT system service provision and drew up a plan to enhance efficiency in the communication service in 2019 to make it in line with the service provision development of the licensees for telecommunications business which has the increasing competition among them.

The development of commercial services in other aspects than advertising media service, retail area service and telecommunication service, also included use of other spaces than the retail areas for providing the service of temporary event activities, which started changing evidently from use of the spaces outside the retail areas for benefiting the service users and generating more income as well as expanding service of other automatic vending machines.

- **Corporate Image Promotion Strategies**

- o In addition to the objectives in commercial development, giving back to the community, support of the government policies, are also treated as our required main mission, for example, by collaborations with alliances and the commercial development licensee (BMN) in organizing GAT/TCAS Guideline Program by Khun Kru Somsri, under the “Getting Fit Beat GAT/TCAS by MRT” Project since 2009, supporting the use of spaces and retail shops within shopping malls, launching the blue flag store with MRT project, validating the government welfare smart cards with the MRT trains. Moreover, there was the “Naiin x BMN Read Around” project to allow the people to read books for free via scanning QR code at Sam Yan Station, Phetchaburi Station, Thailand Cultural Centre Station, Phahon Yothin Station, and Chatuchak Park Station, etc.

- **Distribution Strategies and Channels of Commercial Development Business**

- o Distribution channels vary by the forms of commercial development services, mainly by mixed presentation via the Company’s strategic partners together with a direct presentation to owners of goods and services.

4) **Industrial Outlook and Competition of Business Development Business**

- **Advertising Media**

Spending budget for buying the advertising media in 2018, as compared with that in the previous year, was found high by 3.91 percent. The top five media which had the highest growth included in-store, followed by TV, radio, cinema, out of home, which was growing at a similar rate, and the Internet, respectively. In this regard, the MRT advertising media as classified in transit media had the growth by 3.25 percent, as compared with that in the same period of the previous year.

Despite the fact that the growth of the transit media was not very high, as compared with the growth of the top five media, it could reflect that the everyday outdoor lifestyle was increasing, especially spending so much time commuting. The people’s lifestyle change was a crucial factor in causing the business operators to change advertising media in line with consumers’ everyday life. Nevertheless, there were differences in the transit media in terms of target group, route, and a number of service users, for instance, in forms of MRT, BTS, airports and public buses, etc. Therefore, the budget for the purchase of media in each category varied according to the objectives of owners of goods and services. Currently, the growth rate of the passengers of the rapid transit system was continuously high, including the MRT passengers, together with the government sector’s policy to promote and support travelling by the electric train system, which would have a positive effect on the advertising media service in the future.

- **Space for Lease and Service**

As a result of the change in the service provision of goods and services of the operators with their efforts to find out the locations where are accessible to consumer groups the most, together with an increase in rental rates of spaces in large-scale shopping malls, therefore, in 2018, various brands of goods and services were found to expand the service platforms into different locations from that specified in the existing strategies of service location selection. Then, the retail areas within the MRT stations became more popular and attractive to the well-known operators because they foresaw the opportunity which would come up and the potential for the growth of the passengers in the future resulting from the expansion of the service provision of the mass rapid transit system of the government sector. Moreover, the service provision is able to be made easily and rapidly available to target groups to suit their lifestyles in spending more time commuting, in spite of the fact that consumer behavior towards online shopping was increasing.

5) Procurement of Products and Services of Business Development Business

- **Nature of Procurement of Products**

The Company which has obtained the concession from the Mass Rapid Transit Authority of Thailand (MRTA) for operation and commercial development in the MRT Blue Line Project, has authorized its subsidiary (BMN) to conduct the commercial development in respect of 1) procurement and/or production of advertising media of various forms; 2) lease of retail areas in the MRT stations; 3) provision of service and maintenance of telecommunications system equipment; and 4) other commercial activities.

With respect to the expressways, the Company and one of its subsidiaries (NECL) allowed private entities and individuals to take on lease of expressway areas for installation of Intelligent Traffic Signs and various advertising boards, including retail areas around toll plazas, and other business activities, such as, the use of the expressway areas for installation of 3G signal boosters, etc.

6) Environmental Impact of Commercial Development Business

The Company also cares for and takes into account the environmental impact on the retail shop floors in the MRT system in order to prevent any impact on the environment, quality of life, and livelihood of people and communities, per details in the caption of Environmental Impact of Rail Business, on pages 76 to 77.

2.2 Work Pending Delivery

1. The MRT Blue Line Extension Project

The Company entered into the Concession Agreement for the MRT Blue Line Extension Project (Hua Lamphong Station - Lak Song Station and Bang Sue Station - Tha Phra Station) with MRTA on March 31, 2017, for the period of 33 years, with the project value of Baht 22,036 Million, on a PPP Net Cost basis. The sections for the supply and installation of the M&E Systems for opening for service were divided into three phases, namely, Phase 1: Bang Sue Station - Tao Poon Station, in service on August 11, 2017; Phase 2: Hua Lamphong Station - Lak Song Station Section, to be in service by September 2019; and Phase 3: Tao Poon Station - Tha Phra Station, to be in service by March 2020, extending a total of 27 kilometers, with 20 stations. The Company shall be entitled to fare box revenue and commercial development throughout the concession period.

3. Risk Factors

The Company realizes the significance of the management of risks from business operations under the changes of internal and external factors affecting its operational results. Risk management is considered a key instrument for business administration to ensure efficient and effective achievements and promote its competitiveness, as well as a key factor of Good Governance. The Company thus arranges for the systematic risk management, monitoring, and measures to minimize risks continuously. The Board of Directors has appointed the Corporate Governance and Risk Management Committee for policy-level consideration on the adequacy and appropriateness, with the Management to supervise the overall risk management process of the organization and perform daily routine work on behalf of the Corporate Governance and Risk Management Committee to monitor, evaluate and prepare a report on risk management to the Board of Directors for information.

In addition, the Company has also prepared an annual risk management plan, a risk management handbook as guidelines in the operations, and regularly monitors, evaluates, reviews risks every quarter to be in line with the ever-changing internal and external circumstances, including a backup plan in case of emergency, in order to ensure prompt action in solving problems and coordination with relevant units at all times. The risk management policy of the Company is as follows:

1. To adopt a risk management process in accordance with international standards or practices to ensure the efficiency of risk management, implementation and development in the same direction on an enterprise level in line with the business operation policy of the Company.
2. To treat the risk management as part of work, significant decision-making regarding management, and strategic planning to achieve the specified objectives, goals, missions and vision of the Company.
3. To carry out proactive risk management to manage risks which may result in the Company's loss of interests and opportunities.
4. To delegate risk management as the staff's responsibility at all levels and manage risks within their work units and the organization to contain risks at an adequate and appropriate level.
5. To determine guidelines for prevention or reduction of risks at a level acceptable to the Company in order to formulate plans to manage and control risks to at an acceptable level. All work units must consider the justification of expenses or costs to implement risk management measures in comparison with expected benefits.
6. To efficiently communicate the risk management within the Company for staff's effective learning, development, and compliance.
7. To prepare an annual risk management plan subject to consideration and approval of the Corporate Governance and Risk Management Committee in respect of sufficiency and appropriateness to the current business circumstances.
8. To regularly follow up and assess the results of risk management to make sure that risk management is duly and properly conducted.

Risk factors which may materially affect the Company's business operations are as follows:

3.1 Systematic Risk

3.1.1 Risk from Business Operations under Agreements with Government Sector and Government Policy

The Company operates its businesses under the relevant Concession Agreements subject to the supervision of the government agencies, differences in the contractual parties' interpretations on terms and conditions of the Concession Agreement may arise in various matters, such as, revisions of toll or fare rates, consideration to extend the concession periods under the Concession Agreements and responsibility for costs under the Agreements, which may require a certain period of time to come to a solution, and may impact the Company's business operations.

Moreover, the political uncertainty and changes in government administration from the political party in charge may result in changes in policies, relevant laws or regulations, that possibly affect consideration to extend the concession periods under the Concession Agreements or terms and conditions stated, thereby rendering EXAT or MRTA unable to perform its obligations under the relevant Agreements or may require the Company to proceed beyond those specified in the relevant Agreements or undertakings.

The Company's core revenue is partial from the expressway business under the Second Stage Expressway Agreement, which its concession term of 30 years will end in February 2020. Despite the conditions of the Agreement specifying that prior to the termination of the contract term of 30 years, the Agreement may be renewed twice of

10 years each, subject to the conditions to be agreed upon between EXAT and the Company, the political uncertainty or changes in government policies may affect the consideration to renew the Agreement. In such case, if the Company is not granted approval for renewal of the Agreement, the Company will lose such toll revenue. To minimize such risk, the Company has submitted an application for renewal of the Second Stage Expressway Agreement, which is pending the consideration and negotiation with EXAT. In addition, the Company will establish a joint operating system with the government agencies both at the administrative and operation levels, by sharing sufficient information to ensure good understanding towards each other, as well as closely and regularly monitoring the political situations and changes in policies. The Company will review the strategies and operational plans to be reasonably suitable for the situations and for their mutual interest in the long run.

3.1.2 Risk Relating to Revenues less than Projections

As the Company provides both expressway and metro services, therefore, the Company's core revenues are tolls and fares, which may be affected by several external factors beyond the Company's control, such as metro network expansion, improved feeder systems, fare rates of other available alternative transit systems, road traffic congestion, oil prices, and growth of real estate and condominium projects as well as other businesses surrounding the metro routes, which would serve as people's destinations, etc., all of which will affect the volume of service users. Moreover, the Company generates commercial development revenue, which may vary depending upon the local and overseas economic conditions, competition in advertising media and retail space lease business, as well as the progress in opening of retail shops in the stations, several factors of which are beyond the Company's control. Therefore, should the Company's revenues differ from study results or projections, it may affect the liquidity and serviceability management with respect to the existing obligations owed to the lending financial institutions or creditors according to the mutually agreed schedule, such as interest expenses, scheduled repayment of loans, operating expenses under the Agreements, as well as compensation for expressway site acquisition cost or remuneration payable to MRTA, etc.

To minimize such risk, the Company will establish a unit to closely monitor any impact which may affect various factors, and formulate appropriate strategies. In addition, the Company can limit potential impacts from risk factors, such as oil prices, road traffic congestion, and fare rates of other available alternative transit systems, due to the Company's full services of expressways and metro, both of which are considered substitute products. With respect to the commercial development, the Company will develop new advertisement media to increase its commercial development revenue, such as advertisement media management via the Passenger Information Display System (PIDs), platform billboards, and digital media, including its plans to develop more retail space.

3.1.3 Risk from Interest Rate and Foreign Exchange Rate Fluctuations

Given that the Company remains obliged to service interest-bearing liabilities to lenders, and the Company plans for future investment in many projects, therefore, it may require a large amount of long-term loans. Thus, interest expenses may be considered the significant expenditures for the Company. The increased interest rates on loans may affect the Company's operational results due to the floating interest cost in respect of the certain credit facility, thereby putting the Company at risk by bearing an increase in expenses from interest rate fluctuation or increase in the money market. However, the Company will manage such risk from interest rate fluctuation, by arranging for the loan structure, divided into loans at floating interest rates and loans at fixed interest rates including plans to issue debt instruments or debentures as suitable to the economic conditions and the Company's view of the future interest rates.

In 2018, the Company issued the debentures, with the maturity of 3-7 years, in the total amount of Baht 10,000 Million, at the fixed interest rates of 2.05-3.01 percent, respectively, proceeds of which were used for prepayment of the long-term credit facility of the Si Rat - Outer Ring Road Expressway Project at the floating interest rate in order to manage the risk and minimize the financial cost of the Company.

In addition, the Company incurred expenses in foreign currencies, for example, the maintenance cost of the M&E Equipment, and insurance premiums, part of which had to be paid in foreign currencies. Thus, should the Baht value depreciate, the Company's expenses will increase accordingly. However, the proportion of the expenses in foreign currencies is low. Moreover, the Company will set up a policy to minimize risk from the exchange rate, such as, negotiations for reduction of foreign currency expenses and buying forward, etc.

3.1.4 Risk from Serious Accidents, Public Unrest, or Natural Perils

The Company's businesses of both construction and management of the expressways and metro are exposed to an event or external factor which results in an emergency, namely, perils, serious accident, earthquake and such events which may be caused by terrorism, sabotage as bombing, riot, including gathering of insurgent groups, which may force the Company to suspend its services, thereby giving rise to loss of revenue, damaging assets, tarnishing image and destroying reliability of the Company. For this reason, the Company has set forth emergency plans in response to any events which may suddenly occur, for example, removing various significant and essential M&E equipment in the management of the expressways for storage at the safe place, and arranges for staff training to ensure that the staff in charge will be able to immediately take actions to resolve such emergency, for instance, emergency drills of all relevant units inside and outside the Company by way of simulation of such various situations as emergency in the metro stations from bomb threat and bomb blast in the metro stations, train breakdown and stop inside the tunnel, fire in the rolling stock, metro stations or tunnel, etc., as well as establishes a unit for monitoring, alerting and coordinating with relevant agencies to prevent the occurrence of any serious accident and to be ready for rescue operations; installation of metal detectors, CCTVs, and provision of security staff in all areas.

The Company has taken out insurance against property all risks, business interruption, public liability, and terrorism in respect to the metro service business.

3.1.5 Risk in respect of Personnel

As the government realizes the significance for solving problems on traveling and traffic in Bangkok by using the mass rapid transit system, it is thus expedited to expand the metro network and the connecting system to other transportation systems. Therefore, it is highly possible that there will be governmental organizations or private agencies operating the mass rapid transit system business which requires additional personnel with knowledge, expertise, and skills in the technical field in the rail business. As a result, it is likely that the Company's main personnel will be enticed away from the Company.

The risk from a shortage of competent personnel is considered as one of the Company's main risks, as they are a key factor to drive our organization to success. The Company gives priority to the personnel risk management, starting from the nomination and selection of good and qualified personnel suitable for the Company; continuous staff training courses to improve knowledge, skills, and abilities in various fields necessary for the performance of work based on each staff's position and designated duties; encouragement of the staff morale; consideration of appropriate and fair remuneration and welfare; organizing outing activities to encourage staff to love, unite, feel connected with the organization; review and revisions of the operation process and work system to ensure readiness at all times, as well as preparation of the succession plan, whereby the Company has prepared the succession plan and appointment of a working group comprising high-level executives to set up guidelines in the selection of staff to ensure the availability of personnel, both in the executive and supervisor levels, in order to prevent the risk from a shortage of personnel having knowledge, expertise and technical skills for specific work. The Company has arranged for collection of the body of knowledge for specific work and extended the results to the knowledge management program, in order to continuously improve the work process.

3.1.6 Risk in respect of Information Technology

With the Company's commitment to providing the services of the expressway system and the mass rapid transit system with safety, convenience, rapidity, reliability, punctuality and efficiency, the Company then needs to employ the cutting-edge technology to support its operations, including the provision of the services with the highest efficiency in a constant manner, which there may be a risk from disruption of main work systems, such as the collection control system, traffic control system, electricity system, and equipment (electrical power system, signaling system, communications system, SCADA system, platform screen door system, automatic fare collection system, signage system) and the Company's internal computer system (Back Office). If there is an attempt to have unauthorized or unapproved access to the information technology system of the Company, from both internal and external persons, including computer virus attacks, there is a risk which the fare collection system may break down; the fare management system may be disrupted and out of service.

The Company makes an emergency plan to deal with possible incidents which may have an impact on system equipment, comprising preventive and corrective plans for system equipment, on a regular basis, for prevention and arranging for staff in charge to ensure their access to tackling problems immediately if an emergency occurs in the work systems; there is a process of replaceable cards management in the case where the fare management system is not able to record entry-exit to and from the gates. The system is designed to enable all fare collection equipment to collect information in a stand-alone manner in the case where the server is not able to collect information on traveling of passengers. Manuals are prepared to specify procedures and methods for the safety of the information technology system. Furthermore, the inspection and monitoring of work operations are required to be done by the internal auditor and the external auditor certifying the systems. In this respect, the Company has passed the inspection and has obtained certification of the information security management system (ISO/IEC 27001:2013) as for the basic structure of the toll collection system at the toll collection computer center on July 5, 2018.

3.2 Corporate Specific Risk

3.2.1 Risk from Legal Disputes

The Company and NECL have a total of 14 disputes with EXAT on a different interpretation of several matters, such as adjustment of toll rates and responsibility for costs under the Agreements. The disputes were referred to the Arbitral Tribunal in accordance with the dispute settlement procedures under the Agreements and in the Administrative Court, divided into the disputes that the Company and NECL referred to the dispute settlement proceedings under the Agreements and demanded for damages with the total amount until the date of submission of the disputes of approximately Baht 54,503.70 Million; and the disputes that EXAT submitted claims for damages with the total amount until the date of submission of the disputes of approximately Baht 1,589.2 Million.

In 2018, there were material changes in the disputes as follows:

As for the dispute of NECL regarding the competing road with the Udon Rattaya Expressway, on September 21, 2018, the Supreme Administrative Court affirmed the judgment of the Administrative Court of First Instance enforcing compliance with the arbitral award requiring EXAT to compensate the subsidiary for the revenue which decreased from the estimate under the Bang Pa-in - Pak Kret Expressway Agreement in the amount of Baht 1,790 Million, together with interest until the payment would be made by EXAT in full, provided that EXAT shall completely comply with the judgment within 90 days from the date of the Supreme Administrative Court's judgment, which would expire on December 20, 2018.

Currently, EXAT and the subsidiary are in the process of negotiation to provide guidelines for compliance with such judgment of the Supreme Administrative Court.

As for the dispute regarding revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for the year 2008, on October 24, 2018, the Arbitral Tribunal unanimously rendered the final award requiring EXAT to compensate the Company for damages caused by the revision of toll rates for the year 2008, which was not in accordance with the Agreement, in the total amount of Baht 9,091.8 Million, together with interest under the Agreement of the principal of the damages of Baht 7,909.6 Million until EXAT would make such payment in full; and to compensate for the damages in a form of difference between the toll rates under the Notification of the Ministry of Transportation dated August 15, 2008, and the sharing to which the Company is entitled under the Agreement by calculating the number of vehicles of each category actually using the expressways on a daily basis from June 1, 2013 onwards, including payment for interest of default under the Agreement from June 1, 2013 onwards until the damages would be paid together with interest to the Company. In this regard, most of the major claims for high value damages are made by the Company from EXAT. Therefore, the decision should not materially have any negative risk towards the Company's operational results.

However, in 2018 the Company and EXAT have been negotiated and agreed to compromise and settle the disputes, wherewith, EXAT will submit the dispute settlement guidelines to the relevant authorities and the council of ministry for further approval.

3.2.2 Risk from Return on Investments in Companies less than Projections

The Company may be exposed to a risk from return on investments in companies less than projections should the operational results of such companies whose shares were held by the Company not meet the projections. To minimize such risk, the Company will take into account the proportion of investments in companies in line with the Company's investment policy which those investment could turn into cash when there are business opportunities and timely manner.

In 2018, the Company sold 111.2 million shares in CK Power Public Company Limited, by having gain from sales in the amount of Baht 222 million, as a result, its shareholding percentage in CK Power Public Company Limited decreased from 19.34 percent to 17.83 percent, and there was change in category of accounting record from investments in associates recognizing share of profit or loss according to the shareholding percentage to be investments in available-for-sale securities, which a change in market capitalization would be recorded on the end date of the accounting period. The price difference is treated as unrealized gain or loss indicated in the shareholders' equity.

Moreover, the Company sold its shares in Xayaburi Power Company Limited representing 7.5 percent of the registered capital, by having gain from sales in the amount of Baht 244 Million. While investments in other companies continued to be held for reserve investment source of future project which still receives returns in a form of dividend.

3.2.3 Risk Relating to Fluctuation of Cost of Rail Business

Costs of rail business comprise the cost of fare and cost of train service, which are deemed the main expenditure of the Company's business operations, comprising repair and maintenance costs for the metro and civil infrastructure, public utility cost, personnel cost, and payment of remuneration from fare revenue.

As for the maintenance costs under the M&E contract, the Company's contract is in foreign and Baht currencies, subject to adjustment based on the Consumer Price Index as specified in the contract. Given the long-term contract, the Company will be then exposed to risk due to changes in such indices.

The public utility cost mainly comprises the cost of electricity used at the metro stations and for train operations. The cost of electricity may be adjusted according to the electricity rates of the Metropolitan Electricity Authority, which may result in the Company's increased cost.

Therefore, the Company's costs of rail business in respect of the cost of farebox vary according to the aforesaid costs. However, in the past, the Company was able to effectively control its cost of the farebox. Besides, the cost of farebox is mostly fixed cost, not varying directly according to the increased volume of passengers, provided that there is no material change in the volume of passengers to the extent that the Company is required to add the number of trains for service to enhance the capacity to accommodate the passengers.

In the MRT Purple Line Concession Agreement, the service fees for the O&M Services payable by MRTA to the Company are calculated and based on the projections of operating expenses estimated by the Company, whereby such service fees may be adjusted only based on the actual inflation rate and electricity charge rate under the method specified in the Concession Agreement. Therefore, profits from the Operation Service will vary according to the Company's ability to manage the actual costs and expenses to mirror the specified projections. Should the actual costs and expenses be different from the projections, the Company's operational results may be affected since the Company is not able to request compensation or increase the service fees from MRTA.

However, with the expertise and experience in the management of the MRT Blue Line Project, the Company is confident in its ability to efficiently manage costs and expenses for operations to be close to the projections.

3.2.4 Risk from Engagement of Outsourced Experts as Main Contractors for Supply and Maintenance of the M&E Equipment

The Company has accepted the transfer of the agreement for the procurement of the M&E Equipment and an agreement for maintenance of the M&E Equipment with main contractors, namely, Siemens Limited, Thailand, and Japan Transportation Technology (Thailand). Thus, in the event that such outsourced expert group, as such main contractors, is unable to provide services under the agreements to the Company or there is any change in the maintenance agreement, the Company's business operation may be affected and if the trains cannot be opened for service, the Company's image may be affected.

In this regard, the Company managed the risk by studying information from members of the international federations of public transport operators, e.g., UITP, APTA, NOVA Group of Metros, including the advice from Lloyd's Register Rail, the highly experienced consultant, it is then the company is possible to select and procure other manufacturers' M&E Equipment which is compatible with its existing system. The Company also formulates the strategic plan in developing the quality of its personnel to have sufficient capabilities for working with local and overseas equipment manufacturers and contractors in the maintenance and repair of the M&E Equipment and the rail system to ensure its efficiency without reliance on the sole existing manufacturer.

3.2.5 Risk from Work Operations of Expressway Construction and Management Business

The Company takes into account the risk from operations of expressway construction and management business which may be resulted from primary factors, i.e., personnel, work system, operation system and external factors, which cause error or insufficiency of work procedures, employees, work system or information technology system, including employees' fraud and events or external factors, which may give rise to monetary and non-monetary damage, namely, damage to reputation or security of the Company. Therefore, it is greatly necessary to have a thorough supervision system with due care. The Company has then arranged for a specific unit having duties to monitor and maintain the routes and toll collection system in accordance with the operation standards, which can be assured by the experience and expertise of staffs in charge from all divisions, thereby leading to the quality and availability of efficient, complete and continued service.

In addition, the Company has also established the preventive measure for the significant structures of the expressway systems so as to be available for full-time service by way of drawing up a plan for inspection of the structures of both the Si Rat Expressway, the Udon Rattaya Expressway, and the Si Rat - Outer Ring Road Expressway to be in line with the inspection by JMI Pacific Co., Ltd., a designing company with expertise in structural inspection. The monitoring, surveillance, and maintenance were conducted to ensure that there would be no impact on the use of the expressways. As for to the toll collection, communication and traffic control systems, which are important to its operations, the Company has provided the preventive maintenance as well as the data backup system, the standby power system and the management of purchase of spare materials.

Moreover, the Company may be exposed to the risk from non-functional toll collection system equipment which may arise by various causes, such as non-functional electrical system due to a power outage from the Metropolitan Electricity Authority, error processing by the operating system, etc. In this regard, the Company gives high priority to such risk management by arranging for power backup system, a security system for access to significant systems by third parties, determination of authorization levels of access to information and equipment, and installation of virus scan software and data backup in the operating system to ensure instant substitution.

3.2.6 Risk from Delayed Construction and Operation of the Projects

The Company executed the Concession Agreement for the MRT Blue Line Extension Project with the Mass Rapid Transit Authority of Thailand (MRTA) on March 31, 2017, whereby the Company shall have duties in supply, installation, and test run and commissioning of the M&E Systems for the MRT Blue Line Extension Project, provided that such M&E Systems shall be connected with those of the M.R.T. Chaloem Ratchamongkhon Line Project in order to provide the train operation service in phases as planned, namely:

Phase 1: Bang Sue Station - Tao Poon Station, opened for service by August 15, 2017, (opened for service on August 11, 2017);

Phase 2: Hua Lamphong Station - Lak Song Station, to be opened for service within 30 months (September 2019); and

Phase 3: Tao Poon Station - Tha Phra Station, to be opened for service within 36 months (March 2020).

The Company then managed such risk by entering into an agreement engaging CH. Karnchang Public Company Limited as Project Manager, as well as for supply, installation, and test run and commissioning of the M&E Systems for the Project. At present, there remained the risk from the operation of Phases 2 and 3 of the Project. Nevertheless, the overall progress of the MRT Blue Line Extension Project was currently as planned.

4. Property Used in Business Operations

4.1 Main Assets

As of December 31, 2018, the Company and its subsidiaries had main assets used in business operations, as follows:

(Unit: Million Baht)

Class of Assets	Net Book Value
1. Building and equipment	325
2. Rights to operate completed expressway sectors	35,146
3. Rights to use sites for expressway construction	390
4. Intangible assets under the Concession Agreement for the MRT Blue Line Project	35,427
Total	71,288

The main assets of the Company and its subsidiaries as indicated above can be classified into class of assets and companies, as follows:

4.1.1 Building and Equipment

As of December 31, 2018, the book value of the building and equipment as per the consolidated financial statements of the Company and its subsidiaries was as follows:

(Unit: Million Baht)

Company	Net Book Value	Ownership	Encumbrance
The Company	283	Owner*	None
NECL	26	Owner**	None
BMN	16	Owner	None
Total	325		

Remarks: * This refers to the building, construction improvement, and certain structures of the Second Stage Expressway System. Despite the fact that the title to such building is owned by EXAT, the Company is granted the right to use such building to operate the Second Stage Expressway Project under the conditions as specified in the Agreement. The Company takes on the lease of a building for use as its head office located at No. 587 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400, at the rental rate of Baht 10,000 per month.

** NECL does not own any property, plant, and equipment but takes on the lease of a building for use as its head office located at No. 587 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400, at the rental rate of Baht 10,000 per month. NECL uses the Bang Pa-in - Pak Kret Expressway Control Center Building, which is part of the Bang Pa-in - Pak Kret Expressway Project, to supervise the operations. Despite the fact that the title to such building is owned by EXAT, NECL is granted the right to use such building to operate the Bang Pa-in - Pak Kret Expressway Project under the conditions as specified in the Agreement.

4.1.2 Rights to Operate Completed Expressway Sectors

As of December 31, 2018, the book value of the rights to operate completed expressway sectors as per the consolidated financial statements of the Company and its subsidiary was as follows:

(Unit: Million Baht)

Company	Net Book Value
The Company	29,542
NECL	5,604
Total	35,146

The rights to operate completed expressway sectors are considered the costs of construction of the Si Rat Expressway, the Si Rat - Outer Ring Road Expressway, and the Udon Ratthaya Expressway, with the details as of December 31, 2018, comprising:

(Unit: Million Baht)

Class of Assets	Net Book Value	Ownership	Encumbrance
Si Rat Expressway (Sectors A B and C)	2,536	EXAT	None
Si Rat Expressway (Sector D)	3,348	EXAT	None
Si Rat - Outer Ring Road Expressway	23,648	EXAT	None
Udon Ratthaya Expressway	5,604	EXAT	*
Project costs during construction	10		
Total Net Book Value	35,146		

Remark: * NECL provided the rights to operate completed expressway sectors under the Concession Agreement for the Udon Ratthaya Expressway Project as security to the Company to secure the loan repayment.

Given that the Expressway Agreements above are on a BTO (Build, Transfer and Operate) basis, the title to all expressways, including various permanent constructions in relation to or used in connection with the expressway systems, shall be vested in EXAT immediately upon construction by the Company and NECL. Upon opening for service, the Company and NECL are entitled to utilize such property and shall have the duty to keep such property maintained throughout the term of the Agreements. The Second Stage Expressway Agreement (Si Rat Expressway) has a term of 30 years from March 1, 1990, and may be renewed twice of 10 years each, subject to the conditions to be further agreed upon. The Agreement for the Extension of the Second Stage Expressway (Sector D), has a term of 30 years from April 22, 1997. The Si Rat - Outer Ring Road Expressway has a term of 30 years from December 15, 2012. The Bang Pa-in - Pak Kret Expressway Project Agreement (Udon Ratthaya Expressway) has a term of 30 years from September 27, 1996, and may be renewed twice of 10 years each. These Agreements require the Company and NECL to be responsible for expenses relating to toll collection, traffic management and rescue operation on the expressways, including the costs of maintenance of the expressways under the relevant Agreements throughout the term of the Agreements.

4.1.3 Rights to Use Sites for Expressway Construction

As of December 31, 2018, the book value of the rights to use sites for expressway construction as per the consolidated financial statements of the Company was as follows:

(Unit: Million Baht)

Company	Net Book Value
The Company	390

The rights to use sites for expressway construction are considered as a part of the rights to operate completed expressway sectors. The Company recorded the initial costs of the rights to use sites for expressway construction at the costs equivalent to the present value of the encumbrance in payment of compensation for site acquisition cost to EXAT under the Second Stage Expressway Agreement after initial recognition of the rights to use sites for expressway construction which showed the value at costs, less accumulated amortization. The Company amortized the rights to use sites for expressway construction as expenses in the income statement based on the volume of vehicles using service.

4.1.4 Intangible Assets under the Concession Agreement for the MRT Blue Line Project

As of December 31, 2018, the book value of intangible assets under the Concession Agreement for the MRT Blue Line Project as per the consolidated financial statements of the Company and its subsidiary were as follows:

(Unit: Million Baht)

Company	Net Book Value
The Company	35,089
BMN	338
Total	35,427

The intangible assets under the Concession Agreement for the MRT Blue Line Project are considered the costs of construction of the MRT Blue Line Project, with the details as of December 31, 2018, comprising:

(Unit: Million Baht)

Company	Class of Assets	Net Book Value	Ownership	Encumbrance
The Company	M&E Equipment	17,021	Owner	None
The Company	M&E Equipment and leasehold improvements, telecommunications system equipment, and advertising system equipment in metro stations	506	Owner	None
BMN	M&E Equipment and leasehold improvements, telecommunications system equipment, and advertising system equipment in metro stations	321	Owner	None
The Company	Project costs during construction	17,562	Owner	None
BMN	Project costs during construction	17	Owner	None
	Total Net Book Value	35,427		

4.2 Investments in Other Companies

4.2.1 Summary of Investments as per the Financial Statements

As of December 31, 2018, the book value of investments in other companies as per the Company's separate financial statements was as follows:

(Unit: Million Baht)

Company	Book Value under Cost Method	Portion of Investment in each Company (percent)	Paid-up Capital	Type of Investments	Nature of Business Operations
1. Northern Bangkok Expressway Company Limited <u>Less:</u> Provision for impairment of investments Net investments	2,604 (2,450) <u>154</u>	99.99	5,250	Subsidiary	- Construction and operation of the Bang Pa-in - Pak Kret Expressway Project
2. Bangkok Metro Networks Limited <u>Less:</u> Provision for impairment of investments Net investments	226 (16) <u>210</u>	69.67	254	Subsidiary	- Development of lease retail spaces in the metro stations and the basement level of the park and ride facility - Procurement of advertising boards or media in the metro stations and inside the trains - Provision of service and maintenance of telecommunications system equipment in the metro stations
3. TTW Public Company Limited	4,242	19.29	3,990	Associated Company	- Production and distribution of tap water
4. CK Power Public Company Limited	2,962	17.83	7,370	Other Company	- Investment in other companies (Holding Company) operating the energy business

4.2.2 Policy on Investment and Management in the Subsidiaries

The Company has the policy to invest in businesses which are related, similar, or beneficial, and support the Company's business operations, in order to provide opportunities and long-term yields, and strengthen the Company's stability and operational results. The investment policy shall be as follows:

1. To invest in projects or acquire ordinary shares in project operators, in a manner of long-term investments;
2. To invest up to the minimum proportion to allow the Company to participate in setting out policies, monitoring and reviewing operations of such companies so invested;
3. Not to invest in any project giving rise to environmental impact or contrary to the good moral of the society.

As of December 31, 2018, the Company invested in the subsidiaries and other company, as follows:

1) Northern Bangkok Expressway Company Limited ("NECL")

The Company established NECL in 1996, by holding 99.99 percent of its shares. The benefits to be derived shall be in the form of a dividend from investment in shares of NECL. Due to the impact on NECL from the government policy for construction of the competing road, NECL's revenue did not meet its projection. In this regard, NECL's operational results continued to sustain a loss to the extent that the accumulated loss exceeded its equity, resulting in shareholders' deficit. In 2003, NECL, therefore, increased its registered capital by Baht 3,000 Million to become the registered capital of Baht 6,000 Million. At present, NECL called for share payment of 75 percent of the increased registered capital of Baht 3,000 Million. However, NECL's operational results have started to generate profits since 2013 until present. The Company provided a large amount of loans for NECL and also is the major

creditor of NECL, the Company has therefore assigned its five executives to be members of NECL's board of directors, from a total of six directors of NECL. In case NECL would take any actions which may significantly affect the Company, NECL would be required to seek prior approval from the Company's Board of Directors' Meeting. Furthermore, the Company is also the service provider for all operations of NECL.

As of December 31, 2018, NECL's registered and paid-up capital was Baht 5,250 Million. The Company's shareholding in NECL was 99.99 percent of its registered capital.

2) Bangkok Metro Networks Limited ("BMN")

The Company established BMN on February 25, 2009, to operate the businesses of procurement and production of advertising media in various forms inside the metro stations and inside the trains, lease of retail spaces in the MRT Blue Line stations and spaces in the basement level of the Lat Phrao park and ride facility. To date, the retail shops are opened in nine stations, namely, Sukhumvit Station, Phahon Yothin Station, Chatuchak Park Station, Kamphaeng Phet Station, Phra Ram 9 Station, Thailand Cultural Centre Station, Khlong Toei Station, Lat Phrao Station, and Phetchaburi Station. In addition, BMN also provides service and maintains telecommunications system equipment inside the metro stations. Subsequently, in October 2018, the Company, who shall be exclusively entitled to commercial development in the M.R.T. Chaloem Ratchamongkhon Line Project and the MRT Blue Line Extension Project in accordance with the Concession Agreement for the MRT Blue Line Project dated March 31, 2017, entered into an agreement engaging BMN as a management representative for all commercial development in lieu of granting of the commercial development right. As of December 31, 2018, BMN's registered and paid-up capital was Baht 254 Million, whereby the Company holds shares in BMN representing 69.67 percent of all BMN's shares sold, together with other investors having experience and expertise in the businesses of advertising media, marketing, real estate, and telecommunications technology.

As for the policy on future investment in BMN, the Company continues to maintain its shareholding in BMN of not less than 50 percent of all shares in BMN. The Company will receive the return on investment in the form of revenue sharing and dividend income from investment in BMN. The Company has a control policy or participates in setting out the significant policies on the business operations by assigning its four representatives to be members of BMN's board of directors, from a total of eight directors of BMN.

3) TTW Public Company Limited ("TTW")

The Company invested in TTW which operates the business of production and distribution of tap water to the Provincial Waterworks Authority in the vicinity of Nakhon Pathom Province and Samut Sakhon Province, under the Water Purchase and Sale Agreement with the Provincial Waterworks Authority with a 30-year contract term from July 21, 2004. TTW invested in Pathum Thani Water Co., Ltd., representing 98 percent of its registered capital, whereby such company operates the business of production and distribution of tap water in the vicinity of Pathum Thani and Rangsit, under the Water Purchase and Sale Agreement with the Provincial Waterworks Authority with a 25-year contract term from October 15, 1998. TTW also invested in Thai Water Operations Company Limited which operates the business of operation and management of tap water production and distribution systems and wastewater treatment service provision, whereby TTW holds shares representing 68.50 percent of its registered capital. In addition, TTW invested in the energy business by holding 25.31 percent of shares in CK Power Public Company Limited, a company investing in other companies operating the energy business. The benefits to be derived by the Company from investment in TTW shall be in the form of dividend income.

The Company, as a shareholder, assigned its representative to be a member of the board of directors of TTW. As of December 31, 2018, the Company held shares in TTW representing 19.29 percent of its registered capital.

4) CK Power Public Company Limited ("CKP")

The Company invested in CKP, which operates core business by investing in other companies (Holding Company) operating the business of production and distribution of electricity from various types of energy. As of December 31, 2018, CKP invested by holding shares representing 56 percent in SouthEast Asia Energy Limited; 30 percent in Nakhon Ratchasima Solar Limited; 30 percent in Chiangrai Solar Limited; 100 percent in Bangkhenchai Company Limited; 65 percent in Bangpa-in Cogeneration Limited; and 37.50 percent in Xayaburi Power Company Limited. The benefits to be derived by the Company shall be in the form of a dividend from the investment.

The Company, as a shareholder, assigned its representative to be a member of the board of directors of CKP. As of December 31, 2018, the Company held shares in CKP representing 17.83 percent of its registered capital.

5. Legal Disputes

5.1 Disputes with the Expressway Authority of Thailand (“EXAT”)

The Company and the subsidiary had a total of 17 disputes with EXAT, which were referred to the Panel and Arbitral Tribunal in accordance with the dispute settlement procedures under the Agreements and in the Administrative Court. The essence of each dispute was as follows:

5.1.1 Disputes submitted by the Company and the subsidiary claiming damages in 11 disputes, with the total amount until the date of submission of the disputes of approximately Baht 54,503.77 Million

1. Priority Component Opening Date under the Second Stage Expressway Agreement

The Company submitted a statement of claim requiring EXAT to compensate for the deficient revenue with interest in the amount of Baht 3,831.4 Million, due to different opinions as to which date was the Priority Component Opening Date, which affected the commencement of the toll revenue sharing with the Company under the Agreement.

The Arbitral Tribunal rendered its arbitral award on the dispute requiring EXAT to pay the toll revenue sharing including interest under the Agreement as required by the Company. EXAT subsequently issued a letter refusing to comply with the arbitral award.

On April 20, 2009, EXAT submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award or order refusing to enforce compliance with the arbitral award, and on October 19, 2011, the Company submitted a petition to the Central Administrative Court requesting a judgment to enforce compliance with the arbitral award. The interest was calculated up to the date on which the Company submitted the petition to the Court, amounting to Baht 1,189.7 Million, with the total disputed amount of Baht 5,021.1 Million.

On September 13, 2013, the Central Administrative Court adjudged to dismiss EXAT’s petition requesting the Court to revoke the arbitral award and adjudged to enforce the Company’s petition.

On October 11, 2013, EXAT lodged an appeal against the Central Administrative Court’s judgment with the Supreme Administrative Court.

At present, it is pending the Supreme Administrative Court’s consideration.

2. Issuance of variation orders by EXAT

The Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by EXAT’s issuance of additional variation orders for certain construction work of the Si Rat Expressway in the total amount of Baht 209.1 Million (excluding interest).

The Arbitral Tribunal unanimously rendered its arbitral award requiring EXAT to pay the construction costs and expenses as per the Notice of Variation in the total amount of Baht 382.5 Million, including interest under the Agreement.

EXAT refused to comply with the arbitral award and also submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award. The Company submitted a petition for enforcement of the arbitral award to the Central Administrative Court.

At present, it is pending the Central Administrative Court’s consideration.

3. Revision of toll rates of the Chalem Mahanakorn Expressway and the Si Rat Expressway for the year 2003

The Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates of the Chalem Mahanakorn Expressway and the Si Rat Expressway for 2003, which was not in accordance with the Agreement, thereby causing the damages, including interest, in the total amount of Baht 4,368 Million.

The Arbitral Tribunal, by the majority of votes, rendered its arbitral award requiring EXAT to compensate the Company for damages in the amount of Baht 4,368 Million, including interest under the Agreement.

EXAT refused to comply with such arbitral award and also submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award.

On November 4, 2016, the Company submitted its answer to the petition to the Central Administrative Court. The Court presided over the case for the first time on January 10, 2019.

On February 12, 2019, the Company submitted a petition to the Central Administrative Court requesting a judgment to enforce compliance with the arbitral award.

At present, it is in the process of the Court's scheduling of the hearing date for the reading of the judgment and it is pending the Central Administrative Court proceedings.

4. Revision of toll rates of Sector D of the Si Rat Expressway for the year 2003

The Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates of Sector D of the Si Rat Expressway for the year 2003, which was not in accordance with the Agreement, in the total amount of Baht 1,048.2 Million.

At present, it is pending the arbitration proceedings.

5. Revision of toll rates of the Chalem Mahanakorn Expressway and the Si Rat Expressway for the year 2008

The Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates (of the Chalem Mahanakorn Expressway and the Si Rat Expressway) for the year 2008, which was not in accordance with the Agreement, in the total amount of Baht 9,091.8 Million, together with interest under the Agreement.

On October 24, 2018, the Arbitral Tribunal unanimously rendered the final award requiring EXAT to compensate the Company for damages caused by the revision of toll rates (of the Chalem Mahanakorn Expressway and the Si Rat Expressway) for the year 2008, which was not in accordance with the Agreement, in the total amount of Baht 9,091.8 Million, together with interest under the Agreement of the principal of the damages of Baht 7,909.6 Million until EXAT would make such payment in full.

At present, it is waiting for EXAT's compliance with the arbitral award rendered by the Arbitral Tribunal and waiting for the result of negotiation and dispute settlements.

6. Revision of toll rates of Sector D of the Si Rat Expressway for the year 2008

The Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates of Sector D of the Si Rat Expressway for the year 2008, which was not in accordance with the Agreement, together with interest calculated up to May 31, 2013, in the total amount of Baht 4,062.8 Million, including interest under the Agreement.

At present, it is pending the arbitration proceedings.

7. Increase in toll rates of the Chalem Mahanakorn Expressway and the Si Rat Expressway for the year 2013

On August 16, 2018, the Company submitted a statement of claim to the Arbitral Tribunal requiring EXAT to compensate the Company for damages caused by the revision of toll rates (of the Chalem Mahanakorn Expressway and the Si Rat Expressway) for the year 2013, which was not in accordance with the Agreement, in the total amount of Baht 14,662.7 Million, together with interest under the Agreement.

At present, it is pending the arbitration proceedings.

8. Increase in toll rates of Sector D of the Si Rat Expressway for the year 2013

On August 21, 2018, the Company submitted a statement of claim to the Arbitral Tribunal requiring EXAT to compensate the Company for damages caused by the revision of toll rates of Sector D of the Si Rat Expressway for the year 2013, which was not in accordance with the Agreement, in the total amount of Baht 6,936.4 Million, together with interest under the Agreement.

At present, it is pending the arbitration proceedings.

9. Revision of toll rates of the Udon Raththaya Expressway for the year 2003

The subsidiary submitted a statement of claim requiring EXAT to compensate the subsidiary for damages, together with interest, caused by the revision of toll rates of the Udon Raththaya Expressway for the year 2003, which was not in accordance with the Agreement, in the amount of Baht 908.7 Million, together with interest under the Agreement.

At present, it is pending the arbitration proceedings.

10. Revision of toll rates of the Udon Raththaya Expressway for the years 2008 and 2013

On August 21, 2018, the subsidiary submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates of the Udon Raththaya Expressway for the years 2008 and 2013, which was not in accordance with the Agreement, in the amount of Baht 4,724.8 Million, together with interest under the Agreement.

At present, it is pending the arbitration proceedings.

11. Competing road with the Udon Raththaya Expressway

The subsidiary submitted a statement of claim requiring EXAT to compensate for the deficient revenue, based on the ground that the Government granted permission for construction of the Extension of the Don Muang Tollway Project, from the National Memorial to Rangsit Section, which constituted a competing road under the Agreement, and affected the financial position of the subsidiary, thereby rendering such damages until the date of submission of the dispute (excluding interest) to Baht 1,790 Million.

The Arbitral Tribunal rendered its arbitral award on the dispute requiring EXAT to compensate for the deficient revenue with interest under the Agreement as required by the subsidiary. EXAT then issued a letter to the subsidiary refusing to comply with such arbitral award. Then, on March 3, 2009, EXAT submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award.

On May 31, 2013, EXAT lodged an appeal against the Central Administrative Court's judgment with the Supreme Administrative Court.

On September 21, 2018, the Supreme Administrative Court affirmed the judgment of the Administrative Court of First Instance enforcing compliance with the arbitral award requiring EXAT to compensate for the revenue which decreased from the estimate to the subsidiary under the Bang Pa-in - Pak Kret Expressway Agreement in the amount of Baht 1,790 Million, together with interest at the rate specified under the Agreement until the payment would be made in full, provided that EXAT shall completely comply with the judgment within 90 days from the date of the Supreme Administrative Court's judgment, which expired on December 20, 2018.

On December 19, 2018, EXAT and the subsidiary issued a letter to the Administrative Case Execution Bureau regarding compliance with the judgment of the Supreme Administrative Court that it was in the process of negotiation to reach a settlement in complying with the judgment of the Supreme Administrative Court.

During December 2018, subcommittee to consider determining the guidelines for compliance with the judgment of the Supreme Administrative Court of the dispute in the case of the competing road attended the meetings for negotiation with the Company and the subsidiary several times for the dispute settlement of all cases between EXAT and the Company/ the subsidiary under the Second Stage Expressway Agreement (Sector A, B and C), the Agreement for the Extension of the Second Stage Expressway System (Sector D), and the Bang Pa-in - Pak Kret Expressway Agreement. On 21 December 2018, the Company / the subsidiary have reached the agreement with EXAT for the dispute settlement for all disputes as mentioned on Notes 42. This includes the dispute regarding Competing road with the Udon Raththaya Expressway, in which the Notice of claim has been issued to require EXAT to comply with the Agreement in an amount of Baht 74,590 million. The agreement can be summarized as follows;

- A) EXAT and the Company/ the subsidiary have agreed to settle all disputes which already took place or would take place in the future in the same issues in relation with the Concession Agreements.
- B) EXAT and the Company /the subsidiary have mutually agreed to review and amend the Concession Agreements as follows;
 - B1. The respective periods of time of the Second Stage Expressway Agreement (Sector A, B and C), the Agreement for the Extension of the Second Stage Expressway System (Sector D), and the Bang Pa-in - Pak Kret Expressway Agreement, shall be extended from which would formerly end in 2020, 2027, and 2026 respectively, to end on April 2057;
 - B2. The Company shall provide the O&M Services of the Second Stage Expressway and the subsidiary shall provide the O&M Services of the Bang Pa-in - Pak Kret Expressway, provided that the Company/ the subsidiary are entitled to receive toll revenue sharing throughout the respective agreement periods at the rates ranging from 40 to 100 percent according to the rates specified in the Agreements;
 - B3. The revision of toll rates shall be revised to constantly increase every 10 years;
 - B4. The Company shall have duty to invest, construct and improve the Second Stage Expressway in the total investment amount of approximately Baht 31,500 million to solve the traffic congestion problem.

At present, the results of the negotiation and disputes settlement are pending for the relevant government agency to propose to the Cabinet for an approval in conformity with the Private Investment in State Undertaking Act B.E. 2556, in which there might be the possibilities to be altered from which summarized in A) and B).

5.1.2 Disputes submitted by EXAT claiming damages in 3 disputes, with the total amount until the date of submission of the disputes of approximately Baht 1,589.2 Million

1. Cost of arrangements of the entrance - exit and resolution of complaints

EXAT submitted a statement of claim requiring the Company to be responsible for the cost of arrangements of the entrance - exit claimed by complainants, and the cost of free flow drains, in the total amount of Baht 0.4 Million, which the Arbitral Tribunal rendered its arbitral award ruling that EXAT had no right to claim such costs.

On May 7, 2014, EXAT submitted a petition for revocation of the arbitral award.

On August 30, 2017, the Central Administrative Court rendered the judgment revoking the arbitral award, only in respect of the Arbitral Tribunal's acceptance for consideration of the second dispute in case of free flow drains, as EXAT submitted the statement of claim after the statute of limitations of such dispute had expired.

On September 29, 2017, the Company lodged an appeal against the Central Administrative Court's judgment with the Supreme Administrative Court.

At present, it is pending the Supreme Administrative Court's consideration.

2. Construction of the Udon Ratthaya Expressway, Phase 2

EXAT submitted a statement of claim requiring the subsidiary to complete the construction of the Udon Ratthaya Expressway, Phase 2, in accordance with Clause 8.5 a. of the conditions of the Bang Pa-in - Pak Kret Expressway Agreement, and to compensate in the amount of Baht 1,587.7 Million, together with interest under the Agreement. The Agreement specifies that although the conditions under the Agreement have been completed for construction commencement, should EXAT breach the Agreement that gives rise to the subsidiary's serious financial impact, and as a result, the subsidiary is not yet required to commence the construction. In this regard, EXAT breached the Agreement on the competing road and the revision of toll rates, the subsidiary then shall have the right not to commence the construction yet, and EXAT shall not have the right to claim any fines.

At present, it is pending the arbitration proceedings.

3. Cost of utilization of the Control Center Building (Bang Phun)

EXAT submitted a statement of claim requiring the subsidiary to be responsible for the cost of utilization of the Control Center Building (Bang Phun) in the amount of Baht 1.1 Million, which the subsidiary was of the view that such cost claimed by EXAT was not within its scope of responsibility under the Agreement.

At present, it is pending the arbitration proceedings.

Given that the disputes are pending the consideration and negotiation to reach a settlement, the Company and the subsidiary, therefore, have not yet recorded such entries in the financial statements.

5.1.3 Disputes submitted to Panel where the Company/the subsidiary pending to submit to the Thai Arbitration Institute claiming for damages in 3 disputes, with the total amount to date of submission of the disputes of approximately Baht 907.12 million.

1. Revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for the year 2018

On November 16, 2018, the Company requested EXAT to compensate for the damages from September 1, 2018 to October 31, 2018, together with the interest, in an amount of Baht 592.9 million, and the interest of the principle damage in an amount of Baht 590.8 million on a daily basis from November 1, 2018 onwards, and compensate for the differences of toll revenue according to the Notification of the Ministry of Transport dated August 2, 2013 from November 1, 2018 onwards together with the default interest under the Agreement.

At present, the dispute is pending to submit to the Thai Arbitration Institute.

2. Revision of toll rates of the Si Rat Expressway Sector D for the year 2018

On November 16, 2018, the Company requested EXAT to compensate for the damages from September 1, 2018 to October 31, 2018, together with the interest, in an amount of Baht 289.3 million, and the interest of the principle damage in an amount of Baht 288.3 million on a daily basis from November 1, 2018 onwards, and compensate for the differences of toll revenue according to the Notification of the Ministry of Transport dated August 2, 2013 from November 1, 2018 onwards together with the default interest under the Agreement.

At present, the dispute is pending to submit to the Thai Arbitration Institute.

3. Revision of toll rates of Udon Ratthaya Expressway for the year 2018

On November 16, 2018, the subsidiary requested EXAT to compensate for the damages from November 1, 2018 to November 11, 2018, together with the interest, in an amount of Baht 24.92 million, and the interest of the principle damage in an amount of Baht 24.90 million on a daily basis from November 12, 2018 onwards, and compensate for the differences of toll revenue according to the Notification of the Ministry of Transport dated August 2, 2013 from November 12, 2018 onwards together with the default interest under the Agreement.

At present, the dispute is pending to submit to the Thai Arbitration Institute.

Since the disputes are pending consideration, the Company and the subsidiary therefore did not record such entries in the financial statements.

6. General Information and Other Significant Information

6.1 General Information

(1) General information of the Company

Company Issuing Securities	: Bangkok Expressway and Metro Public Company Limited (“BEM”)
Business Operation	: Construction and management of the expressways and the rail mass rapid transit system projects, including other related businesses
Company Registration No.	: 0107558000491
Registered Capital	: Baht 15,285 Million, which is fully paid up.
Head Office	: 587 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400
Telephone	: 0 2641 4611 and 0 2354 2000
Fax	: 0 2641 4610 and 0 2354 2040
Website	: www.bemplc.co.th
Branch Office (1)	: 238/7 Asoke-Dindaeng Road, Bangkapi Subdistrict, Huai Khwang District, Bangkok 10310
Telephone	: 0 2641 4611
Fax	: 0 2641 4610
Branch Office (2)	: 189 Rama IX Road, Huai Khwang Subdistrict, Huai Khwang District, Bangkok 10310
Branch Office (3)	: 189/1 Rama IX Road, Huai Khwang Subdistrict, Huai Khwang District, Bangkok 10310
Branch Office (4)	: 189/2 Rama IX Road, Huai Khwang Subdistrict, Huai Khwang District, Bangkok 10310
Telephone	: 0 2354 2000
Fax	: 0 2354 2040

(2) Legal entities in which the Company holds 10 percent of shares or more

Company Issuing Securities	: Northern Bangkok Expressway Company Limited (“NECL”)
Business Operation	: Construction and management of the Udon Ratthaya Expressway
Head Office	: 587 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400
Registered Capital	: Baht 6,000 Million, Baht 5,250 Million of which is paid up.
Shareholding Percentage	: 99.99 percent
Telephone	: 0 2641 4647
Fax	: 0 2641 4646

Company Issuing Securities	: Bangkok Metro Networks Limited (“BMN”)
Business Operation	: 1. Acting as a representative for the lease of retail spaces in the MRT stations and the basement level of the Lat Phrao park and ride facility 2. Acting as a representative for procurement and/or production of advertising media in the MRT stations and inside the MRT trains 3. Acting as a representative for the provision of service and maintenance of telecommunications system equipment in the MRT stations
Head Office	: 832 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400
Registered Capital	: Baht 254 Million, which is fully paid up.
Shareholding Percentage	: 69.67 percent
Telephone	: 0 2690 8200
Fax	: 0 2690 8212
Website	: www.bmn-mrt.com

Company Issuing Securities : TTW Public Company Limited (“TTW”)
 Business Operation : Production and distribution of water supply to the Provincial Waterworks Authority and investment in companies operating the business of other public utilities
 Head Office : 30/130 Moo 12, Buddhamonthon 5 Road, Tambon Rai Khing, Amphoe Samphran, Nakhon Pathom Province 73210
 Registered Capital : Baht 3,990 Million, which is fully paid up.
 Shareholding Percentage : 19.29 percent
 Telephone : 0 2811 7526
 Fax : 0 2420 6064
 Website : www.ttwplc.com

Company Issuing Securities : CK Power Public Company Limited (“CKP”)
 Business Operation : Investment by holding shares in other companies (Holding Company) operating the business of production and distribution of electricity from various types of energy
 Head Office : 587 Viriyathavorn Building, 19th Floor, Sutthisan Winitchai Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400
 Registered Capital : Baht 9,240 Million, Baht 7,370 Million of which is paid up.
 Shareholding Percentage : 17.83 percent
 Telephone : 0 2691 9720
 Fax : 0 2691 9723
 Website : www.ckpower.co.th

(3) Reference

Securities Registrar : Thailand Securities Depository Company Limited
 The Stock Exchange of Thailand
 93 Rachadapisek Road, Dindaeng Subdistrict,
 Dindaeng District, Bangkok 10400
 Telephone : 0 2009 9382
 Fax : 0 2009 9476

Auditor : EY Office Limited
 193/136-137 Lake Rajada Office Complex, 33rd Floor,
 New Rajadapisek Road, Klongtoey District, Bangkok 10110
 Telephone : 0 2264 0777
 Fax : 0 2264 0789

Legal Advisor : The Legists Group
 Abdulrahim Place, 9th Floor
 No. 990 Rama IV Road, Silom Subdistrict,
 Bangrak District, Bangkok 10500
 Telephone : 0 2636 1111
 Fax : 0 2636 0000

Financial Advisor : Advisory Plus Company Limited
 1550 Thanapoom Tower, 10th Floor
 New Petchburi Road, Makkasan Subdistrict,
 Ratchathewi District, Bangkok 10400
 Telephone : 0 2652 7858-64
 Fax : 0 2652 7867

Debenture Registrars	: Siam Commercial Bank Public Company Limited 1060 New Phetchaburi Road, Makkasan Subdistrict Ratchathewi District, Bangkok 10400 Telephone : 0 2544 3924 Fax : 0 2937 7783
	: Krung Thai Bank Public Company Limited 977/2 Phaholyothin Road, Samsen Nai Subdistrict Phayathai District, Bangkok 10400 Telephone : 0 2298 0831 Fax : 0 2298 0835
Regularly Contacted Financial Institutions	: Krung Thai Bank Public Company Limited 35 Sukhumvit Road, Khlong Toei Nuea Subdistrict Watthana District, Bangkok 10110 Telephone : 0 2208 4631-9 Fax : 0 2256 8619
	: Siam Commercial Bank Public Company Limited 9 Ratchadaphisek Road, Chatuchak Subdistrict Chatuchak District, Bangkok 10900 Telephone : 0 2256 2323
	: TMB Bank Public Company Limited 3000 Phaholyothin Road, Chom Thong Subdistrict Chatuchak District, Bangkok 10900 Telephone : 0 2299 2511-2 Fax : 0 2299 2752
	: Bangkok Bank Public Company Limited 333 Silom Road, Silom Subdistrict Bang Rak District, Bangkok 10500 Telephone : 0 2230 1036 Fax : 0 2230 2722

6.2 Other Significant Information

- None -

7. Information on Securities and Shareholders

7.1 Number of Registered Capital and Paid-up Capital

7.1.1 The Company has the registered capital of Baht 15,285 Million, comprising 15,285 million ordinary shares at the par value of Baht 1 per share, Baht 15,285 Million of which has already been paid up, divided into 15,285 million ordinary shares at the par value of Baht 1 per share.

7.1.2 As of December 28, 2018, the Company's 1,053,769,250 ordinary shares were used as underlying securities for the issuance of Non-Voting Depository Receipt or NVDR, representing 6.89 percent of all shares in the Company. Such shares entitle their holders to receive dividends from investment in NVDR in the same amount as such dividend received by Thai NVDR Company Limited from the Company, provided that NVDR holders shall not be entitled to vote at any shareholders' meeting of the Company. Investors may check the number of NVDR from the Stock Exchange of Thailand's website at www.set.or.th/nvdr.

7.2 Shareholders

7.2.1 List of Major Shareholders

As of September 5, 2018, which is the latest closing date of the share register book, the major shareholders were as follows:

No.	Shareholders	Number of Shares (shares)	Shareholding Percentage (percent)
1.	CH. Karnchang Public Company Limited ⁽¹⁾	4,712,121,829	30.83
2.	Mass Rapid Transit Authority of Thailand	1,256,259,584	8.22
3.	Krung Thai Bank Public Company Limited	1,047,025,175	6.85
4.	Thai NVDR Company Limited	936,724,269	6.13
5.	Mr. Wichai Wachiraphong	351,694,457	2.30
6.	Bangkok Bank Public Company Limited	303,448,709	1.99
7.	STATE STREET EUROPE LIMITED	288,654,719	1.89
8.	Social Security Office	287,069,500	1.88
9.	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	257,092,374	1.68
10.	Bualuang Long - Term Equity Fund	200,619,700	1.31
11.	Mr. Min Tieanworn	200,000,000	1.31
12.	Bualuang Top-Ten Fund	149,546,300	0.98
13.	CH. Karnchang Tokyu-Construction Company Limited	136,659,952	0.89
14.	UOB KAY HIAN PRIVATE LIMITED	121,250,000	0.79
15.	GIC PRIVATE LIMITED	100,877,761	0.66
16.	Bualuang Long-Term Equity Fund 75/25	94,408,500	0.62
	Total	10,443,452,829	68.32
	Others	4,841,547,171	31.68
	Grand Total	15,285,000,000	100.00

Remarks: The Stock Exchange of Thailand's disclosure on www.set.or.th for shareholders with more than 0.5 percent shareholding.

- (1) CH. Karnchang Group's shareholding in the Company represented 31.72 percent of the paid-up capital, with the details as follows:

<u>CH. Karnchang Group</u>	<u>Number of Shares</u>	<u>% of Paid-up Capital</u>
1. CH. Karnchang Public Company Limited ⁽²⁾	4,712,121,829	30.83
2. CH. Karnchang-Tokyu Construction Company Limited ⁽³⁾	136,659,952	0.89

- (2) CH. Karnchang Public Company Limited ("CH. Karnchang Plc.") operates the general construction business, with Trivisvavet Group holding shares of 33.70 percent of the paid-up capital (information as at August 28, 2018), with the details as follows:

<u>Trivisvavet Group</u>	<u>Number of Shares</u>	<u>% of Paid-up Capital</u>
1. Mahasiri Siam Co., Ltd. ⁽⁴⁾	280,012,365	16.53
2. CH. Karnchang Holding Co., Ltd. ⁽⁵⁾	171,396,530	10.12
3. CK. Office Tower Co., Ltd. ⁽⁶⁾	86,048,212	5.08
4. Mr. Plew Trivisvavet	13,631,497	0.80
5. Mrs. Saikasem Trivisvavet	5,061,142	0.30
6. Mrs. Pranee Tongkittikul	4,464,342	0.26
7. Mr. Nattavut Trivisvavet	2,405,785	0.14
8. Miss Supamas Trivisvavet	1,700,000	0.10
9. Mr. Sittidej Trivisvavet	1,550,000	0.09
10. Mr. Puwanet Trivisvavet	1,109,255	0.07
11. Mrs. Korakot Trivisvavet	1,030,250	0.06
12. Miss Sawanya Trivisvavet	835,225	0.05
13. Mr. Prasert Trivisvavet	184,285	0.01

Shareholders may refer to additional information of CH. Karnchang Plc. in the Annual Registration Statement (Form 56-1) on the website of the SEC Office (www.sec.or.th) or the Stock Exchange of Thailand (www.set.or.th).

- (3) CH. Karnchang-Tokyu Construction Company Limited operates the business of construction of all types, having a total of 1,000,000 shares, with 549,999 shares representing 55 percent held by CH. Karnchang Plc.
- (4) Mahasiri Siam Co., Ltd. operates the investment business, having a total of 9,000,000 shares, with 8,378,787 shares representing 93.10 percent held by Trivisvavet Group.
- (5) CH. Karnchang Holding Co., Ltd. operates the investment and consultation business, having a total of 8,400,000 shares, with 2,100,000 shares representing 25 percent held by Mahasiri Siam Co., Ltd., and 5,250,000 shares representing 62.5 percent held by Trivisvavet Group.
- (6) CK. Office Tower Co., Ltd. operates the business of investment and consultancy, having a total of 3,000,000 shares, with 750,000 shares representing 25 percent held by Mahasiri Siam Co., Ltd., and 2,250,000 shares representing 75 percent held by Trivisvavet Group.

7.2.2 The Company's Free Float Percentage

According to the report on the shareholding distribution of strategic shareholders as of March 13, 2018, as submitted to the Stock Exchange by the Company, the percentage of the non-strategic shareholders was 53.75 percent of all issued and paid-up shares.

7.3 Issuance of Other Securities

7.3.1 Long-Term Loans

In 2018, the Company made repayment of the long-term loan in the amount of Baht 12,749 Million, and the Company executed the long-term loan agreement with financial institutions in the amount of Baht 14,000 Million, at the floating interest rate based on the 6MTHBFX interest rate, and made a loan drawdown during the year in the amount of Baht 4,200 Million, and as a result, as of December 31, 2018, the Company and its subsidiaries had long-term loans amounting to Baht 9,800 Million.

7.3.2 Debentures

In 2018, the Company issued debentures at the total value of Baht 10,000 Million, proceeds of which were used for prepayment of the long-term credit facilities of the Si Rat - Outer Ring Road Expressway Project. As of December 31, 2018, the Company's outstanding debentures were as per the following details:

Details of Debentures	Debentures No. 1/2016 Series 1	Debentures No. 1/2016 Series 2	Debentures No. 1/2016 Series 3
Debenture Symbol	BEM196A	BEM216A	BEM236A
Total Value of Debentures	Baht 5,000 Million	Baht 1,615 Million	Baht 2,000 Million
Type of Debentures	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative
Number of Debentures	5,000,000 units	1,615,000 units	2,000,000 units
Par Value per Unit	Baht 1,000	Baht 1,000	Baht 1,000
Interest Rate per annum	2.22%	2.52%	3.00%
Maturity	3 years	5 years	7 years
Issue Date of Debentures	June 24, 2016	June 24, 2016	June 24, 2016
Maturity Date	June 24, 2019	June 24, 2021	June 24, 2023
Registrar	SCB	SCB	SCB
Early Redemption Right	- None -		
Repayment of Principal	The issuer of debentures shall repay the principal in full on the maturity date.		
Rating	A	A	A

Debentures (continued)

Details of Debentures	Debentures No. 1/2016 Series 4	Debentures No. 1/2016 Series 5	Debentures No. 2/2016
Debenture Symbol	BEM266A	BEM286A	BEM286B
Total Value of Debentures	Baht 3,335 Million	Baht 2,750 Million	Baht 500 Million
Type of Debentures	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative
Number of Debentures	3,335,000 units	2,750,000 units	500,000 units
Par Value per Unit	Baht 1,000	Baht 1,000	Baht 1,000
Interest Rate per annum	3.30%	3.61%	3.61%
Maturity	10 years	12 years	11.9 years
Issue Date of Debentures	June 24, 2016	June 24, 2016	August 11, 2016
Maturity Date	June 24, 2026	June 24, 2028	June 24, 2028
Registrar	SCB	SCB	SCB
Early Redemption Right	- None -		
Repayment of Principal	The issuer of debentures shall repay the principal in full on the maturity date.		
Rating	A	A	A

Debentures (continued)

Details of Debentures	Debentures No. 3/2016 Series 1	Debentures No. 3/2016 Series 2	Debentures No. 3/2016 Series 3
Debenture Symbol	BEM200A	BEM250A	BEM270A
Total Value of Debentures	Baht 2,500 Million	Baht 2,500 Million	Baht 3,000 Million
Type of Debentures	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative
Number of Debentures	2,500,000 units	2,500,000 units	3,000,000 units
Par Value per Unit	Baht 1,000	Baht 1,000	Baht 1,000
Interest Rate per annum	2.62%	3.78%	3.95%
Maturity	4 years	9 years	11 years
Issue Date of Debentures	October 21, 2016	October 21, 2016	October 21, 2016
Maturity Date	October 21, 2020	October 21, 2025	October 21, 2027
Registrar	SCB	SCB	SCB
Early Redemption Right	- None -		
Repayment of Principal	The issuer of debentures shall repay the principal in full on the maturity date.		
Rating	A	A	A

Debentures (continued)

Details of Debentures	Debentures No. 1/2017 Series 1	Debentures No. 1/2017 Series 2
Debenture Symbol	BEM229A	BEM249A
Total Value of Debentures	Baht 2,000 Million	Baht 3,000 Million
Type of Debentures	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative
Number of Debentures	2,000,000 units	3,000,000 units
Par Value per Unit	Baht 1,000	Baht 1,000
Interest Rate per annum	2.65%	3.10%
Maturity	5 years	7 years
Issue Date of Debentures	September 7, 2017	September 7, 2017
Maturity Date	September 7, 2022	September 7, 2024
Registrar	KTB	KTB
Early Redemption Right	- None -	
Repayment of Principal	The issuer of debentures shall repay the principal in full on the maturity date.	
Rating	A	A

Debentures (continued)

Details of Debentures	Debentures No. 1/2018 Series 1	Debentures No. 1/2018 Series 2	Debentures No. 1/2018 Series 3
Debenture Symbol	BEM214A	BEM234A	BEM254A
Total Value of Debentures	Baht 3,000 Million	Baht 3,500 Million	Baht 3,500 Million
Type of Debentures	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative	Unsubordinated and unsecured debentures bearing names of the holders without a debenture holder representative
Number of Debentures	3,000,000 units	3,500,000 units	3,500,000 units
Par Value per Unit	Baht 1,000	Baht 1,000	Baht 1,000
Interest Rate per annum	2.05%	2.46%	3.01%
Maturity	3 years	5 years	7 years
Issue Date of Debentures	April 5, 2018	April 5, 2018	April 5, 2018
Maturity Date	April 5, 2021	April 5, 2023	April 5, 2025
Registrar	SCB	SCB	SCB
Early Redemption Right	- None -		
Repayment of Principal	The issuer of debentures shall repay the principal in full on the maturity date.		
Rating	A	A	A

7.4 Policy on Dividend Payment

The Company has the policy to pay a dividend at not less than 40 percent of the net profit of each year, taking into account the operational results, financial structure and obligations, investment, as well as regular payment of dividend to shareholders.

In this regard, the Board of Directors may pay an interim dividend to shareholders when it is of the view that the Company has sufficient profit and cash flow to pay a dividend. Once the dividend payment has been made, such dividend payment shall be reported to the following shareholders' meeting.

The Company's dividend payment in the previous year was as follows:

Dividend from Operations	Dividend Declared (Million Baht)	Dividend per share (Baht)	Net Profit (Million Baht)		Percentage of Dividend to Net Profit	
			Separate Financial Statements	Consolidated Financial Statements	Separate Financial Statements	Consolidated Financial Statements
2016						
- First half	764	0.05	1,218	1,206	62.50%	63.29%
- Second half	917	0.06	1,345	1,400	68.18%	65.22%
Total in 2016	1,681	0.11	2,563	2,606	65.48%	64.71%
2017						
- First half	917	0.06	1,442	1,425	63.83%	64.52%
- Second half	1,070	0.07	1,533	1,698	70.00%	63.06%
Total in 2017	1,987	0.13	2,975	3,123	66.67%	63.73%
2018						
- First half	917	0.06	1,695	1,714	54.05%	53.57%
- Second half ⁽¹⁾	1,376	0.09	1,412	3,603	97.83%	38.14%
Total in 2018	2,293	0.15	3,107	5,317	73.89%	43.10%

Remark: ⁽¹⁾ This is put on the Agenda of the 2019 Annual Ordinary General Meeting of Shareholders to be held on April 26, 2019.

7.5 Policy on Dividend Payment of the Subsidiaries

NECL has the policy on dividend payment at the rate of approximately 40 percent of net profit after deducting statutory reserves, by taking into consideration the operational results in the fiscal year of the separate financial statements as at the end of the fiscal year and under the conditions of the credit facility agreement, subject to the investment plan, necessity and appropriateness in other aspects as the boards of directors of the subsidiaries deem appropriate.

BMN has the policy on dividend payment at the rate of not less than 40 percent of the each year net profit, taking into account the operational results, financial structure and obligations, investment, as well as regular payment of dividend to shareholders.

8. Management Structure

The Company has established and reviewed the Company's management structure by realizing the organizational leadership roles and responsibilities of the Board of Directors in achieving the sustainable value creation for the business. The Company has also assigned the Board of Directors to ensure that all directors and executives discharge their duties with duty of care and duty of loyalty and to ensure that the Company's operations have been carried out in compliance with applicable laws, articles of association and resolutions of the shareholders' meeting. Currently, the Company's management structure comprises the Board of Directors and another four subcommittees, namely, the Audit Committee, the Executive Board, the Nomination and Remuneration Committee, and the Corporate Governance and Risk Management Committee.

The structure of the Board of Directors has been reviewed as to scale, composition, proportion of independent directors, skill, experience, education, capability and character traits, together with gender and age as appropriate and necessary to lead the organization to meet the objectives and goals specified by the Company, consisting of 17 qualified persons, namely, five executive directors, six independent directors and six non-executive directors. This is to ensure that the entire Board of Directors has suitable qualifications, can understand and satisfy the needs of stakeholders, as well as enabling the Board of Directors to carry out operations conducive to exercise of their discretion to make decisions independently.

The lists of names of the Board of Directors, the four subcommittees and executives were described as follows:

8.1 Board of Directors

The Board of Directors comprised 17 directors who were knowledgeable, competent and experienced in varied fields of business; whose names, as of December 31, 2018, were listed below:

No.	Name-Surname	Position	Category	Attendances/ Number of Board of Directors' Meetings
1	Dr. Virabongsa Ramangkura	Chairman of the Board of Directors	Independent Director	5/5
2	Mr. Plew Trivisvavet	Deputy Chairman of the Board of Directors Chairman of the Executive Board Nomination and Remuneration Committee Member	Executive Director	5/5
3	Mr. Vitoon Tejatussanasoontorn	Chairman of the Audit Committee Nomination and Remuneration Committee Member	Independent Director	5/5
4	Gen. Chetta Thanajaro	Chairman of the Nomination and Remuneration Committee Audit Committee Member	Independent Director	5/5
5	Gen. Sampao Choosri	Chairman of the Corporate Governance and Risk Management Committee Audit Committee Member	Independent Director	4/5
6	Dr. Annop Tanlamai	Audit Committee Member	Independent Director	5/5
7	Mrs. Vallapa Assakul	Corporate Governance and Risk Management Committee Member	Independent Director	5/5
8	Mr. Supong Chayutsahakij	Executive Director Nomination and Remuneration Committee Member	Executive Director	5/5

No.	Name-Surname	Position	Category	Attendances/ Number of Board of Directors' Meetings
9	M.L. Prasobchai Kasemsant	Director	Non-executive Director	5/5
10	Mr. Phongsarit Tantisuvanitchkul	Executive Director Corporate Governance and Risk Management Committee Member	Executive Director	5/5
11	Mr. Werapong Suppasedsak	Director	Non-executive Director	5/5
12	Mr. Panit Dunnvatanachit	Director	Non-executive Director	4/5
13	Mr. Yuttana Yimgarund	Director	Non-executive Director	5/5
14	Mrs. Natamon Bunnak ⁽¹⁾	Director	Non-executive Director	4/5
15	Mr. Wichan Ekarintrakul ⁽²⁾	Director	Non-executive Director	N/A
16	Dr. Sombat Kitjalaksana	Executive Director Corporate Governance and Risk Management Committee Member	Executive Director	5/5
17	Mrs. Payao Marittanaporn	Executive Director Corporate Governance and Risk Management Committee Member	Executive Director	5/5

Remarks: Directors' profiles appear on pages 197 to 202.

⁽¹⁾ Mrs. Natamon Bunnak was appointed as a director on April 20, 2018, to replace Mr. Theeraphan Tachasirinugune who resigned his office as a director on April 7, 2017.

⁽²⁾ Mr. Wichan Ekarintrakul was appointed as a director on December 27, 2018, to replace Mr. Prasit Dachsiri who resigned his office as a director on October 1, 2018.

Authorized Directors

The Company has determined five directors authorized to sign and bind the Company, comprising Mr. Plew Trivisvavet, Mr. Supong Chayutsahakij, Mr. Phongsarit Tantisuvanitchkul, Dr. Sombat Kitjalaksana, and Mrs. Payao Marittanaporn, whereby two of these five directors shall jointly sign and affix the Company's seal.

Independent Directors

The Board of Directors of the Company comprises six independent directors or representing more than one-third of the total number of directors of the Company. The Company specifies the qualifications of its independent directors in compliance with the notifications of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, as follows:

Qualifications of Independent Directors

1. Holding shares of not exceeding 0.5 percent of the total number of voting shares of the Company, its parent company, subsidiaries, associated companies, major shareholders or controllers of the Company, including shares held by any related persons of each independent director;
2. Not being or having been a director having involvement in the management, an employee, a staff member, an advisor receiving a regular salary or a controller of the Company, its parent company, subsidiaries, associated companies, subsidiaries of the same tier, major shareholders or controllers of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date, provided that such prohibited characteristics shall not apply to an independent director who was a public servant or an advisor to a government authority which is the Company's major shareholder or controller;
3. Not being a person having a relationship by blood or by legal registration in the capacity as parent, spouse, sibling, and offspring, including spouse of the offspring of other directors, executive, major shareholder, controller or person to be nominated as a director, an executive or a controller of the Company or its subsidiaries;

4. Not having or having had any business relationship with the Company, its parent company, subsidiaries, associated companies, major shareholder or controller of the Company in a manner which may prevent the exercise of his or her independent judgment; and not being or having been a substantial shareholder or controller of any person having a business relationship with the Company, its parent companies, subsidiaries, associated companies, major shareholder or controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date;

The aforesaid business relationship shall include any transaction in the ordinary course of business for lease of immovable property, any transaction relating to assets or services or grant or receipt of financial assistance through receiving or extending any loan, guarantee, providing assets as collateral, including any other similar action, which causes the Company or contractual party to be subject to indebtedness payable to the other party in the amount of three percent or more of the Company's net tangible assets or in the amount of Baht Twenty Million or more, whichever is lower. Such indebtedness shall be calculated according to the calculation method of connected transaction value under the Notification of the Capital Market Supervisory Board, Re: Rules on Connected Transactions, mutatis mutandis. However, the consideration of such indebtedness shall include the indebtedness incurred during the course of one year prior to the commencement of a business relationship with the same person;

5. Not being or having been an auditor of the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company; and not being a substantial shareholder, controller, or partner of an audit firm which employs the auditor of the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date;
6. Not being or having been a professional service provider, including legal advisor or financial advisor which receives an annual service fee exceeding Baht Two Million from the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company; and not being a substantial shareholder, controller, or partner of such professional service provider, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date;
7. Not being a director appointed as a representative of the Company's director, major shareholder or shareholder who is a related person of the major shareholder;
8. Not engaging in any business of the same nature as and in material competition with the business of the Company or its subsidiaries; or not being a substantial partner in a partnership or a director having involvement in the management, an employee, a staff member, an advisor receiving a regular salary or holding more than one percent of the total number of voting shares of another company engaging in any business of the same nature as and in material competition with the business of the Company or its subsidiaries;
9. Not having any other characteristics preventing the provision of independent opinions on the Company's operations.

8.2 Management Team

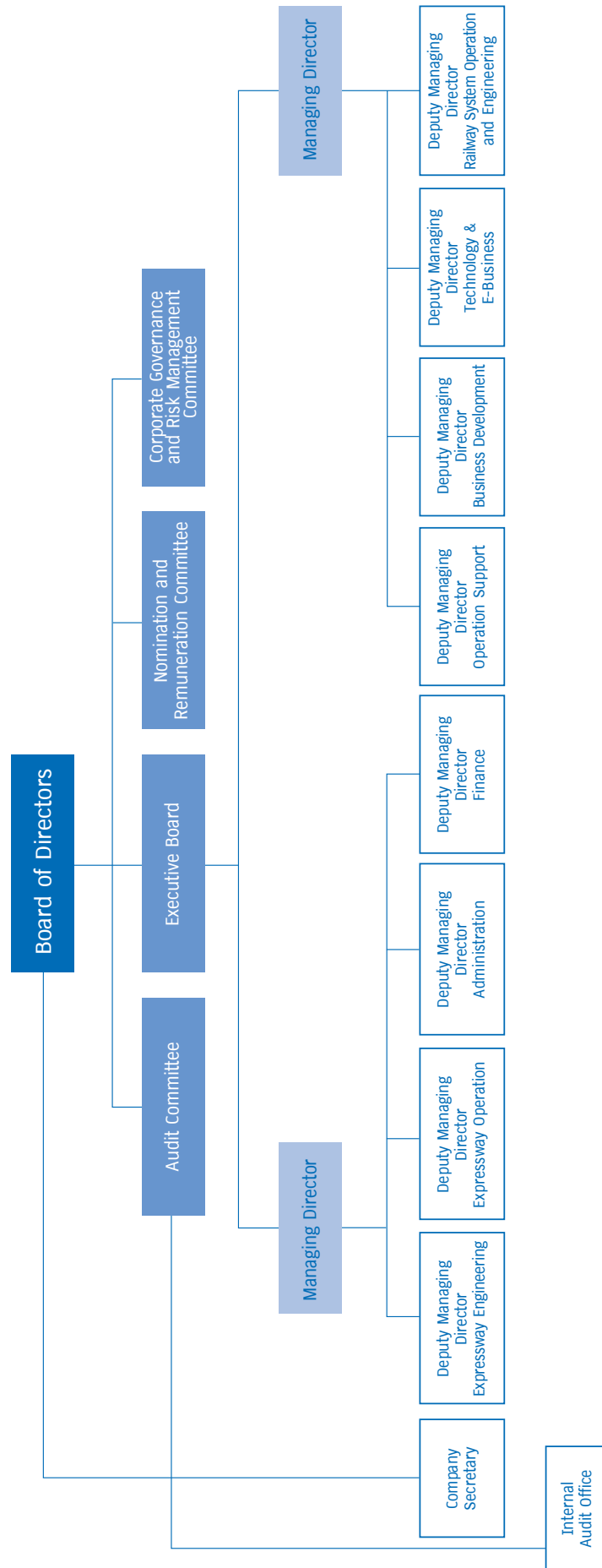
8.2.1 List of Names of Management Team

The Management Team under the structure as at December 31, 2018, comprised 10 persons as listed below: (information of executives appear on pages 202 to 204).

No.	Name	Position
1.	Dr. Sombat Kitjalaksana	Managing Director
2.	Mrs. Payao Marittanaporn	Managing Director
3.	Mr. Sanguan Kunatinun	Deputy Managing Director, Expressway Engineering
4.	Mrs. Sudruthai Prommart	Deputy Managing Director, Expressway Operation
5.	Mr. Phakpoom Thaweewittayarut	Deputy Managing Director, Administration
6.	Miss Panan Tosuwanthaworn	Deputy Managing Director, Finance
7.	Mr. Witoon Hatairatana	Deputy Managing Director, Railway System Operation and Engineering
8.	Mr. Alvin Gee	Deputy Managing Director, Operation Support
9.	Dr. Vites Techangam	Deputy Managing Director, Technology and E-Business
10.	Mr. Anawash Suwanarit	Deputy Managing Director, Business Development

8.2.2 Management Structure of the Company

Organizational Chart of Bangkok Expressway and Metro Public Company Limited



8.2.3 Structures of the Boards of Directors of Subsidiaries

1) Northern Bangkok Expressway Company Limited

As of December 31, 2018, the Board of Directors of Northern Bangkok Expressway Company Limited comprised six directors as follows:

1. Mr. Plew Trivisvavet	Chairman of the Board of Directors
2. Mr. Supong Chayutsahakij	Director
3. Mr. Phongsarit Tantisuvanitchkul	Director
4. Dr. Sombat Kitjalaksana	Director
5. Mr. Dumkerng Pankam *	Director
6. Mrs. Payao Marittanaporn	Director

Remark: * He was appointed to hold the office on March 21, 2018, to replace Mr. Prasit Dachsiri who resigned his office on March 19, 2018.

Authorized Directors

Northern Bangkok Expressway Company Limited has determined five directors authorized to sign and bind the subsidiary, comprising Mr. Plew Trivisvavet, Mr. Supong Chayutsahakij, Mr. Phongsarit Tantisuvanitchkul, Dr. Sombat Kitjalaksana, and Mrs. Payao Marittanaporn, whereby two of these five directors shall jointly sign and affix the subsidiary's seal.

2) Bangkok Metro Networks Limited

As of December 31, 2018, the Board of Directors of Bangkok Metro Networks Limited comprised six directors as follows:

1. Mr. Phongsarit Tantisuvanitchkul	Chairman of the Board of Directors
2. Dr. Sombat Kitjalaksana	Director
3. Mr. Witoon Hatairatana	Director
4. Mrs. Thipsuda Yimwilai	Director
5. Mr. Palin Lojanagosin *	Director
6. Mr. Pinijorn Luechaikajohnpan *	Director
7. Miss Panan Tosuwanthaworn	Director
8. Mr. Nattavut Trivisvavet	Director

Remark: * was appointed as a director as of February 28, 2018

Authorized Directors

Bangkok Metro Networks Limited has determined eight directors.

Mr. Phongsarit Tantisuvanitchkul, Dr. Sombat Kitjalaksana, Mr. Witoon Hatairatana, Miss Panan Tosuwanthaworn, and Mr. Natthavut Trivisvavet, totaling 2 persons out of 5 persons, shall jointly sign and affix the subsidiary's seal.

Either Mr. Phongsarit Tantisuvanitchkul, Dr. Sombat Kitjalaksana, Mr. Witoon Hatairatana, Miss Panan Tosuwanthaworn or Mr. Natthavut Trivisvavet and Mr. Palin Lojanagosin or Mrs. Thipsuda Yimwilai, totaling two persons, shall jointly sign and affix the subsidiary's seal.



8.3 Company Secretary, who bears the highest responsibility for accounting and financial work and monitors and supervises accounting preparation

1) Company Secretary

The Board of Directors has considered appointing the qualified person as Company Secretary. On December 30, 2015, the Board of Directors appointed Mr. Phakpoom Thaweewittayarut, who was knowledgeable and capable in the fields of accounting, law, and audit, as well as fully understanding rules, regulations and criteria applicable to listed companies, to serve as the Company Secretary (details of his profile appear on page 203, No. 20), with the duties and responsibilities as follows:

1. Providing suggestions to directors relating to provisions of laws, relevant rules and regulations.
2. Arranging for orientation and providing necessary information for the performance of duties to the current and new directors.
3. Monitoring the Company to ensure its compliance with laws, Articles of Association, relevant regulations and the good corporate governance principles.
4. Convening meetings as stipulated by laws and Articles of Association, preparing and keeping minutes of meetings, as well as coordinating to ensure efficient performance in compliance with resolutions passed by the Board of Directors or the shareholders' meetings.
5. Preparing and keeping the following documents:
 - a) Directors' register;
 - b) Notices, minutes of the Board of Directors' meetings and annual reports of the Company;
 - c) Notices and minutes of the shareholders' meetings.
6. Keeping reports on interest filed by directors or executives.
7. Monitoring to ensure disclosure of information and information memorandum to regulatory units in compliance with relevant laws, rules, and regulations.
8. Contacting and communicating with shareholders and relevant regulatory units, whereby shareholders may inquire or request any information as needed by contacting at Tel. 0 2641 4611 or sending questions via email to companysecretary@bemplc.co.th.
9. Promoting the provision of various training courses and providing useful information for the performance of duties of new directors.
10. Making other arrangements as announced by the Capital Market Supervisory Board.
11. Proceeding with other matters as assigned by the Board of Directors.

2) Deputy Managing Director: Finance

The Board of Directors appointed Miss Panan Tosuwanthaworn, who had knowledge and abilities in the fields of accounting and finance, to serve as the Deputy Managing Director: Finance, holding the position of top management in accounting and finance (details of her profile appear on page 203, No. 21), with the duties and responsibilities as follows:

1. Planning financial strategies to encourage internal and external growth as well as financing to accommodate growth linking with the Company's growth strategies and business value.
2. Controlling and managing infrastructure in terms of financial information and financial management of the Company to ensure that the Company's work operations are driven to achieve tasks and goals as planned.
3. Developing and managing financial tools to contribute to the analysis of the efficiency of work operations and analysis of business value.
4. Communicating the organization's significant financial information to enhance the understanding and trust of investors relating to stability and opportunities of the Company.

3) General Manager of Accounting Division

Per the organizational chart of the Company, there was appointment of an officer in the management level in the position of General Manager of Accounting Division, i.e., Miss Saranya Lertjiraprasert, who had knowledge and understanding of the accounting system of the Company, to hold the position of General Manager of Accounting Division, as accounting management officer (details of her profile appear on page 204, No. 26), with duties and responsibilities as follows:

1. Drawing up policies and plans on accounting and finance as well as determining the accounting and financial systems in line with the guidelines for the Company's work operations.
2. Overseeing preparation of accounts and inspecting close of accounts of the Company in each period to ensure that they are made properly and in accordance with the specified practices.
3. Overseeing and inspecting preparation of financial statements, balance sheet, income statement, and accounting reports.
4. Overseeing and inspecting income-expenditure of the Company.
5. Overseeing the Company's budgeting and inspecting to ensure that the budget is utilized properly and in accordance with the budget plan as specified.
6. Overseeing the preparation of relevant tax reports for submission to relevant government authorities.

8.4 Remuneration of Directors and Executives

The Company has the policy to pay remuneration for directors and executives, by taking into account appropriate remuneration in accordance with criteria on remuneration determination as follows:

Remuneration for Directors and Managing Directors

1. Remuneration shall be appropriate for and in line with the scope of duties and responsibilities of each director, e.g., as Chairman of the Board of Directors, chairman of each subcommittee and member of the Executive Board, the Audit Committee, the Nomination and Remuneration Committee and the Corporate Governance and Risk Management Committee, who shall receive additional remuneration for such position.
2. Remuneration for the directors and the Managing Directors is at the level which is appropriate and sufficient to attract as well as retaining knowledgeable and qualified directors to perform duties for the Company efficiently in order to lead the organization to accomplish the short-term and long-term goals.
3. The elements of remuneration are clear, transparent and easy to understand.
4. The remuneration shall be considered by the Nomination and Remuneration Committee to ensure that the remuneration is at the appropriate and competitive level and stays at the same level as that in the same sector which is adequate to retain the directors and the Managing Directors who possess the qualifications in line with the goals in the business operations of the Company.

Remuneration for Executives

Remuneration for executives, excluding the Managing Directors, shall be considered in accordance with the criteria and policy specified by the Executive Board, corresponding to the Company's operational results and each executive's performance evaluation results through the Performance Management System (PMS).

In 2018, the Company paid remuneration for directors and executives as follows:

(1) Monetary remuneration

- (1.1) Remuneration for directors of the Company comprised annual remuneration, meeting allowance, and bonus. In 2018, the total remuneration for directors of the Company amounted to Baht 35,414,826, in line with the resolution of its 2018 Annual Ordinary General Meeting of Shareholders which approved the remuneration for directors in the total amount not exceeding Baht 37,250,000, namely, bonus for directors for 2017 in an amount not exceeding Baht 19,250,000 and remuneration for directors for 2018 in an amount not exceeding Baht 18,000,000.

List of Directors	Position	Remuneration for Directors 2018						Bonus 2017
		Board of Directors	Executive Board	Audit Committee	Nomination and Remuneration Committee	Corporate Governance and Risk Management Committee	Total	
1. Dr. Virabongsa Ramangkura	Chairman of the Board of Directors	2,100,000	-	-	-	-	2,100,000	2,200,000
2. Mr. Plew Trivisvavet	Deputy Chairman of the Board of Directors	550,000	1,000,000	-	150,000	-	1,700,000	2,000,000
	Chairman of the Executive Board							
	Nomination and Remuneration Committee Member							
3. Mr. Vitoon Tejtassanasoontorn	Director	550,000	-	550,000	150,000	-	1,250,000	1,100,000
	Chairman of the Audit Committee							
	Nomination and Remuneration Committee Member							
4. Gen. Chetta Thanajaro	Director	550,000	-	350,000	250,000	-	1,150,000	1,100,000
	Chairman of Nomination and Remuneration Committee							
	Audit Committee Member							
5. Gen. Sampao Choosri	Director	500,000	-	325,000	-	275,000	1,100,000	1,100,000
	Chairman of the Corporate Governance and Risk Management Committee							
	Audit Committee Member							
6. Dr. Annop Tanlamai	Director	550,000	-	350,000	-	-	900,000	950,000
	Audit Committee Member							
7. Mrs. Vallapa Assakul	Director	550,000	-	-	-	200,000	750,000	950,000
	Corporate Governance and Risk Management Committee Member							
8. Mr. Supong Chayutsahakij	Director	550,000	500,000	-	150,000	-	1,200,000	1,150,000
	Executive Director							
	Nomination and Remuneration Committee Member							
9. M.L. Prasobchai Kasemsant	Director	550,000	-	-	-	-	550,000	1,000,000
10. Mr. Phongsarit Tantisuvanitchkul	Director	550,000	500,000	-	-	200,000	1,250,000	1,150,000
	Executive Director							
	Corporate Governance and Risk Management Committee Member							
11. Mr. Werapong Suppasedsak	Director	550,000	-	-	-	-	550,000	850,000
12. Mr. Panit Dunnvatanachit	Director	500,000	-	-	-	-	500,000	850,000
13. Mr. Yuttana Yimgarund	Director	550,000	-	-	-	-	550,000	850,000
14. Mr. Theeraphan Tachasinugune ⁽¹⁾	Director	-	-	-	-	-	-	223,562
15. Mrs. Natamon Bunnak ⁽²⁾	Director	409,341	-	-	-	-	409,341	-
16. Mr. Dumkeng Pankam ⁽³⁾	Director	-	-	-	-	-	-	689,315
17. Mr. Prasit Dachsi ⁽⁴⁾	Director	399,457	-	-	-	-	399,457	93,151
18. Mr. Wichan Ekarinrakul ⁽⁵⁾	Director	-	-	-	-	-	-	-
19. Dr. Sombat Kitjalaksana	Director	550,000	500,000	-	-	200,000	1,250,000	1,150,000
	Executive Director							
	Corporate Governance and Risk Management Committee Member							
	Managing Director							
20. Mrs. Payao Marittanaporn	Director	550,000	500,000	-	-	200,000	1,250,000	1,150,000
	Executive Director							
	Corporate Governance and Risk Management Committee Member							
	Managing Director							
Total		10,508,798	3,000,000	1,575,000	700,000	1,075,000	16,858,798	18,556,028
Amount Approved by Shareholders							18,000,000	19,250,000

Remarks: ⁽¹⁾ Mr. Theeraphan Tachasinugune resigned his office as a director on April 7, 2017.

⁽²⁾ Mrs. Natamon Bunnak was appointed as a director on April 20, 2018.

⁽³⁾ Mr. Dumkeng Pankam resigned his office as a director on October 24, 2018.

⁽⁴⁾ Mr. Prasit Dachsi resigned his office as a director on October 1, 2018.

⁽⁵⁾ Mr. Wichan Ekarinrakul was appointed as a director on December 27, 2018, and notified his intention not to receive remuneration.

- (1.2) In 2018, the Company paid remuneration comprising salary and bonus for its executives at the levels of Managing Director downwards to Deputy Managing Director, totaling 10 persons, in the total amount of Baht 99,119,052.50.
- (1.3) In 2018, NECL paid remuneration for its directors, comprising annual remuneration, meeting allowance, and bonus, in the total amount of Baht 3,984,166 in line with the resolution of its 2018 annual ordinary general meeting of shareholders which approved the remuneration for directors in an amount not exceeding Baht 4,250,000, namely, bonus for its directors in 2017 in an amount not exceeding Baht 1,400,000 and remuneration for its directors for 2018 in an amount not exceeding Baht 2,850,000.
- (1.4) In 2018, BMN paid remuneration for its directors, comprising annual remuneration and meeting allowance, in the total amount of Baht 882,000 in line with the resolution of its 2018 annual ordinary general meeting of shareholders which approved the remuneration for directors for 2018 in an amount not exceeding Baht 1,120,000.

(2) Other remuneration

- (2.1) Other remuneration for directors
 - None -
- (2.2) Other remuneration for executives

The Company establishes a provident fund, which provides long-term benefits upon termination of employment or retirement, whereby executives pay savings at the rate of 5-10 percent of his/her salary according to his/her service years and the Company pays contributions at the same rate to the fund. In 2018, the Company paid contributions to the provident fund for 10 executives in the amount of Baht 4,742,454.

The contribution rate paid by the Company is in accordance with the resolution of the Board of Directors' Meeting, taking into consideration the Company's profitability and the Company's operational results.

8.5 Personnel

8.5.1 Number of Staff as at December 31, 2018

- Expressway business: there were a total of 1,037 staff, comprising personnel in two main functions, namely, Operation and Engineering, representing 79.2 percent of all staff, and personnel in supporting functions, namely, Administration, Finance and Corporate Governance, representing 20.8 percent of all staff.
- Rail business: there were a total of 2,610 staff, comprising personnel in main functions, namely, Project Management and Development Group, Engineering & Maintenance Group, Train Operation Group, Strategy Group, representing 87 percent of all staff, and personnel in supporting functions, namely, Technology & E-Business, Business Development Group, Human Resources Group, General Affairs Group, Safety and Quality Group, Law and Compliance Division, representing 13 percent of all staff.
- As of December 31, 2018, the Company has staff in each work unit (excluding executives) as follows:

Functions	Staff (persons)
1. Main functions	3,100
2. Supporting functions	547
Total	3,647

- Subsidiaries
 - o NECL has no employment of executive and permanent staff, but operates the Udon Ratthaya Expressway by means of a service agreement with BEM.
 - o BMN had a total of 139 staff its staff in each work unit (excluding executives), comprising Sale and Marketing Department, Design and Production Department, Business Development Department, Finance Department, and Operation Department.

- Significant Change in Number of Staff over the Past Three Years
 - None -
- Significant Labor Dispute over the Past Three Years
 - None -

8.5.2 Personnel Development Policy

The Company is determined to be a leading, fully-integrated transportation service provider in Thailand and ASEAN, with its social mission to provide the transport service with convenience, rapidity, and safety by engaging in the business with its commitment to social and environmental responsibility, attainment of value added creation and optimum benefits for all stakeholders with fairness and sustainability.

Currently, the Company continues to undergo changes and business competition, and, to enable the Company to create the “Path to Happiness for Better Travelling Mode”, the Company then realizes the significance of personnel development to ensure that they have preparedness and capability to not only create value for the Company, but also value for the society as a whole.

Personnel is regarded as a key feature in moving the business forward with sustainability, the Company has thus clearly incorporated the practices for staff’s compliance into the Company’s Codes of Conduct. In this regard, the Company is committed to development of efficiency of its staff to meet quality of work and quality of life of staff by fostering conceptions and values relating to quality policies, comprising personnel development, teamwork, creation of quality, working environment, and accountability of executives and staff, including formulation of clear policies on safety and hygiene along with ensuring environment and hygiene in the workplace with safety to life and property of personnel and the Company.

The Company firmly believes that qualified staff is a key factor in bringing the sustainable growth and success to the organization, it has thus clearly formulated the personnel development policy, as follows:

1. The Company establishes a policy on nomination, development, and retention of its personnel by means of provision of remuneration in the form of salary, welfare, and other remuneration which are competitive in the same industry.
2. The Company regards its staff as valuable resources, that is, human resources are one of the major factors to the Company’s development and competitiveness as well as the achievement of the Company’s objectives. The Company realizes the significance of internal personnel development and improvement by way of regular training and performance review, including local and overseas study visits and training, particularly the awareness and training in respect of service safety. The Company’s staff must strictly comply with the Company’s safety rules and international standards.
3. The Company arranges for the efficient personnel management system based on fairness, equality, and opportunity for staff development and exercise of competency at full capacity.
4. The Company gives priority to morale and a sense of pride in work performance of staff by determining remuneration and career advancement based on knowledge, competency, and fairness, as well as arranging for the reasonable welfare system, together with the development of staff lifestyle in order to retain the Company’s valuable human resources.
5. Retention of the Company’s competent personnel

The Company ensures that highly capable and competent staff advance in their career paths.

The Company is ready to create the path to happiness, by starting from the “Source of Happiness”, which signifies the Company’s personnel. To ensure that the Company’s personnel can provide the quality service, particularly in respect of safety, the Company has then encouraged the sphere of safety at work with a commitment to fostering and creating awareness of occupational safety and health to its personnel at all levels and then to its business alliances, customers, together with nearby communities. In addition, the Company has integrated the social and environmental responsibility activities in processes related to safety, for that reason, the Company not only gives priority to the safety of the service users, but also to all persons throughout the value chain of the Company.

Personnel Development and Improvement Policies in 2018

1) Creation of Organizational Culture

The Company has aimed to provide the expressway service and train operation service with efficiency and continuous development, it has therefore fostered the conceptions and practices in various aspects, whether it be awareness of safety or awareness of accountability and responsibility, which are communicated via the operating process and with support of supervisors until attaining the organizational culture. This is to rest assured of the staff's practices and behavioral expressions in accordance with the Company's goals.

2) Management of Work Competency

Personnel is regarded as an invaluable resource which will support the Company to endlessly evolve and have business competitiveness, and as such, the Company has planned to develop competency of staff at all levels by establishing core competency, performance competency and managerial competency of each work position, performance evaluation process and training provision as suitable for staff according to his/her work position, duties and responsibilities, to ensure staff's in-depth and extensive expertise, resulting in the Company's competency in moving its business forward to be the fully-integrated transportation service provider in Thailand and ASEAN.

8.5.3 Benefits

1) Remuneration for Staff

In order to determine the appropriate and competitive remuneration to maintain the good and competent staff to work with the organization, the Company then participates in the survey of wages and remuneration to compare with labor market and other companies in the same sector as well as reviewing the starting salary for new graduates and base salary based on the value of work via the institute conducting wage survey on a regular basis. Therefore, it can be assured that the Company determines the fair and appropriate remuneration to the staff.

The Executive Board considers adjusting wages on a yearly basis by taking into account the Company's operational results through the Competency KPIs and its payment coverage ratio.

Furthermore, the Company establishes a provident fund for long-term care of staff in order to motivate staff to work with the Company and to encourage staff's saving habits to secure adequate retirement savings for a quality retirement life. Staff may apply for provident fund membership, whereby staff pay savings at the rate of 5 to 10 percent of his/her salary according to his/her ability to save and the Company pays contributions at the rate of 5 to 10 percent according to such staff's service years and requirements of the fund. Staff who are fund members shall gain benefits arising from management in proportion to each staff's savings in the fund. The Company also provides group life insurance benefits for staff so as to secure staff and staff family.

2) Staff Welfare

In addition to welfare required by law, the Company also provides staff with additional and appropriate welfare and encourages the roles of the Staff Welfare Committee, beginning with the arrangement for the legitimate election as required by law in order to jointly provide advice and suggestions to the Company on welfare benefits for its staff as a whole and monitor to ensure that the Company's welfare benefits are properly provided to its staff, which lead to adjustment and improvement of the Company's welfare in various aspects as appropriate according to the changing economic and social circumstances.

3) Labor Relations

The Company sets out a policy to take care of its staff via the line management through the human resources unit with the duties to provide advice to, support supervisors and provide them with regular training on personnel management and understanding of the work rules and regulations of the Company. The Company also sets out the investigation procedures with clarity in case of any disciplinary misconduct by staff to ensure fairness and solutions to prevent repeated misconduct, including clear and rapid grievance procedures. Furthermore, the Company yearly organizes the activities to strengthen relationships with and benefit its staff, comprising merit-making and food offering to monks activities on the occasion of New Year Day and merit-making to celebrate the Company's anniversary, New Year's Eve activity, Blood Donation to Thai Red Cross Society activity, Songkran Day activity, workout activity, mindfulness meditation activity, health and nutrition activity. In addition to the Company's internal activities as mentioned above, the Company also encourages and supports budget for off-work activities by allowing staff who are interested in useful activities to form activity group in the form of various clubs, such as, sports club, photo club and music club. The sports club arranges for activities all year round, i.e., football match, walking-jogging for good health, as well as participation in walking-running for charity in association with the government sector on various occasions; internal sports activity so as to encourage staff to work out and then select the Company's athletes to participate in sports competition with external organizations to gain more experience and strengthen good intercompany relationships. The music club regularly arranges for recreational activities every year to promote staff to show their artistic and performance talents, to perform their shows in various events of the Company, and to spread happiness to the society, particularly to the underprivileged communities.

4) Occupational Safety and Health

The Company gives priority to the occupational safety and health by setting out a policy to require each work unit to set out measures and practices relating to proper use of safety equipment as appropriate for each task, as well as providing budget support in improvement of the efficiency of such equipment to be ready for effective and sufficient use, including review of use of such equipment on a regular basis throughout the year and emergency simulation drill. Moreover, the Company also provides training to its staff on the awareness of safety at work, life, and assets of its customers.

5) Quality of Staff's Life

The Company realizes the significance of life quality of staff, including staff of construction and management of the expressways and the metro projects, together with motorists and the society along the expressway routes, and then sets out a policy on hygienic workplaces and routes:

- By adopting the ISO 14001 Environmental Management System. The Company was certified by SGS (Thailand) Limited in accordance with UKAS Standard of England and NAC Standard of Thailand and through the commitments of the management and contribution of staff in realizing the significance and necessity as members of the world community with duty to preserve the environment, and as such, the Company continues to undergo a recertification audit of ISO 14001 Environmental Management System.
- By adopting the international standard safety management system as a guideline for operations, namely, OHSAS/TIS 18001, as well as engaging Ricardo Rail as a safety consultant to provide suggestions on risk management and to devise new safety management techniques for improvement of the Company's work processes to ensure more safety.

6) Anti-Drug in Office Campaign

The Company realizes the country's drug problems which give rise to major impact on the economic and social stability, public order and morality, and then, in association with the Company's Welfare Committee, participated in the White Factory project (Drug Free Workplace Project) of the Department of Labor Protection and Welfare, by participating in activities in collaboration with external agencies, and cooperation for drug test of all the Company's staff. In such arrangements, the Company sets out a policy to confirm its commitment and practice, namely:

1. Giving priority to drug prevention and solution by educating its staff on the damage of drugs and organizing staff health check-up every year or on a specific occasion.
2. Supporting and promoting all staff to take a role and participate in the campaign for drug prevention and solution, and jointly monitor both inside and outside the Company for drug prevention in the Company.
3. Providing cooperation with the government agencies in respect of various measures for drug prevention and solution campaign.
4. Appointing the Welfare Committee to take responsibility for implementing the White Factory project (Drug Free Workplace Project) to meet the project's objectives in line with the drug prevention and solution policy in business premises.

In this regard, the Company authorized the Company's Welfare Committee to act as the ex officio "White Factory" Project (Drug Free Workplace Project) Committee to ensure the continued implementation, whereby the "White Factory" Project (Drug Free Workplace Project) Committee shall have duties and responsibilities as follows:

1. Providing suggestions and guidelines for drug prevention and solution;
2. Complying with policies and action plans for drug prevention and solution;
3. Promoting and supporting activities for raising the awareness and campaign on anti-drug in the Company;
4. Disseminating knowledge and understanding relating to drugs and drug prevention to its staff;
5. Following up and evaluating the implementation and report to the Company.

The Company as 1 of 150 business premises which were granted a Drug Free Workplace Certificate by the Department of Labor Protection and Welfare due to the Company's "Drug Management System in the Business Premises Ranking No. 1", from the total of 258 nominees, as a role model for other business premises in that the Company could encourage its staff to participate in anti-drug campaign in the business premises until they produced concrete results.

7) Anti-Corruption in All Operating Procedures

The Company designs its operating procedures on the basis of independent check and balance and adopts the SAP system to inspect every step of the operating procedures, including prevention of any potential unusual practices in the procedures.

The SAP system comprises sourcing and procurement, maintenance, inventory, accounting and finance modules, all of which are integrated into one system, to inspect every step of the operating procedures and cross-platform processing, including financial data tracking, which helps prevent corruption efficiently.

9. Corporate Governance

9.1 Corporate Governance Policy

The Board of Directors and management put their trust in and realize the significance of the Corporate Governance Code, comprising establishing organizational leadership role and responsibilities of the Board for creating value for the business to attain the sustainable business operations, strengthening effective management and internal control, implementing mechanisms for control and checks and balances intended to ensure the transparent and auditable management, respect for rights and equality of shareholders by encouraging and supporting participation and communication with shareholders, ensuring disclosure and maintaining financial integrity; and ensuring all groups of stakeholders-oriented management, as crucial factors in adding value and bringing the highest returns to the Company's shareholders with the long-term sustainability.

To boost confidence of all shareholders, investors and stakeholders and development resulting in the good corporate governance of the Company and its subsidiaries on a continuous basis, including understanding of the Board of Directors in the Company's business operations, expectations of stakeholders, opportunities and risks affecting the business operations, the Board of Directors shall regularly review the corporate governance policy on a yearly basis. In this connection, the Company has publicized the corporate governance policy on its website at <http://www.bemplc.co.th> to allow all shareholders, investors and stakeholders to acknowledge the practical guidelines and business operations of the Company based on the Corporate Governance Code. Moreover, the Company has informed and communicated to the Company's staff to acknowledge and adhere to such policy.

- **Corporate Governance Policy**

- 1. Rights of Shareholders**

Encouraging the shareholders to exercise their basic rights and taking care of the shareholders to the greater degree than their legal rights without taking any action which violates their rights or deprives them of their rights.

- 2. Equitable Treatment towards Shareholders**

Ensuring that all shareholders are equally treated and protected in respect of their basic rights; implementing measures to prevent the inside information usage for personal gain or benefit others in an abusive manner, which would cause damage to the shareholders as a whole.

- 3. Roles of Stakeholders**

Taking care of stakeholders of all groups based on their relevant legal rights without taking any action in violation of the stakeholders' rights, as well as establishing measures to redress the situation which the stakeholders have suffered damage arising from violation of their rights; providing a mechanism to promote cooperation between the Company and the stakeholders in the pursuit of the Company's prosperity, financial stability, and sustainability.

- 4. Disclosure and Transparency**

Engaging in all activities transparently and auditably; disclosing sufficient information to all relevant parties, as well as ensuring disclosure of material information relating to the Company, both financial and non-financial information, to be made accurately, completely, timely, transparently through easy-to-access channels which are fair and reliable.

- 5. Responsibilities of the Board**

Ensuring that the Board performs their duties in good faith, with diligence and due care, in the best interest of the Company and in fairness to all shareholders under the good internal control system and appropriate risk management, as well as complying with the Company's code of ethics.

To boost the confidence of the shareholders, investors and all relevant parties, the Board regularly reviews the corporate governance policy on a yearly basis. The Company's corporate governance policy has been disclosed on its website for internal and external communication, and also, has been disseminated via an e-mail in communication with the Company's staff. The Company actively encourages its staff to participate in compliance with such policy. The Board considers reviewing the practices in accordance with the Company's good corporate governance principles and provides the practices in accordance with the good corporate governance principles for adherence. In addition, the Company has properly applied the Principles of Good Corporate Governance for Listed Companies 2017 to the Company's business context.

As a result of the operational results from the adherence to and compliance with the aforesaid good corporate governance principles, the Company then received assessments and awards for the corporate governance in 2018, as follows:

- The Company received an "Excellent" rating in the assessment of the quality of the 2018 Annual Ordinary General Meeting of Shareholders (AGM Checklist 2018), from the Thai Investors Association.
- The Company received the Drive Award 2018 for Finance Excellence from the excellent financial management, together with management based on corporate governance, by considering corporate social and environmental responsibility projects along with innovations ready to drive the organization into the macro-economy, from MBA Chula Alumni, the Faculty of Commerce and Accountancy, Chulalongkorn University.
- The Company was selected for the list of Thailand Sustainability Investment (THSI) 2018 and presented with SET Sustainability Awards 2018 in its capacity as listed company engaging in the sustainable business and serving as role model for other listed companies.
- The Company received a "Very Good" rating from the results of corporate governance survey of listed companies, from the Thai Institute of Directors Association (IOD).

In 2018, the Board of Directors supervised and monitored to ensure the development of the Company's corporate governance as well as summarizing the corporate governance activities held throughout the year 2018 covering and in compliance with the Corporate Governance Code for Listed Companies 2017, as follows:

9.1.1 Shareholders' Rights and Encouragement of Participation by Shareholders

The Board of Directors acknowledges and realizes the significance of shareholders' fundamental rights as well as encouraging participation by shareholders and communication with shareholders, namely, share purchase, sale and transfer, entitlement to the Company's profit sharing, meeting attendance for exercising their rights to vote in the shareholders' meetings independently and equitably, participation in decision-making in the Company's important matters, appointment or removal of directors, determination of remuneration for directors, appointment of auditors, determination of remuneration for auditors, and rapid receipt of the Company's complete and sufficient information and news via easily accessible channels, whereby the Company encourages its shareholders to fully exercise their rights through the shareholders' meetings and refrains from taking any actions in violation of shareholders' rights or which deprive shareholders of their rights, as follows:

1. Shareholders' Meetings

1.1 Shareholders' participation in shareholders' meetings

The Company realizes and gives priority to shareholders' rights and encourages their participation, whereby the Board of Directors clearly sets out in the corporate governance policy that the Company must support all groups of shareholders, particularly minority shareholders, foreign shareholders, and institutional shareholders, to exercise their rights without limitation to only such rights provided by laws. In this regard, the Company must not take any actions in violation of shareholders' rights or which deprive shareholders of their rights and also promote shareholders' right to decide on significant changes, by ensuring that the shareholders have been provided with the Company's sufficient information. Furthermore, the Company prepares documents in both Thai and English versions for clear acknowledgment and understanding of all shareholders.

In case it is inconvenient for any shareholder to attend meetings in person, the Company prepares proxy forms for enabling shareholders to decide among themselves how they wish their votes to be cast, and nominates one independent director and/or audit committee member if there is execution of any transaction which may give rise to a conflict of interests, who may be appointed as proxy of shareholders for exercising the right to attend meetings and vote on each agenda item. Three available proxy forms under the law are prepared, as follows:

- Proxy Form A is a general simple proxy form (for shareholders in all cases);
- Proxy Form B is a proxy form with specific details;
- Proxy Form C is used only by foreign shareholders who appoint a custodian in Thailand.

The Company makes these three proxy forms available on its website for shareholders to choose and use them as appropriate. Furthermore, the Company prepares duty stamps available for free for shareholders who appoint their proxies to attend meetings.

1.2 Shareholders' access to the Company's information

Notices of meetings which contain detailed explanations of and reasons in support of each agenda item, date, time, place, including details relating to the documents or evidence in support of participation in meetings, are prepared by the Company in both Thai and English versions to ensure all shareholders' acknowledgement and clear understanding. The Company posts notices of meetings on the Company's website 30 days in advance. As for the 2018 Annual Ordinary General Meeting of Shareholders on April 20, 2018, the Company disseminated the notice of the meeting on its website since March 20, 2018 and also sent the notice of the meeting to Thailand Securities Depository Company Limited, as the Company's share registrar, for delivery to shareholders 21 days prior to the meeting, namely, March 30, 2018, so as to allow shareholders to have time to consider the details of each agenda item. Furthermore, the shareholders' meeting has been proceeded in accordance with the order of agenda as specified in the notice of the meeting without adding any agenda to the meeting without prior notice to shareholders in the meeting, so that shareholders have access to information in support of their consideration of each agenda item.

1.3 Facilitation to shareholders' exercise of their rights to attend meetings and vote

The Company facilitates shareholders' exercise of their rights to attend meetings and vote without any special conditions which may restrict shareholders' opportunity to attend meetings. The Company sets shareholders' meeting dates which do not fall on any long holidays or public holidays; and an appropriate meeting time which is not too early in the morning or too late in the evening. Meetings are held at venues which are convenient for commuting, such as, close to a metro station or expressway on-off ramp, and with sufficient parking area, together with meeting venue and travelling map. In 2018, the Company convened one shareholders' meeting, namely, the 2018 Annual Ordinary General Meeting of Shareholders on April 20, 2018 at 14.00 hrs., at Vibhavadi Ballroom, Centara Grand at Central Plaza Ladprao Bangkok, No. 1695, Phaholyothin Road, Chatuchak Subdistrict, Chatuchak District, Bangkok, where shareholders could conveniently travel to by metro and by car.

1.4 Shareholders' opportunity to ask questions in advance

To ensure communication with shareholders and build participation with shareholders, the Company provides an opportunity for its shareholders to propose agenda items or send questions or comments in advance, under the criteria and process which are publicly disclosed on the Company's website at www.bemplc.co.th, or via E-mail address: companysecretary@bemplc.co.th, Tel.: 0 2641 4611, Fax: 0 2641 4610, or by post, to the Managing Director Office, Bangkok Expressway and Metro Public Company Limited (Branch Office 1) No. 238/7 Asoke-Dindaeng Road, Bangkok Subdistrict, Huai Khwang District, Bangkok 10310. In this regard, the Company will consider answering the questions via appropriate channels or further clarify in the ordinary general shareholders' meeting.

As for the 2019 Annual Ordinary General Meeting of Shareholders, the Company had provided an opportunity for shareholders to propose agenda items or send questions in advance via the website from October 1, 2018 to December 31, 2018, of which shareholders had been widely notified via the Stock Exchange's website.

2) Conduct of Shareholders' Meetings

The Company's reception staff facilitates shareholders' participation in meetings and provides information to shareholders both before and after meetings as well as serves refreshments to shareholders. In addition, the Company uses the following facilities and methods to conduct meetings:

2.1 Use of technology in meetings

The Company uses barcodes and computer systems for meeting registration and voting for the purpose of accuracy, convenience and rapidity, and as such, voting results can be displayed online immediately.

2.2 Directors' participation in shareholders' meetings

The Board of Directors gives priority to their participation in shareholders' meetings to answer questions and take suggestions of shareholders into consideration. In 2018, the Company convened one shareholders' meeting, i.e., the 2018 Annual Ordinary General Meeting of Shareholders on April 20, 2018. There were 14 directors from a total of 16 directors attending the meeting (representing 87.50 percent of attending directors). The Chairman of the Board of Directors, the Audit Committee Chairman, chairs of various subcommittees, the Managing Directors, and the Management Team of the Company attended such shareholders' meeting to answer shareholders' questions.

2.3 Rules on voting

The Company specifies that shareholders have one vote for each share held by them. Normally, a majority of votes of shareholders who attend the meeting and cast votes is applicable. Agenda items on the determination of remuneration for directors must be passed by not less than two-thirds of all votes of the shareholders who attend the meeting. As for other issues, votes are in accordance with the Articles of Association, laws and relevant regulations. Agenda items for acknowledgement require no resolution.

2.4 Vote counting or examination in shareholders' meeting

To ensure transparency, compliance with the laws and the Articles of Association, the Company provides for a legal advisor and at least two independent persons as shareholders' representatives to count or inspect the counting of votes to ensure transparency and compliance with the laws and the Articles of Association. The Chairman of the Board of Directors who presides over shareholders' meetings introduces the examiners of vote counting to the meetings and has them recorded in the minutes of the shareholders' meeting. In casting votes on each agenda item, the Company uses the barcode system to record such votes to ensure that the voting results are expeditiously displayed to the meeting. Voting results of the meetings, favorable, unfavorable, abstaining votes, and voided voting cards, would be also displayed. The Company discloses resolutions, together with voting results on each item to the meetings and disseminates such resolutions via the Stock Exchange's system as well as makes such resolutions and minutes of meetings available on the Company's website for the shareholders' information and examination of voting results.

2.5 Use of voting cards

1. Voting cards are provided for every agenda for those who attend the meetings in person or by proxy and have power to vote on each agenda item. The Company's officers facilitate the collection of voting cards in the meeting room. To ensure transparency, the Company has its legal advisor and the shareholders' representatives serve as examiners and witnesses in the counting of votes.
2. In case shareholders appointing their proxies have clearly voted for, against or abstained from voting on the respective agenda items, the Company collects and records such votes for computer processing in advance. The legal advisor and the shareholders' representatives examine the counting of votes by proxy.

3. To ensure that the conduct of the meeting in each agenda item is efficient and beneficial to shareholders as a whole and that the Board of Directors has sufficient time to clarify or answer shareholders' questions, the Company collects only the voting cards of the shareholders attending the meeting in person and intending to vote against or abstain from voting.
4. For the agenda item on the appointment of directors in respect of which shareholders may vote on an individual basis, the Company collects the voting cards from all shareholders attending the meeting in person to ensure transparency in the counting of votes which can be requested for review at a later date. In case of by proxy, the Company will check votes cast in the provided proxy form.

2.6 Shareholders' opportunity to share opinions or ask questions in the meeting

The Chairman of the Board of Directors who presides over shareholders' meetings allows and encourages shareholders to share opinions and ask questions concerning related matters to the meetings, based on the following practices:

1. To further share opinions or ask questions relating to agenda items during the meetings, after the end of the report or presentation of each agenda item;
2. To further share opinions or ask questions relating to matters other than the agenda items after the meetings have proceeded in accordance with all agenda items.

In addition, the Company's staff facilitate shareholders' submission of questions to directors or posting of direct questions to directors during the meetings.

3) Preparation of Minutes of Shareholders' Meetings and Disclosure of Meetings' Resolutions

1. The Company discloses resolutions of shareholders' meetings on its website in addition to the disclosure to the Stock Exchange via SET Community Portal (SCP), within the shareholders' meeting day for information and review of voting results.
2. The Company prepares minutes of every shareholders' meeting with accuracy and completeness, comprising the following information:
 - The list of directors attending the meeting;
 - The number of shareholders/shares present at the meeting (in person/by proxy);
 - Brief explanation on material issues, such as voting procedures and display of voting results, to the meeting prior to conducting the meeting;
 - Names of persons who ask/answer questions or share opinions in brief;
 - Resolutions of the meeting, with details of votes for, against, abstentions, and voided cards.
3. After the end of the shareholders' meeting, minutes of the shareholders' meeting is required to be completed within 14 days, provided that such minutes shall contain sufficient details for the shareholders absent from the meeting to review on the Company's website. Moreover, video presentation of the atmosphere of the shareholders' meeting is made available on the website until the next shareholders' meeting, so that shareholders who are not attending the meeting or those who are interested in the Company's information can have access to the meeting's details other than that recorded in the minutes of the meeting.

9.1.2 Equitable Treatment towards Shareholders

The Board of Directors realizes the significance of supervision and monitoring to ensure the Company's equal and fair treatment towards all shareholders, both major shareholders and minority shareholders, including foreign shareholders, and ensure the Company's prevention of usage or receipt of inside information which has not yet been disclosed to the public in a manner which such is done for personal interests or others' interests; which may take advantage of and cause damage to shareholders as a whole, all of which are considered unfair treatment in capital market. As a result, the Board of Directors formulates measures to prevent inside information usage and disclose information, as well as setting out fair criteria and methods for execution of transactions which may give rise to a conflict of interests, as follows:

1) Provision of Information prior to Shareholders' Meetings

The Board of Directors ensures that the Company gives notice of the meeting, together with agenda items and opinions of the Board on each agenda item, to the Stock Exchange in accordance with the rules on disclosure, and such notice is posted on the Company's website on the following business day; ensures that the Company prepares the notice of the meeting, together with details of each agenda item, both in Thai and English, for the convenience of foreign shareholders; and disseminates such notice of the meeting, together with details of each agenda item, on its website 30 days prior to the meeting date. The Board of Directors also ensures that the Company gives prior notice to shareholders on rules and regulations in the conduct of the meeting, voting procedures, including their voting rights.

2) Protection of Minority Shareholders' Rights

To enable shareholders to exercise their rights to propose any matters relating to the Company's significant changes, the Company, therefore, adopts a policy to fairly and equally allow all shareholders to exercise their rights to propose agenda items to the shareholders' meeting and to nominate qualified persons for appointment as directors via the Company's website. Shareholders may exercise such rights three months prior to the end of the accounting period. In this regard, the Board of Directors considers incorporating agenda items proposed by shareholders as appropriate. As for the persons nominated for appointment as directors, the management proposes such names to the Nomination and Remuneration Committee for further submission to the Board of Directors and the shareholders' meeting. In addition, shareholders are allowed to exercise their rights to appoint directors on an individual basis in the agenda item of appointment of directors, in respect of which shareholders may vote on an individual basis.

3) Prevention of Trading of Securities from Inside Information Usage

The Board of Directors has set out written guidelines for protection and prevention of inside information usage, and informed all directors, executives, and staff of such guidelines for compliance. In this regard, directors and executives are required to report their own securities holdings, and those of their respective spouses and minor children who hold securities of the Company; and to report on every change in such securities holdings from purchase, sale, transfer or acceptance of transfer of securities, to the Office of the Securities and Exchange Commission in accordance with Section 59 of the Securities and Exchange Act B.E. 2535 (1992) within three business days from the date of purchase, sale, transfer or acceptance of transfer of securities, and the Company regularly reminds the Board of Directors thereof. Directors and executives are also required to report on their securities trading or holdings to the Board of Directors' Meeting on a quarterly basis. Moreover, directors and executives have also been informed of their duties and responsibilities as specified, including punishments under the laws. In addition, the Company prohibits its executives who have access to inside information from taking any actions contrary to the relevant laws, rules and regulations.

4) Interests of Directors and Executives

4.1 Report on interests of directors and executives

The Board of Directors imposes a duty on its directors and executives to report on their personal interests and disclose their holdings of directorships or executive positions in other legal entities, and their shareholdings in other legal entities in excess of 25 percent of total voting shares and this obligation applies to both reporters and their related persons. This is to ensure that the Board of Directors has information in support of its consideration and approval of execution of transactions of the Company and its subsidiaries with accuracy and transparency in compliance with the relevant rules and regulations.

The Company Secretary keeps such reports on interests of directors and executives, and provides copies of such reports to the Chairman of the Board of Directors and the Audit Committee Chairman within seven business days from the date of receipt thereof.

Names of Directors/Executives	Amount of Ordinary Shares			
	As of December 31, 2017	Change in 2018	As of December 31, 2018	
			Amount	Percent (%)
<u>Directors</u>				
1. Dr. Virabongsa Ramangkura	-	-	-	-
2. Mr. Plew Trivisvavet	21,706,878	-	21,706,878	0.1420
The spouse	2,402,527	-	2,402,527	0.0157
3. Mr. Vitoon Tejatussanasoontorn	803,893	-	803,893	0.0053
4. Gen. Chetta Thanajaro	2,102,527	(2,102,527)	-	-
5. Gen. Sampao Choosri	-	-	-	-
6. Dr. Annop Tanlamai	-	-	-	-
7. Mrs. Vallapa Assakul	-	-	-	-
8. Mr. Supong Chayutsahakij	-	-	-	-
9. M.L. Prasobchai Kasemsant	-	-	-	-
10. Mr. Phongsarit Tantisuvanitchkul	-	-	-	-
11. Mr. Werapong Suppasedsak	-	-	-	-
12. Mr. Panit Dunnvatanachit	-	-	-	-
13. Mr. Yuttana Yimgarund	-	-	-	-
14. Mrs. Natamon Bunnak ⁽¹⁾	N/A	-	-	-
15. Mr. Wichan Ekarintrakul ⁽²⁾	N/A	-	-	-
16. Dr. Sombat Kitjalaksana	3,599,141	(2,000,000)	1,599,141	0.0104
17. Mrs. Payao Marittanaporn	-	-	-	-
<u>Executives</u>				
18. Mr. Sanguan Kunatinun	-	-	-	-
19. Mrs. Sudruthai Prommart	-	-	-	-
20. Mr. Phakpoom Thaweewittayarut	-	-	-	-
21. Miss Panan Tosuwanthaworn	-	-	-	-
22. Mr. Witoon Hatairatana	-	-	-	-
23. Mr. Alvin Gee	-	-	-	-
The spouse	144,272	-	144,272	0.0009
24. Dr. Vites Techangam	-	-	-	-
25. Mr. Anawash Suwanarit	N/A	-	-	-

Remarks: ⁽¹⁾ Mrs. Natamon Bunnak was appointed as director on April 20, 2018 to replace Mr. Theeraphan Tachasirinugune who resigned his office on April 7, 2017.

⁽²⁾ Mr. Wichan Ekarintrakul was appointed as director on December 27, 2018 to replace Mr. Prasit Dachhiri who resigned the office on October 1, 2018.

4.2 Interested directors' participation in shareholders' meetings

The Board of Directors sets out a policy to prohibit its directors and executives who are connected persons or interested persons in relation to any agenda items to be considered from participating in the meeting and voting on such items. The Company Secretary gives prior notice to such directors and executives who are not allowed to participate in the meeting or vote on such item. In considering a connected person and interested person, the Board of Directors takes into account such reports on interests which all directors and executives have a duty to prepare and submit to the Chairman of the Board of Directors and the Audit Committee Chairman.

5) Related Party Transactions / Connected Transactions

5.1 Policy on related party transactions / connected transactions

In case the Company executes a connected transaction under the definition of the Stock Exchange, the Company must comply with the rules and regulations of the Stock Exchange, as follows:

1. The Company shall comply with the rules and regulations of the Office of the Securities and Exchange Commission and the Stock Exchange, including the requirements on the disclosure of connected transactions as well as acquisition and disposition of significant assets of the Company or its subsidiaries and the accounting standards as prescribed by the Federation of the Accounting Professions. If there are transactions which may give rise to a conflict of interests in the future, such as, hiring a group of persons who may have a conflict of interests to carry out construction, project management, project maintenance, the Audit Committee shall jointly consider the necessity and justification of such transactions, including pricing and terms of the transactions, which must be based on the ordinary course of business. Pricing must also be compared with third party prices or market price. Interested persons will not be allowed to participate in the consideration and approval of the transactions.
2. The Company has no policy to extend or guarantee a loan for a person who may have a conflict of interests under the definition of the SEC Office.
3. Should the Board of Directors and/or the Audit Committee have no expertise in considering any particular related party transaction which may take place, the Company will arrange for an independent expert or the Company's auditor to give any opinion on such related party transaction to support the decision-making of the Board of Directors and/or the Audit Committee or the shareholders, as the case may be.
4. The Company will disclose the related party transactions in the notes to the financial statements that have been reviewed or audited by the Company's auditor.

5.2 Criteria on execution of connected transactions on arm's length basis

The Board of Directors approves in principle the Company's execution of connected transactions on arm's length basis, namely, transactions which involve commercial terms in a manner persons of ordinary prudence may enter into with general parties under the same circumstances, through commercial negotiation without any influence in the capacity as director, executive or related person, as to execution of such transactions between the Company and its subsidiaries with directors, executives or their related persons, as follows:

1. Engagement of any company or legal entity which is the connected person for repair, improvement or additional construction of expressways and related equipment should such company or legal entity propose fair price and conditions to the utmost benefit of the Company.
2. Engagement of any company or legal entity which is a connected person for repair or purchase of materials or equipment, inclusive of labor, for maintenance of administration buildings and depots in the future, subject to the commercial conditions and other agreements which are not different from others.

3. Transactions between the Company and its subsidiaries with MRTA, as follows:
 - (1) Support of public relations and advertising activities to facilitate the metro service, in an amount not exceeding Baht One Million per year.
 - (2) Support of government policies to facilitate people's commute by the metro during the specified period from time to time by means of discounts or free rides, provided that MRTA will compensate for revenue during such period in accordance with appropriate and fair criteria.
4. Transactions in the manner of management or advisory service to any legal entity which is a connected person.
5. Leases of office building spaces for the Company and its subsidiaries from CH. Karnchang Public Company Limited.
6. Other transactions which are connected transactions on arm's length basis under the definition of the SEC Office or the Stock Exchange.

5.3 Prevention of a conflict of interests

1. Directors and executives must inform the Company of relationships or connected transactions in any business which may give rise to a conflict of interests;
2. Any connected transaction with directors which may give rise to a conflict of interests with the Company must be avoided. Any connected transaction which is necessary to be executed must be proposed to the Audit Committee to consider providing an opinion prior to proposing the same to seek approval from the Executive Board or the Board of Directors (as the case may be) in accordance with the Corporate Governance Code, and in compliance with the rules of the Stock Exchange and the SEC Office;
3. Executives and staff must strictly comply with the Articles of Association and the code of business ethics of the Company, in order to ensure the Company's reliability and trust for all stakeholders, and all staff's understanding and adherence to the same.

9.1.3 Role of Stakeholders and Responsible Business Operations

The Company has a clear policy which focuses on and realizes rights of every group of all stakeholders, whether inside, such as, staff and executives of the Company and its subsidiaries, or outside, such as, customers, business related persons, lenders, traders, society and communities where the Company is located, nearby schools, government sector, including competitors, and other relevant authorities. Any stakeholder wishing to contact or have any comments may directly contact directors or the Company Secretary. In addition, the Board of Directors has laid down the corporate governance policy that requires the Company to treat stakeholders based on their rights as specified by applicable laws without any actions in violation of stakeholders' right; and compensation measures in case any stakeholder sustains any damage arising from violation of the rights; as well as focuses on its operations with respect to human rights. The Company has continued to take care of stakeholders in accordance with the policies, as follows:

1) Policy on Treatment towards Each Group of Stakeholders

- 1.1 **Customers:** The Company has a commitment to provision of quality, standard and reliable services as well as taking into account health, safety and fairness, keeping customers' information confidential, following up and evaluating customers' satisfaction for the purpose of development and improvement of services, together with advertisement, public relations and sales promotion, in response to customers' needs to have access to the mass transit system and routes which save their travelling time in Bangkok and its surrounding provinces. Work plans/programs are also continuously set out for improvement of the expressway and metro services for users to ensure a more rapid and convenient service with standard safety. Rules and regulations of service provision to which the Company has adhered are as follows:

1. Providing quality, safe and standard services to satisfy service users' expectations.
2. Ensuring prompt responses to service users' needs, without discrimination, and allowing and facilitating submission of any comments or suggestions for service improvement.
3. Providing accurate and timely information on services.
4. Organizing special activities to allow the service users to visit the operation and management of the expressways and metro under the Company's concessions, including regular promotion of the service usage by and marketing activities with customers.

- 1.2 **Business counterparts:** The Company strictly discharges its obligations under the Agreements with EXAT and MRTA in its capacity as contractual party, and fairly treats its business counterparts on the basis of equitable and impartial treatment, without discrimination. The Company also complies with conditions, rules, regulations, mutual practices, and promotes good relationships, which are clearly written in the Company's code of business ethics, along with the work procedures in accordance with ISO 9001 Quality Management System. This is to ensure its collaboration with EXAT and MRTA to provide efficient and regular services. In this regard, the Company arranges for monthly performance satisfaction assessment in order to develop and improve the efficiency of the operations. According to the assessment results, both EXAT and MRTA are completely satisfied with the Company's collaboration.

Moreover, the Company organizes quarterly meetings between its operating staff and EXAT's personnel and monthly meetings with MRTA, which not only enhance the efficiency and results in the service users' satisfaction, but also minimizes conflicts or impacts which may give rise to disputes over joint operations between both parties.

- 1.3 **Traders / Contractors:** The Company has a commitment to the procurement of standard goods and service, for the purpose of development and maintenance of sustainable relationships with traders, with the clear objectives in terms of quality of goods and service worth its value, technical standard and creditability. The Company, therefore, provides fair and equal procurement procedures for all traders and follows the procedures in a systematic way in compliance with the work procedures regarding procurement and conditions of contracts or agreements with fairness in accordance with the requirements of ISO 9001 Quality Management System, based on the practices, as follows:

1. Determining the criteria for selection of trade counterparts through a strict screening process to ensure fair business operations without violation of human rights.
2. Ensuring equal and fair competition on a database, without discrimination or preventing any trader from participating in business competition.
3. Preparing contracts or agreements in appropriate, fair and standard forms.
4. Arranging for management, monitoring, surveillance, including rechecking systems to ensure the full compliance with contracts or agreements and internal control system to prevent fraud and misconduct in all steps of the procurement procedures.
5. Paying consideration to traders on time in accordance with terms of payment as mutually agreed.
6. Not allowing directors and/or staff to accept any benefit from traders privately or by reason of personal relationship.
7. Evaluating traders on a yearly basis and informing them of the results of the evaluation with suggestions for traders to continuously improve the quality of goods and services, and also allowing traders to contact the management to make any complaints if they are unfairly treated.
8. Refraining from seeking any trader's confidential information dishonestly or improperly, such as bribing directors and staff of its competitors.
9. Refraining from making a serious accusation against traders without reasonable grounds.

1.4 **Lenders / Debenture holders:** The Company strictly complies with the conditions of credit facilities agreements, suretyship agreements, capital management to build up the confidence of the financial institution lenders who provide financial support to the Company's projects, and refrains from breaching any conditions thereof as mutually agreed. The Company complies with and adheres to the following practices:

1. Strictly complying with the conditions of the credit facilities agreements as mutually agreed. Failure to comply with any condition must be informed to the lenders in advance for jointly seeking a solution.
2. Ensuring equitable and fair treatment towards all lenders, based on fair returns for both parties.
3. Reporting correct and reliable financial information to the lenders accurately, completely, timely and regularly.
4. Refraining from giving, soliciting, receiving, agreeing to receive or accepting an engagement for any benefits fraudulently in commercial terms.
5. Disclosing information (if any) on giving, soliciting, receiving, agreeing to receive or accepting engagement fraudulently, to the lenders, and jointly resolving such problems with fairness and rapidity.

Debenture holders: The Company issues debentures in accordance with applicable requirements, laws and notifications of the SEC and strictly complies with policies, objectives and resolutions of the shareholders' meetings, and also realizes the significance of its responsibility to fulfill commitments in accordance with the requirements regarding the debenture issuer's rights and duties, including relevant contractual conditions.

1.5 **Staff:** The Company considers staff as a key resource behind its business movements and as a crucial factor to the Company's sustainable success and growth, and then clearly sets out the staff practices, as suitable for each work position, and has respect for human rights, for instance, determination of remuneration and other benefits with fairness, provision of welfare benefits not less than that provided by law or higher as appropriate, taking into account staff's hygiene and safety at work, provision of training, development of competency and support of career advancement, as well as providing staff opportunity to improve their important and essential skills in connection with working or in any other fields, etc. In this regard, the Board of Directors has authorized the management to follow up, evaluate and review work performance on a yearly basis.

1. Treatment of staff
 - 1) Establishing structures and providing fair and appropriate benefits to staff according to work competency, to which staff performance evaluation system (people assessment) has been applied, focusing on work competency assessment and capability measurement as principle for development of staff's skills and competency to suit work position and ensure the Company's growth, as well as clearly measuring their performance based on KPIs in all key activities for supporting consideration and assessment of staff's performance.
 - 2) Creating a participatory and teamwork environment by allowing staff to express their opinions on work performance.
 - 3) Ensuring that staff take pride in and engage with the organization by encouraging their career advancement.
 - 4) Ensuring equitable treatment, integrity, and fairness in punishment, appointment, and transfer, including rewards, on the basis of staff's knowledge, capacities, and qualifications.
 - 5) Giving priority to and promoting the development of knowledge and capacities of staff at all levels, whereby the Company allows and encourages staff to attend training courses or further study in order to enhance their skills, knowledge and expertise, as well as fostering positive attitudes toward them. Such training would emphasize the development of skills, knowledge, and competency of staff, whether it be functional skills, core skills or leadership skills. In 2018, the Company arranged for staff training, averaging 96.75 training hours / person.

- 6) Respecting human rights in respect of nondiscrimination, provision of equitable opportunity for employment of female labor, disabled persons, underprivileged persons, youths, and the elderly.
- 7) Supervising and monitoring to ensure that staff strictly comply with laws and regulations relating to staff, including provision of suggestions and close monitoring in order to prevent any illegal action, whereby the Company supervises and encourages staff to ensure that they use lawful products without infringement of copyrights or intellectual property, along with support of their compliance with the operational guidelines and performance of duties with integrity, without involvement with corruption in any form, for the benefits and success of the Company.

2. Policy on safety and hygiene

The Company realizes and gives priority to the safety and hygiene of the business premises to ensure staff's quality performance and quality of life with safety and hygiene at work, by setting out the policy on safety and hygiene, as follows:

- 1) The Company formulates measures to prevent any work-related accident, injury and illness through sincere cooperation among all staff as well as restrict and cope with safety risks arising from undertaking work under the normal operating process.
- 2) The Company formulates measures to design tools and equipment, set out practices, provide for training and supervise operations by taking into account safety for life, hygiene and property of staff and that of the Company as a whole.

The Company not only provides the hygienic work environment at the workplace for the sake of safety for life, hygiene together with property of staff and the Company, the Company also takes into account safety and hygiene of the service users, through provision of regular training to technical and engineering teams, including rescue and traffic management staff on the expressways, so as to ensure their efficient and safe performance; and in regard to the metro business, the Company also holds training to all staff on work safety and implements safety operations in accordance with the laws as well as local and international safety standards, i.e., TIS 18001 : 2001 and OHSAS 18001 : 2007, with the main aim of taking care of welfare in terms of safety, occupational health and work environment for staff related to the metro operations.

In 2018, the Company had two work-related accidents on the expressways, without causing any loss of staff, and had no work-related accident in metro operations.

- 1.6 **Supply chain:** The Company deals with the supply chain in strict compliance with international standards, ISO 9001 Quality Management System, and ISO 14001 Environment Management System, by way of providing education and close monitoring and audits to ensure that the supply chain of traders in business association with the Company takes account of environmental impact, in the interests of the sustainability of their mutual business alliance.
- 1.7 **Communities:** The social and environmental impacts of its business operations, particularly impacts on the communities adjacent to the expressways, metro routes, or near the office where the Company is located are of concern to the Company, and therefore, the Company continues to organize special activities for providing benefits and building a learning center for business and communities in the long run.

2) Anti-Corruption Policy

The Company realizes and gives priority to anti-corruption and fraud prevention and also adopts measures to prevent corruption, both inside and outside. The Company sets out guidelines and procedures for regular practices, monitoring, surveillance, review, risk assessment, and training as suitable and up-to-date, to ensure that all directors, executives, and staff of the Company have strictly adhered to and complied with such guidelines. In this regard, the Company formulates anti-corruption policy containing the key practical guidelines, as follows:

1. The Company's directors, executives, and staff at all levels should carry out activities with fairness, integrity, and transparency in business dealings with various agencies, provided that such activities must be proper in compliance with applicable laws, policies, Articles of Association, regulations, notifications or practical procedures.
2. The Company encourages and promotes fair treatment with integrity towards all its traders and compliance with any contractual commitments made with the Company's stakeholders.
3. The Company encourages and promotes directors', executives' and staff's awareness to ensure that they refrain from committing any fraud and realize the negative impacts of corruption.
4. The Company encourages and promotes directors, executives and staff to refrain from receiving, agreeing to receive or offering any hospitality, gifts, and any other payments which are extravagant and inappropriate to those in business dealings with the Company.
5. The Company arranges for staff training to educate them regarding the anti-corruption policy, practices and guidelines.

In this regard, the Company has imposed the duty on the Internal Audit Unit to follow up, conduct surveillance, review, risk assessment and training for preventing/suppressing corruption.

3) Policy and Practices on Non-infringement of Intellectual Property

The Company respects and upholds the proprietary rights in others' intellectual property, whereby use of the intellectual property shall be subject to the prior consent of the intellectual property owner, and then, the Company formulates a policy to forbid any arrangements which infringe intellectual property of any kind, based on the following guidelines:

1. All staff have duty to protect and keep the Company's intellectual property confidential to ensure that such information must not be leaked out and exploited for personal gain or any other person's gain without permission.
2. All staff must respect and honor others' intellectual property and refrain from exploiting any work piece as others' intellectual property, whether in whole or in part, without the owner's permission.

4) Policy on Respect of Laws and Human Rights Principles

The Company makes it mandatory for directors, executives and staff to comply with the laws and human rights principles or human dignity, regardless of race, color, sex, language, religion, social origin, property, birth, political opinion, or other status, as well as realizing their own rights, duties, and responsibilities towards society and others, based on the guidelines, as follows:

1. The Company strictly complies with the laws and human rights principles and does not support any business which violates human rights.
2. The Company treats all staff equally, without discrimination in terms of employment, remuneration, training, promotion, termination or dismissal due to sex, race, color, religion, age, marital status, pregnancy, political opinion, or disability, etc.
3. The Company allows all staff to enjoy equal rights for work pursuant to rules, regulations, notifications and orders of the Company.

5) Policy on Corporate Social Responsibility and Sustainable Development

The Company is committed to its business operations with social and environmental responsibility; as well as mainly focusing on coordination for mutual benefit with all groups of stakeholders in every dimension as appropriate in the pursuit of the Company's sustainable business growth, along with its determined efforts to benefit and grow all groups of stakeholders together, as follows:

1. To lead the organization with the concept of sustainable development, through communication and exchange of best practices with all of the Company's stakeholders;
2. To incorporate the sustainable development concept into every aspect of the work and decision processes of the Company;
3. To promote training, learning, and counseling, focusing on practices according to the sustainable development guidelines;
4. To support regional operation and cooperation to achieve sustainable development.

It is the responsibility of every employee to seriously implement this policy as part of his or her own work processes for the sustainable growth of the Company and all groups of stakeholders.

Details of activities relating to the corporate social responsibility and sustainable development of the Company in 2018 appear in page 160. Corporate Social Responsibility.

6) Environmental Policy

The Company is environmentally responsible for its service business. Therefore, the Company is committed to environmental management based on the following practices:

1. Giving priority to pollution prevention and control in compliance with international standards, taking into account environmental impacts of all groups of stakeholders;
2. Raising staff awareness and promoting the efficient use of energy and natural resources as well as providing staff with the environmental knowledge and training;
3. Performing duties in compliance with environment-related laws and other environmental regulations as applicable;
4. Reviewing objectives and goals for improvement of the environment management system on a continuous basis;
5. Communicating the environmental policy to the public and parties concerned, as well as adopting a policy to select and encourage use of eco-friendly products.

It is the responsibility of all the Company's staff and contractors to seriously and regularly implement this policy to ensure the environmental quality for the service users, staff, contractors, and communities nearby.

7) Information System Security Policy

The information security plays an important part in contributing to the efficient and trustworthy business operations of the Company, the Company then is determined to develop the information security system and put it into practice, to rest assured that:

1. Access to the information system shall be stricted to only authorized users;
2. The information system provides accuracy, reliability, and confidentiality;
3. The information system is always readily available to the users;
4. The information security is regularly reviewed;
5. Staff are encouraged to have information security knowledge, ability, and awareness.

In this regard, it is the responsibility of everyone for the information security. Thus, the staff and external parties authorized to have access to the Company's information system have the duty to make every effort to ensure the information security of the Company.

The Company becomes aware of and considers information technology security and threats caused by the use of information technology. Currently, technology has been not only progressing rapidly, but also posing a threat, which as days go by, continues to become significant and acute. On July 5, 2018, the Company completed ISO/IEC 27001 : 2013 certification from Bureau Veritas Certification (Thailand) Limited which shall be valid until July 4, 2021. The Company then put the same into practice and set out regulations governing information system security, provided that such regulations shall be yearly reviewed as appropriate. The practices/prohibitions for staff's access to computers; the practices for computer system administrators; and the practices for external service providers are also set out.

Furthermore, the Company properly and sufficiently allocates and manages technology resources, and supports the state-of-the-art and efficient technology to be employed in work operations. There are the work system development department and the information technology department which shall be responsible for the computer system (software and hardware) and have access to the computer program to manage database of the Company's computer system. The Company has provided for job descriptions to clearly identify duties and responsibilities of each position. For the important work systems, the Company has prepared and transferred the body of knowledge to relevant personnel in the work fields to ensure that they can perform duties in place of others. On the other hand, the Company will choose to outsource the services for the work systems which need special skills or high operational safety.

8) Innovation Promotion Policy

The Company realizes and strives for promotion and development of creating of innovative culture in the organization to add value to the businesses according to the ongoing changing circumstances by paying regard to internal and external stakeholders under the policy, as follows:

1. To encourage staff to participate in improvement of the work process to ensure the highest efficiency in line with the corporate mission, by using innovations as suitable with current circumstances;
2. To promote use of equipment, tools, devices, and technology in work operations, as well as using financial tools as appropriate;
3. To support and promote innovative culture in the organization for taking care of the stakeholders in a continuous manner.

The Company has appointed a work group to formulate strategies and innovations to ensure the greater efficiency in management of various aspects, for instance, project analysis, engineering technique, finance, marketing, and in the context of contract, with the duty to brainstorm ideas and propose strategic and innovative guidelines for developing efficiency and generating more income for the Company, as well as conducting feasibility studies under the proposed guidelines, together with alternatives as it deems appropriate for the sake of economic benefits and improving a good image of the Company; to propose work plans to the Managing Directors for assigning agencies in charge to carry out such plans, follow up and conclude, assess, report the results to the Managing Directors.

In 2018, the Company developed innovations by using Digital Technology and LEAN process to support its business-related activities, as follows:

1. Traffic volume and toll revenue data system: the Company developed this system to initially help analyze data on traffic volume and toll revenue, which would be presented to the management through Web Application which makes it accessible from anywhere, anytime, on any devices, as well as increasing traffic volume data collection system on other routes and reporting the output data in the form of Executive Summary.

2. Knowledge work system: It is the centralized system in collecting bodies of knowledge of the Company on Web Application which makes it accessible from anywhere, anytime, on any devices, to ensure that the Company has knowledge management with efficiency and effectiveness, continuation, in the same direction throughout the organization, starting from identifying key bodies of knowledge, creating and storing bodies of knowledge in the knowledge base of the organization. The Company has introduced the system for knowledge storage as an essential process in efficiently applying the knowledge management system of the organization so that the knowledge management of the organization is made in a holistic manner and is a part in personnel development, along with operational development of the organization to meet the target efficiently and effectively. As a result, the organization would be driven by the knowledge and developed to become the learning organization.

Moreover, the Company held the “Half Day Talk” program with an aim of ensuring that the Company’s personnel were provided an opportunity to learn skills useful for creative works from famous experts in different fields as such in information technology and new innovation, by focusing on learning subjects which could be transferred within precise timing, conveying content in line with the requirements of personnel as a whole, and could be applied helpfully. Such subjects included, for instance, government policy tendency and technology sector, innovative renovation, preparation for coping with digital volatility.

9) Procedures and Channels of Complaints

- **Submission of complaints**

The Company has arranged for channels for all groups of stakeholders to make complaints relating to matters which may cause damage to the Company or if they may find any behavior or event which may violate or be contrary to the code of ethics or policies, they may report or submit complaints directly to the Audit Committee Chairman or independent directors or contact the Company Secretary.

Audit Committee Chairman	: Bangkok Expressway and Metro Public Company Limited
Independent Directors	No. 238/7 Asoke-Dindaeng Road, Bangkapi Subdistrict,
Company Secretary	Huai Khwang District, Bangkok 10310
Telephone	: 0 2641 4611
E-mail	: companysecretary@bemplc.co.th

- **Procedures upon receipt of complaints**

1. Fact-finding

The independent directors will appoint and authorize a working group to make fact-finding and compile complaints.

2. Fact processing and screening

The authorized working group processes and screens such facts and then considers proposing appropriate steps and actions for handling such complaints.

3. Measures

The authorized working group proposes measures to deal with the violation or non-compliance with the code of ethics or policies to the Board of Directors’ consideration so as to alleviate damage for those affected by such occurrence, taking the overall damage into account.

4. Report on results

The Audit Committee Chairman or independent directors or the Company Secretary reports to the Board of Directors for acknowledgment and reports on the results to the stakeholders who submitted such complaints, if the complainants can be identified.

- **Measures to protect the complainants or those who provide cooperation in the investigation**

The complainants or those who provide cooperation in the investigation are protected in accordance with the following criteria:

1. The complainants or those who provide cooperation in the investigation of facts may choose to keep their identities undisclosed, in case such disclosure may jeopardize their safety or cause any damage.
2. In case their identities are disclosed, the Company will report on developments of the fact finding.
3. The Company may not disclose name-surname, address, photograph, or any other information which may identify the complainants or those who provide cooperation in the investigation of facts.
4. The person who accepts complaints must keep related information confidential and may disclose the same only to the extent necessary by taking into account safety and damage in respect of the complainants or those who provide cooperation in the investigation of facts, sources of information or related persons. If it is likely to cause damage or jeopardize safety, appropriate protection measures must be implemented.
5. Those who sustain damage will be compensated by way of appropriate and fair procedures.

9.1.4 Ensuring Disclosure and Maintaining Financial Integrity

- 1) The Board of Directors sets out a policy to disclose information and maintain financial integrity by formulating practical guidelines, including systems for financial reporting and disclosure of significant information to ensure correctness, adequacy, equality, punctuality via appropriate channels, protecting confidential information and information which may affect securities price, as well as having the company-wide communication to make all staff have a common understanding that compliance with such policy is required in accordance with applicable requirements, standards and practices, in a transparent and auditable manner. This is to ensure that disclosed information is a matter of importance and is able to reflect practices and operations of the Company contributing to the sustainable value creation to the business.

Moreover, personnel related to preparation of the report and information disclosure are promoted and managed to ensure they have knowledge, skills and experience as suitable for their duties, responsibilities, and in an adequate amount for the Company's needs. Such personnel shall include the highest level executive in accounting and finance, accountant, internal auditor, Company Secretary, and investor relations. The Managing Directors have the power to approve information disclosure and ensure the accurate, complete, timely and transparent disclosure of both financial and non-financial, material information relating to the Company as required by the SEC Office and the Stock Exchange, via the equitably accessible channels.

- 2) The Company has established the Investor Relations Unit to represent the Company, with the duty in appropriately, equitably and timely communicating information useful to shareholders and other stakeholders, such as debenture holders, investors, securities analysts, mass media, and relevant parties. The Company has also been a member of Thai IR Club, Thai Listed Companies Association. Interested investors may contact the Investor Relations Department at 0 2641 4611. Investors who find it inconvenient to visit the Company's Office No. 238/7 Asoke-Dindaeng Road, Bangkok Subdistrict, Huai Khwang District, Bangkok 10310, may contact to make a conference call or sign up for the news mailing list via the website or submit questions or e-mail to ir@bemplc.co.th.

Other than the mandatory disclosure pursuant to the practices and legal requirements, the Company also has a policy to rotate high level executives to participate in providing information and answers to investors' questions and to learn opinions and realize requirements of Thai and foreign investors in person, that is, the Managing Directors, the Deputy Managing Directors, the Assistant Managing Directors, and the Company Secretary, all of which regularly participate in the Company's Investor Relations activities.

- 3) The Company clearly sets out the authorization levels for information available to executives at each level, and their authorized access to such information for public disclosure, by means of communicating and ensuring proper understanding of information for investors, internal and external agencies of the Company, as well as contacting and coordinating with investors, collecting investors' opinions, and communicating with high level executives to staff at all levels, as follows:

3.1 Internal communications

Although the Board of Directors and high level executives may have full access to all information of the Company, the Managing Directors are appointed as the authorized persons to disclose such information to the Stock Exchange and answer questions from the public and the press, in accordance with the Company's disclosure policy.

The Board of Directors, executives, advisors, and staff of the Company, who perceive information, are obliged to keep any undisclosed information strictly confidential. The Company formulates work rules and regulations to prohibit staff from disclosing the Company's confidential information to any third party or abusing their positions for personal gains or for the gains of others. Any violation is deemed a disciplinary misconduct liable to termination of employment. In the past, there has never been any occurrence of misuse of inside information for personal interests or for the gains of others.

Moreover, the Company has also developed a control system on use of the Company's information by adopting such information security systems as the restriction of access to the Company's information by authorization level of staff's access to the Company's information based on their responsibilities. To prevent executives' misuse of the Company's inside information for securities trading, the Company has policies and procedures for controlling the use of inside information by directors, executives and staff to prevent any occurrence of the use of inside information for personal interests or for the interests of others.

The Company's disclosure of information to staff must be the same as the public disclosure in terms of accuracy, frequency, and timeframe. The Investor Relations Department prepares and submits to management monthly IR Reports, which collect and summarize investors' questions and opinions on the Company's business operations, in order to present useful suggestions or feedback of investors to management for further improvement of the Company's operations.

3.2 External communications

The Board of Directors adopts a policy that the Company's disclosure of material information follows the specified policy and requirements. The disclosure is prepared both Thai and in English and is made available via the Stock Exchange's channel and on the Company's website at www.bemplc.co.th. The Company regularly updates such information as annual report, annual registration statement (Form 56-1), practical guidelines for good corporate governance, the Company's profile and various policies, loan status, operational results, financial ratios, securities price, dividend history, together with other information, e.g., corporate social responsibility activities and public relations news. Such information and news are made available in support of investment decision-making by investors and relevant parties, together with monthly corporate presentations to investors, which are regularly updated, so as to be regularly and timely available to all investors and those who may interest in investment, on the website. Moreover, opinions and investment analysis of the Company by securities analysts from securities companies from www.settrade.com, which are compiled in the form of Analyst Consensus, are shared on the Company's website in order to assist investors in making their decisions to invest.

In the disclosure of financial reports, the Board of Directors prepares the Report on Responsibilities of the Board of Directors towards the Financial Report to be presented along with the Report of the Auditor, as detailed on page 190.

The provision of the Company's related information to securities analysts is also another main duty of the Investor Relations Department since the Company's information is made available in the Analyst Consensus to assist investors in making their decisions to invest. The Investor Relations staff are then assigned to provide such information to ensure correct understanding and maintain good relationships with securities analysts. Staff may review and clarify for the purpose of accuracy of the Analyst Consensus, as opposed to guiding or distorting the Analyst Consensus by securities analysts, or may revise only such facts which have been outdated or disclosed to the public, in which case, such revision is not treated as guiding investment.

Other than public disclosure, the Company also participates in various activities to serve as a disclosure channel to directly meet with investors and hear their opinions as well as create good relationships with investors via activities, such as, Roadshow, Opportunity Day, Company Visit, Analyst meeting, exhibition booths, etc. The Company's management staff are rotated to accompany the Investor Relations staff to communicate and provide better explanations in support of their decisions to invest.

In 2018, the Company organized Company Visits and Conference Calls, and Press Interviews, as well as participated in local and international Roadshows organized by various institutions for foreign investors, totaling 12 times.

The foregoing events were opportunities for the Company to provide appropriate clarification on the operational results and progress of the investment projects and for management to answer questions to investors and the press equally and fairly to provide material, necessary and accurate information for investment decisions to the general public, including investors and institutional analysts.

The Company organizes the Company Visit program to allow shareholders to visit and meet its management. The Company also publishes BEM Magazine for disseminating business information and other useful information which has been regularly delivered to all shareholders and debenture holders of the Company. In addition, the Company surveyed opinions and requirements of analysts and investors in relation to quality of the communication and Investor Relations activities in 2018 (BEM IR SURVEY) for further improvement. The survey revealed that the percentage of satisfaction with the service provision in such Investor Relations activities was 93.21 percent.

4) Rules on securities trading by inside information users

Other than the report on securities trading of directors and executives in accordance with the requirements of the SEC Office, other executives, along with staff, who are authorized to have access to or perceive the Company's undisclosed material information which may influence securities price movements, are also emphasized and prevented from using such information in securities trading for personal interests and interests of others, or taking advantage of general investors, such as, information on capital increase or decrease, dividend payment, the Company's operational results, joint investments, etc. In this respect, the Company requires its executives to report on their securities trading in accordance with the rules as required by the Stock Exchange, and all persons who perceive inside information should refrain from trading securities or should wait until the public has been informed of and have an adequate time to study such information.

9.1.5 The Board of Directors' Responsibilities and Strengthening Board Effectiveness

The Board of Directors realizes its roles and responsibilities in setting out policies and monitoring to ensure the Company's good management, covering its business objectives, goals, strategies, policies, important and adequate resource allocation to achieve the business objectives and goals, as well as monitoring, evaluating and ensuring the reporting on operational results in line with laws, the Articles of Association, together with resolutions of the shareholders' meetings, to ensure the operations which pursue the sustainable value creation for the business.

The Board of Directors complies with the practical principles of the Corporate Governance Code for Listed Companies in various aspects, as follows:

1. The Board of Directors' Structure

- 1.1 The structure of the Board of Directors is considered by the Company in terms of size, composition, proportion of the independent directors, skill, experience, education, capability and expertise, together with gender and age as suitable and necessary for leading the organization to achieve the Company's specified objectives and goals, consisting of 17 qualified members, namely, five executive directors, six independent directors and six non-executive directors. This is to rest assured that the Board of Directors as a whole is qualified and is able to understand and respond to the stakeholders' needs, as well as enabling the Board of Directors to carry out operations conducive to exercising its discretion independently. In addition, three of six non-executive directors are directors as EXAT's and MRTA's representatives who have experiences in the Company's core businesses.

- 1.2 The Board of Directors includes six independent directors, in line with the number as required by the SEC Office, who are independently provide opinions on the Management Team's performance. The Company also determines qualifications of "independent directors" stricter than the minimum requirements of the SEC Office and the Stock Exchange.
- 1.3 Directors have a term of office of three years, and the retiring directors may be re-elected. At every annual ordinary general meeting of shareholders, one-third of the number of directors vacates their office and if the number of directors is not a multiple of three, then the number nearest to one-third must retire from office.
- 1.4 The Board of Directors has no policy to limit the number of companies in which each director may hold directorship since, after considering the matter; it is of the view that all directors devote their time to regularly attend meetings.

2. Performance of Duty of the Chairman of the Board of Directors and Managing Directors

The Chairman of the Board of Directors and the Managing Directors may not be the same person so as to separate between the policy making and supervisory duty and the regular managerial duty. The Board of Directors clearly determines powers and duties of the Chairman of the Board of Directors and the Managing Directors. The Chairman of the Board of Directors is an independent director by the definition of the Stock Exchange and has no relationship with management.

3. Subcommittees

The Company has established four subcommittees to closely monitor and supervise operations and regularly report to the Board of Directors, namely, the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance and Risk Management Committee, and the Executive Board. The Board of Directors has determined duties and responsibilities of each subcommittee as detailed on pages 149 to 152.

4. Role, Duties, and Responsibilities of the Board of Directors

- 1) The Board of Directors has its role and duty in supervising to ensure the Company's good management, covering the vision, missions, strategies, targets, business plan, budget of the Company, important and adequate resource allocation, as well as supervising and monitoring to ensure the management's operations in compliance with the specified plans, for the sustainable value creation for the Company's business, conducive to the ethical business operations, with respect for rights and responsibility towards shareholders and stakeholders, provision of social benefits, environmental development or reduction of environmental impacts.
- 2) The Board of Directors has established the corporate governance policy, subject to review at least once a year, for directors, executives and staff of the Company to comply with, and also provides for mechanisms conducive to their real compliance therewith, as well as following up the results.
- 3) The Board of Directors approves preparation of the Company's code of ethics, subject to review at least once a year, prescribing the best practices of directors, executives, and staff for treatment towards the Company, colleagues, third parties and society, to allow the Company to create and push ahead the ethical organizational culture.
- 4) The Board of Directors has its duty to ensure that the Company has adequate systems and mechanisms so that the Company's operations comply with applicable laws, Articles of Association, resolutions of the shareholders' meetings, together with policies or guidelines as specified, and also has approval process for significant matters, such as, any investment, transactions which materially affect the Company or any transactions which may involve a conflict of interests, in which case, interested directors may not attend nor vote on such matter at the meeting, etc., as required by law.
- 5) In respect of risk management, the Board of Directors follows up and acknowledges risk management plan of the Company from management's report on operational results in each Board of Directors' Meeting and from the Report of the Corporate Governance and Risk Management Committee.
- 6) The Board of Directors shall supervise and monitor to ensure that the management conveys and transforms a strategic plan into operational plan, including performance assessment, and supervise and monitor the group companies. In this connection, the management is required to report on performance, together with any significant matters, to the Board of Directors for acknowledgment in the Board of Directors' Meeting.

In addition, the Company provides for the annual survey on compliance with the Company's code of ethics for directors, executives and staff, in which they must sign to signify their responsibility for compliance with the Company's code of ethics. Moreover, the Company not only arranges for the annual training and test on the code of ethics by means of e-learning for the Company's executives and staff, the Company also continues to encourage high and middle executives to undergo corporate governance training on a yearly basis.

5. The Board of Directors' Meetings

The Company's Board of Directors' Meetings

Names of Directors	Attendances / Total Number of Meetings for 2018				
	Board of Directors	Executive Board	Audit Committee	Nomination and Remuneration Committee	Corporate Governance and Risk Management Committee
1. Dr. Virabongsa Ramangkura	5/5				
2. Mr. Plew Trivisvavet	5/5	12/12		2/2	
3. Mr. Vitoon Tejatussanasoontorn	5/5		6/6	2/2	
4. Gen. Chetta Thanajaro	5/5		6/6	2/2	
5. Gen. Sampao Choosri	4/5		5/6		3/4
6. Dr. Annop Tanlamai	5/5		6/6		
7. Mrs. Vallapa Assakul	5/5				4/4
8. Mr. Supong Chayutsahakij	5/5	12/12		2/2	
9. M.L. Prasobchai Kasemsant	5/5				
10. Mr. Phongsarit Tantisuvanitchkul	5/5	12/12			4/4
11. Mr. Werapong Suppasedsak	5/5				
12. Mr. Panit Dunnvatanachit	4/5				
13. Mr. Yuttana Yimgarund	5/5				
14. Mrs. Natamon Bunnak ⁽¹⁾	4/5				
15. Mr. Wichan Ekarintrakul ⁽²⁾	N/A				
16. Dr. Sombat Kitjalaksana	5/5	12/12			4/4
17. Mrs. Payao Marittanaporn	5/5	12/12			4/4

Remarks: ⁽¹⁾ Mrs. Natamon Bunnak was appointed as a director on April 20, 2018, to replace Mr. Theeraphan Tachasirinugune who resigned his office on April 7, 2017.

⁽²⁾ Mr. Wichan Ekarintrakul was appointed as a director on December 27, 2018, to replace Mr. Prasit Dachsiri who resigned his office on October 1, 2018.

1) The Board of Directors' Meetings

The Company gives prior notice of the annual schedule of the Board of Directors' meetings, together with the main agenda, to directors so as to allow directors to be able to manage their time to attend the meetings. Pursuant to the Articles of Association, the Board of Directors must meet at least every three months; and a quorum consists of not less than half of the total number of directors. In 2018, the Board of Directors held its five meetings.

The Managing Director Office will deliver the notice of each meeting and agenda as clearly pre-determined 7 days prior to the meeting date and deliver the supporting documents at least five business days prior to the meeting date, so as to allow the Board to review the same prior to the meeting.

The agenda is determined by mutual discussion between the Chairman of the Board of Directors and the Managing Directors. In addition, one meeting among non-executive directors and without management will be held in order for the directors to independently discuss and exchange their opinions and to efficiently follow up the performance of management. At every meeting, the Chairman of the Board of Directors presides over the meeting to ensure that each item is carefully considered and all directors are allowed to express their opinions and take part in discussions. In addition, the high level executives will attend the meeting to clarify the information in the capacity as persons directly relevant to the problems to the satisfaction of the meeting prior to passing resolution on each item.

Moreover, the Board of Directors sets out a policy to prohibit directors and executives who are connected persons or interested persons in relation to any items to be considered from attending the meeting or voting on such item, and management gives prior notice to such directors and executives who are not allowed to attend the meeting or vote on such item. In considering who is a connected person and interested person, the Board of Directors takes into account the report on interests which all directors and executives have a duty to submit in accordance with the Board of Directors' policy requiring directors and executives to report their personal interests in order to disclose such information to the Chairman of the Board of Directors and the Audit Committee Chairman.

2) Subcommittee meetings

The Board of Directors will monitor the implementation of the Company's policies and strategies by convening subcommittee meetings to consider various significant matters and preparing reports on work performance of every subcommittee for submission to each Board of Directors' meeting, as follows:

2.1 Audit Committee

The Audit Committee regularly meets at least every quarter with the internal auditor and management and executives responsible for accounting and finance, for review of financial statements on a quarterly basis, and meets with the auditor for review of the annual financial statements, and makes a report to the Board of Directors, or in case management executes any connected transaction or transaction relating to asset acquisition or disposal which must take into account appropriateness, justification and the utmost benefit of the Company, the Audit Committee Chairman may convene additional meetings.

In 2018, the Audit Committee held its six meetings and one meeting with the auditor without management. The Audit Committee reports quarterly to the Board of Directors on its performance and will yearly summarize its performance during the previous year via the Audit Committee's report. Moreover, in 2018, the Audit Committee considered executing five connected transactions.

2.2 Nomination and Remuneration Committee

The Nomination and Remuneration Committee will meet to nominate qualified persons for appointment as directors of the Company to replace the directors who are due to retire by rotation and directors who resign prior to the end of term; review remuneration of directors and annual bonus for submission to the annual ordinary general meeting of shareholders for approval; and consider remuneration for the Managing Directors in accordance with the results of performance evaluation for submission to the Board of Directors for approval. In this regard, the Nomination and Remuneration Committee will review the criteria for nomination and consideration of remuneration for directors every year to keep it aligned with the Company's business strategies, and ensure that the criteria for consideration of remuneration stay at the same standard as those of other companies in the same industry so as to appreciate and retain the qualified directors.

The Company schedules the Nomination and Remuneration Committee's meetings to be held at least twice a year.

In 2018, the Nomination and Remuneration Committee held its two meetings to nominate qualified persons for appointment as the Company's directors to replace those directors who vacated office; and consider scrutinizing remuneration for directors for proposal to the 2018 Ordinary General Meeting of Shareholders for consideration and approval; and consider reviewing the criteria for nomination and consideration of remuneration for directors.

2.3 Corporate Governance and Risk Management Committee

The Corporate Governance and Risk Management Committee will meet to follow up and evaluate the results of performance in compliance with the Corporate Governance Code; improve the guiding practices in line with the corporate governance policy for listed companies under the guidelines of the Stock Exchange; consider risk management plan, risk management process; as well as monitor, inspect and review the Company's overall risks to stay at an appropriate level.

Furthermore, the Board of Directors has reviewed the Company's operations in compliance with the Corporate Governance Code for Listed Companies in 2018.

In 2018, the Corporate Governance and Risk Management Committee held its four meetings to monitor and review the good corporate governance practices in respect of shareholders' rights; treatment towards shareholders and stakeholders; information disclosure; and the Board's responsibilities in risk management. The Board of Directors has considered compliance with the annual risk management plan, reviewed and followed up the risk management plan on a regular basis. It was found that the Company was able to conduct risk management to meet the targeted plan, without any material impact on the Company's business operations. Furthermore, the 2019 annual risk management plan is sufficient and in line with the current business circumstances, together with proper action plan and risk management method.

2.4 Executive Board

The Executive Board of the Company meets to help provide suggestions and advice to the management, and review the operations in compliance with the Company's policies and work plans as well as to consider various matters within the scope of its authority and duties as assigned by the Board of Directors and to consider screening such matters to be proposed to the Board of Directors for consideration and approval.

In 2018, the Executive Board held its 12 meetings to consider scrutinizing the agenda items as proposed to the Board of Directors; consider approving transactions with a value not exceeding Baht 200 Million; and consider salaries and bonus for staff.

6. Board Self-Assessment

The Board of Directors has a policy to ensure the self-assessment of the Board of Directors and subcommittees at least once a year, including assessment of the performance in accordance with the Company's code of business ethics. In addition, the Managing Directors' performance must be assessed by the Board of Directors every year in accordance with the rules as specified by the Nomination and Remuneration Committee. Furthermore, the Board of Directors determines to review topics of assessment to ensure appropriateness and conformity to roles, duties, responsibilities, and its practices in accordance with the Corporate Governance Code.

Results of Board / Subcommittee Self-Assessment

In 2018, the Company delivered board and subcommittee self-assessment forms to each group of directors/subcommittee members to evaluate the overall performance of the Board of Directors and subcommittees, the results of which were proposed to the Board of Directors for consideration and improvement of performance. In this regard, most of the opinions provided by directors/subcommittee members can be summarized as follows:

- 1) Structure and Qualifications of the Board of Directors / Subcommittees: The structure and qualifications of the Board of Directors and subcommittees are proper and suitable to the nature of business operations of the Company. The Board of Directors comprises personnel with sufficient knowledge and experiences in a variety of fields and performed their overall duties efficiently.

Moreover, the Board of Directors appoints four subcommittees, namely, the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance and Risk Management Committee and the Executive Board to perform the duties to help supervise, monitor the businesses, nominate qualified personnel as director with transparency, fairness, independence from any person's influence, including determination of reasonable and competitive remuneration to retain quality and competent directors, draw up operational policies and direction in respect of good corporate governance of the Company, code of business ethics, together with risk management, as well as taking care of and providing suggestions to the management, for the benefit of the Company's business operations based on good corporate governance.

- 2) Role, Duties, and Responsibilities of the Board of Directors / Subcommittees:

- The Board of Directors gives priority and contributes sufficient time to consider significant matters relating to the direction of the Company's business operations, reviews the good corporate governance policy of the Company, as well as ensures compliance with various policies, reviews the code of business ethics, and monitors to ensure that no conflict of interests arises from any connected transactions and transactions. The Board of Directors also follows the procedures as specified by taking into account the optimum benefit of the Company. Furthermore, the Board of Directors regularly reviews the internal control system to ensure good and sufficient internal control system and appropriate risk management, as well as follow up and monitor to ensure the performance of duties of management in accordance with the policies as assigned by the Board of Directors.
- The Audit Committee has ensured that the financial statements have been prepared in accordance with the generally accepted accounting standards; the internal audit tasks have been supervised and monitored for ensuring the appropriate and effective internal audit system; the execution of transactions which may have a conflict of interest has been considered under the specified procedures and for the utmost benefit to the Company; the Company has complied with the securities and exchange law and other applicable laws; and nomination of persons for appointment, determination of remuneration, and assessment of the auditor's performance are appropriate.
- The Nomination and Remuneration Committee has ensured that the appropriate criteria for nomination of directors have been determined; the qualified persons have been considered and nominated for appointment as the Company's directors; the appropriate and transparent criteria for consideration of remuneration for directors have been determined; remuneration for directors has been considered under the specified criteria for submission to shareholders; the results of the Managing Directors' performance have been assessed under the specified criteria; and remuneration for the Managing Directors has been considered in line with the results of assessment.

- The Corporate Governance and Risk Management Committee has conducted studies and followed up movement, tendency, and practice in respect of the good corporate governance; has improved and made suggestions on the good corporate governance policy of the Company, including the code of business ethics; has followed up and evaluated the results under the good corporate governance principles of the Company; has considered policies and work plans relating to risk management; has monitored and reviewed overall risk management of the Company, strategies for risk management and risk prevention system of all kinds; has reported on risks and actions taken to minimize risks to the Board of Directors.
 - The Executive Board has provided guiding policies, supervised, made suggestions and advice for the Managing Directors and management; has set up business plan, budget and managerial power of the Company as assigned by the Board of Directors; has inspected and followed up the compliance with the Company's policies and plans with efficiency; has conducted feasibility studies on new projects; has approved justifiable juristic acts; has approved the appropriate appointment, and determination of remuneration for executives.
- 3) The Board of Directors' / Subcommittees' Meetings: The results of assessment are satisfactory, namely that directors/subcommittee members are given prior notice of the annual schedule' meetings so as to enable them to manage time to attend every meeting; the number of the meetings and agenda are suitable to support the performance of its duties efficiently and to supervise and monitor the Company's business operations successfully; directors/subcommittee members are also given supporting documents prior to each meeting and sufficient time to read such information in preparation for each meeting; the supporting documents contain sufficient information for their decision making; the Board of Directors/subcommittees can request any other necessary information in support of their decisions for the benefit to the Company; the atmosphere at each meeting allows all directors/subcommittee members to express constructive opinions without undue influence of any person; and directors/subcommittee members can fully discuss significant issues at each meeting.
- 4) Directors' / Subcommittee Members' Performance of Duties: The results of assessment are satisfactory, namely that directors/subcommittee members are well prepared and sufficiently study information prior to each meeting; have regularly attended the meetings; independently provide their opinions and impartially consider various matters and are independent in making decisions and passing resolutions; provide useful suggestions for the Company's operations, and understand the significance of each matter and properly contribute their time to consider such matters without wasting time on minor issues; and accept different opinions among them without conflict.
- 5) Relationship with Management: The results of assessment are satisfactory, namely that directors/subcommittee members may straightforwardly discuss with the Managing Directors; maintain a good relationship with management; the Managing Directors can request directors'/subcommittee members' advice as necessary; the Board/subcommittees do not intervene with management's performance of duties; and the Board/subcommittees participate in solving problems as appropriate in case management's performance does not meet the specified plans and budget.
- 6) Self-Development of Directors/Subcommittee Members and Executives: The results of assessment are satisfactory, namely that directors/subcommittee members understand their roles, duties and responsibilities; directors/subcommittee members have sufficient knowledge and understanding relating to the Company's businesses; have paid attention to significant information or news relating to economic and industrial conditions, changes in rules and regulations and the status of competition, which allows them to efficiently perform their duties; all directors/subcommittee members undergo training to ensure their understanding of the performance of duties in their capacity as directors/subcommittee members; and in case of newly-appointed directors/subcommittee members, the Board monitors to ensure management provides documents or briefings for the new directors/subcommittee members to understand the businesses and ensure performance of duties as directors/subcommittee members; and a succession plan has been set out to ensure continued performance of duties as high level management of the Company.

7. Assessment of Performance in Compliance with the Company's Code of Business Ethics

The Board of Directors sets out the Company's code of business ethics as principles and goals of the Company's business operations, and guidelines for performance of all directors, executives, and staff. Directors, executives and staff will assess their performance in compliance with the Company's code of business ethics every year. In this regard, the results of the assessment can be summarized as a whole that directors and executives have complied with the Company's code of business ethics, as follows:

1. Compliance with the code of business ethics: Understanding and adhering to the guidelines as specified in the Company's code of business ethics.
2. Guidelines for business operations: Strictly complying with the laws applicable to the Company and the trading business under the desirable morality, including the Company's policies.
3. Conflict of interests: Not disclosing any confidential information of the Company to any third party; refraining from any act which will give rise to a conflict of interests between their own interest and the Company's interest; not involving in nor holding any share in any business which may have a conflict of interests with the Company.
4. Insider trading: Not disclosing any insider information which has not yet been disclosed to the public, which may affect the prices or trading of securities of the Company and its related companies.
5. Commitments to shareholders: Making an effort in best to create value added to the organization to ensure its capability to accommodate the business growth and expand its businesses with continuity and create value added to the shareholders in the long run.
6. Treatment towards counterparts and business contractual parties: Keeping counterparty's and contractual parties' information confidential for the purpose of fair and independent business operation; refraining from wrongful business operation between counterparts and contractual parties; refraining from offering any bribe to others or supplying them items in exchange for business benefits.
7. Responsibilities for executives and staff: Setting out guidelines and practices for taking care of the working environment to ensure safety for their life and properties at all times.
8. Treatment towards business competitors: Complying with the business policies in a fair manner by the rules and laws relating to trading competition.
9. Commitments to communities, society, environment and government sector: Providing cooperation in making benefits for the communities, society, environment and government sector on an occasional and ready basis.
10. Gambling, drinking alcohol and drugs: Not possessing, purchasing-selling or drinking alcoholic beverages, drugs while being in the workplace or during doing businesses of the Company, except parties or other social gatherings held by the Company; and not playing or supporting all kinds of gambling activities during working times or in the area of the Company.
11. Disclosure of information and confidentiality: Complying with the policy to efficiently manage the Company's information; and disseminating necessary, correct and proper information to the public on an occasional basis; and not disclosing the Company's information which has not yet been disclosed to the public, including any personal information, nor using any information as known from performance of duties for their own interest.
12. The Company's assets: Setting out practices in taking care of the Company's assets to prevent them from loss, damage or misuse.
13. Gifts and parties: Setting out practices regarding giving of gifts and holding of parties by refraining from receiving any item or benefit from counterparts, contractual parties or persons who have connection with the Company's businesses, except during festival or according to custom, in which case, at the reasonable value as shall be considered by recipient;
14. Safety and hygiene: Strictly complying with the laws and regulations relating to safety and hygiene; and earnestly providing cooperation in preventing any accident, injury, and illness.
15. Non-compliance with the code of ethics: Realizing and complying with the code of ethics of the Company by not committing any violence which may cause the violator to be held liable for punishments under applicable laws and disciplinary actions.

8. Assessment of Performance of the Managing Directors

All directors of the Company, except the Managing Directors, will constantly assess the performance of the Managing Directors on a yearly basis in accordance with the criteria specified by the Nomination and Remuneration Committee. The Nomination and Remuneration Committee is assigned by the Board of Directors to propose remuneration and other benefits as appropriate for the Managing Directors, taking into consideration the Corporate KPIs used in the annual assessment of performance in order to obtain the Board of Directors' approval.

9. Remuneration of Directors and Executives

- Remuneration for directors : The Company establishes a clear and transparent policy on remuneration for directors and the Managing Directors in line with the scope of duties and responsibilities of each director serving as chairman or subcommittee member, subject to review by the Nomination and Remuneration Committee. The remuneration is at the same level as that in the same industry and sufficiently high to retain the qualified directors.
- Remuneration for Managing Directors : The Nomination and Remuneration Committee considers remuneration for the Managing Directors in accordance with the Company's operational results under the Corporate KPIs and the Managing Directors' performance and propose the same to the Board of Directors for consideration each year.
- Remuneration for executives : Remuneration for executives, excluding the Managing Directors, is in accordance with the principles and policies determined by the Executive Board corresponding to the Company's operational results and performance of each executive.

Remuneration in 2018 is shown in the caption of Remuneration of Directors and Executives on pages 113 to 115.

10. Development of Directors and Executives

1) Directors and Executives Training

The Board of Directors has a policy to support and facilitate training and learning for its directors and executives to ensure their continued improvement and performance, involving both internal and external training courses. All directors must attend training for an understanding of the performance of their duties in their capacity as directors.

The Company's Board of Directors and high level executives realize the significance of their participation in training or seminars in various courses or development of their knowledge and skills. The Board of Directors attends training courses organized by the Thai Institute of Directors Association (IOD), namely, Director Certification Program (DCP), Director Accreditation Program (DAP), Board Performance Evaluation, The Role of Chairman (RCP), Audit Committee Program, Role of Compensation Committee (RCC).

In 2018, one of the Company's directors, namely, Khun Natamon Bunnak, who was a representative from the Mass Rapid Transit Authority of Thailand, received training on Director Accreditation Program (DAP 152/2018).

2) Orientation for New Directors

The Board of Directors determines the operational practices for the Company to arrange for orientation for newly-appointed directors and to provide documents or briefings for the new directors to understand the business and performance of duties as directors. The Board of Directors assigns the Managing Directors, the Company Secretary, and the Managing Director Office to arrange for orientation for newly-appointed directors by convening a meeting with the relevant directors and/or executives and/or officers for clarification and answering questions. In 2018, there were two new directors, whereby the Company has complied with such operational practices, by briefing the new directors about the Company's information as well as preparing documents and summary information for the new directors, such as, information relating to the Company, listed company director's handbook, the Corporate Governance Code, the Company's code of ethics, power and duties of the Board of Directors, and the annual schedule of the Board of Directors' meetings. Furthermore, the Company also has its directors attend training courses, as suggested by the SEC Office, conducted by the Thai Institute of Directors Association (IOD).

11. Succession Plan

The Board of Directors prepares and reports on a succession plan for the positions of Managing Directors and the high level executives and in the primary line, taking into account the performance, potentials, and readiness of each person. In this regard, the Company makes preparations for those potential successors in the development of their knowledge, competency, and skills as required for their work positions for succession in the event that the Managing Directors or executives in the key positions are not able to perform duties.

The Company sets out a succession plan for the high level executives of the Company, particularly executives and work positions in the primary line, by emphasizing nomination from internal personnel, and the Company requires promotion to be considered every year under the specified criteria for development of personnel who have good performance and competency for their advancement to a higher position in accordance with the staff's line of command, both the middle level executives and staff. The consideration committee, comprising the Managing Directors and executives at the General Manager level or higher or the middle level executives, shall consider this matter in accordance with the clearly specified criteria. With regard to the implementation of strategy and succession plan of the high level executives, who may be changed or vacate office by rotation or retirement, the Nomination and Remuneration Committee's meeting shall review the criteria and select knowledgeable, competent and qualified persons, whereby the Board of Directors shall consider appointing candidates to hold the office of Managing Director, and the Executive Board shall consider appointing executives at the General Manager level or higher.

An executive who has been assigned to succeed to an office must not only be suitably qualified and experienced in such field, but must also have accepted transfer of knowledge and experience by rotation to other related work units, and have attended additional necessary training courses to be well prepared for performance of duties in a higher position in the future, and to ensure smooth succession and continued management. The Company sets up the human resource management system through adequate allocation, controlling, following up, performance assessment, that is, nomination process for qualified and knowledgeable persons as required, appropriate and fair remuneration, determination of duties and responsibilities, performance of personnel, performance standard, personnel development and efficient communication, to ensure that staff have knowledge and skills; and the Company's human resource management is efficient and suitable, emphasizing development of staff competency and ensuring clarity of the performance assessment in support of consideration of remuneration appropriate for their capabilities and performance.

9.2 Board Structure

The Board structure comprises the Board of Directors and four subcommittees, namely, the Audit Committee, the Corporate Governance and Risk Management Committee, the Nomination and Remuneration Committee, and the Executive Board.

Details of such four subcommittees, their powers, and duties as well as the nomination procedures in accordance with their respective charters, are as follows:

9.2.1 Board of Directors as of December 31, 2018, comprising

1. Dr. Virabongsa Ramangkura	Chairman of the Board of Directors	(Independent Director)
2. Mr. Plew Trivisvavet	Vice Chairman of the Board of Directors	
3. Mr. Vitoon Tejatussanasoontorn	Director	(Independent Director)
4. Gen. Chetta Thanajaro	Director	(Independent Director)
5. Gen. Sampao Choosri	Director	(Independent Director)
6. Dr. Annop Tanlamai	Director	(Independent Director)
7. Mrs. Vallapa Assakul	Director	(Independent Director)

8. Mr. Supong Chayutsahakij	Director
9. M.L. Prasobchai Kasemsant	Director
10. Mr. Phongsarit Tantisuvanitchkul	Director
11. Mr. Werapong Suppasedsak	Director
12. Mr. Panit Dunnvatanachit	Director
13. Mr. Yuttana Yimgarund	Director
14. Mrs. Natamon Bunnak	Director
15. Mr. Wichan Ekarintrakul	Director
16. Dr. Sombat Kitjalaksana	Director
17. Mrs. Payao Marittanaporn	Director

The Board of Directors' Authority and Duties

- Monitoring and supervising the Company's operations to ensure compliance with laws, objectives and the Articles of Association, as well as resolutions of shareholders' meetings, and protecting the Company's interests based on the Corporate Governance Code, as well as complying with the rules and requirements stipulated by the Stock Exchange of Thailand and the Office of the Securities and Exchange Commission.
- Establishing operational policies and directions of the Company, as well as supervising to ensure that management takes actions in compliance with the established policies with efficiency and effectiveness to contribute to economic value maximization for the business and the wealth maximization for shareholders.
- Convening the annual ordinary general meeting of shareholders by no later than four months from the Company's year-end account closing date and convening extraordinary general meetings of shareholders as required.
- Convening the Board of Directors' meetings on a quarterly basis; each meeting requires at least 50 percent of all directors. Decisions of each meeting are made by a majority of votes. In the case of an equality of votes, the chairman of the meeting has an additional casting vote.
- Considering approval for the budget for investment and the Company's annual business operations, including monitoring use of the Company's resources.
- Providing complete, correct and sufficient reports on financial information, the Company's information and general information which are important for shareholders, and verifying information in the reports.
- Introducing to the Company an internal control system, internal audit and efficient measures to manage risks, as well as following up on such matters on a regular basis.
- Establishing subcommittees to ensure the good corporate governance.
- Considering clearly determining and separating roles, duties and responsibilities among the Board of Directors, subcommittees and management, with regular communication regarding such roles, duties and responsibilities to the Board of Directors, subcommittees, management and staff of the Company.
- Supervising the Executive Board to comply with the specified policies, whereby the Executive Board is authorized to approve any transaction binding upon the Company in an amount not exceeding Baht 200 Million per transaction, excluding those transactions giving rise to conflict of interest, including such transactions requiring approval from shareholders as per the regulations of the SEC Office and the Stock Exchange.
- Appointing any persons to engage in the Company's business under the supervision of the Board of Directors, or, if applicable, authorizing such persons to have power for a period of time as the Board of Directors deems appropriate, provided that the Board of Directors may revoke, repeal, amend or change such authorization as appropriate.
- Appointing the Company's authorized signatory directors.

The Chairman of the Board of Directors' Authority and Duties

1. Considering and setting out the business goals in conjunction with management.
2. Monitoring the administration by management.
3. Providing suggestions for the business operations through the Executive Board and the Managing Directors on a regular basis without interfering in the routine works under the responsibility of management. The Chairman of the Board of Directors also plays an important role in making decisions on the Company's policies.
4. Having a duty to preside over both the Board of Directors' meetings and the shareholders' meetings to ensure the efficiency and effectiveness in such meetings, by encouraging all directors to participate in each meeting and independently provide opinions.
5. Ensuring their strict compliance with the Corporate Governance Code and taking into account the shareholders' rights.

9.2.2 Audit Committee

The Board of Directors appoints the Audit Committee to assist in supervising the Company's businesses. Mr. Vitoon Tejatussanasoontorn, an independent director who has knowledge in the field of accounting and finance, was appointed to hold office as Audit Committee Chairman, and the General Manager of the Internal Audit Office serves as secretary to the Audit Committee. As of December 31, 2018, the Audit Committee comprises four independent directors as listed below:

- | | | |
|-------------------------------------|--------------------------|------------------------|
| 1. Mr. Vitoon Tejatussanasoontorn * | Audit Committee Chairman | (Independent Director) |
| 2. Gen. Chetta Thanajaro | Audit Committee Member | (Independent Director) |
| 3. Gen. Sampao Choosri | Audit Committee Member | (Independent Director) |
| 4. Dr. Annop Tanlamai * | Audit Committee Member | (Independent Director) |

Remark: * Served as audit committee members with knowledge in the field of accounting and finance.

The Audit Committee's Authority and Duties

1. Reviewing to ensure that the Company's financial reports are accurate and adequate.
2. Reviewing to ensure that the Company's internal control system and internal audit system are suitable and effective, considering the independence of the internal audit unit as well as granting approval on consideration for appointment, transfer, termination of employment of head of the internal audit unit or any other unit responsible for the internal audit.
3. Reviewing to ensure the Company's performance in compliance with the securities and exchange law, requirements of the Stock Exchange and the laws relating to the Company's business.
4. Considering, selecting, submitting for appointment of a person who is independent to serve as the Company's auditor, and proposing remuneration and termination of employment of such person as well as meeting with the auditor without management at least once a year.
5. Considering connected transactions or transactions which may involve a conflict of interests in compliance with the laws and requirements of the Stock Exchange in order to ensure that such transactions are justified and of the utmost benefit to the Company.
6. Preparing a report of the Audit Committee to be disclosed in the Company's Annual Report. Such report must be signed by the Audit Committee Chairman and comprise at least the following information:
 - (a) Opinions on correctness, completeness, and reliability of the Company's financial reports;
 - (b) Opinions on the adequacy of the Company's internal control system;
 - (c) Opinions on compliance with the securities and exchange law, requirements of the Stock Exchange or laws relating to the Company's business;
 - (d) Opinions on the appropriateness of the auditor;
 - (e) Opinions on transactions which may involve a conflict of interests;
 - (f) Number of meetings of the Audit Committee and attendance of each Audit Committee member;
 - (g) Overall opinions or observations by the Audit Committee from the performance of duties in accordance with the Charter;
 - (h) Other matters that should be informed to shareholders and general investors within the scope of the duties and responsibilities assigned by the Board of Directors.

7. Supervising and monitoring the internal audit tasks by reviewing missions, scope of works, independence and development plan and providing internal audit personnel training to catch up with the business changes and develop themselves on a continual basis, in order to accommodate the direction of the Company's operations and international standards, including consideration and approval of annual internal audit plans.
8. Performing any other activities as assigned by the Board of Directors to independently provide opinions and suggestions in line with the requirements and the best practice guidelines for the audit committee of the Stock Exchange.
9. In performing its duties, should the Audit Committee find or should there be any doubt as to whether or not the following transactions or actions may have a material impact on the Company's financial position and operational results, the Audit Committee will report on its findings to the Board of Directors in order to improve and rectify the same within the time as the Audit Committee deems appropriate:
 - (a) Any transactions giving rise to a conflict of interests;
 - (b) Corruption or unusual occurrence or material fault in the internal audit system;
 - (c) Violation of the securities and exchange law, requirements of the Stock Exchange or laws related to the Company's business.

9.2.3 Nomination and Remuneration Committee

The Board of Directors appoints the Nomination and Remuneration Committee to perform the duty to nominate and consider remuneration for directors and the Managing Directors to ensure transparency and fairness, and General Chetta Thanajaro, an independent director, was appointed as Chairman of the Nomination and Remuneration Committee in accordance with the Corporate Governance Code which states that the chairman of each subcommittee should be an independent director. As of December 31, 2018, the Nomination and Remuneration Committee comprises four members as follows:

- | | |
|-----------------------------------|--|
| 1. General Chetta Thanajaro | Nomination and Remuneration Committee Chairman
(Independent Director) |
| 2. Mr. Vitoon Tejatussanasoontorn | Nomination and Remuneration Committee Member
(Independent Director) |
| 3. Mr. Plew Trivisvavet | Nomination and Remuneration Committee Member |
| 4. Mr. Supong Chayutsahakij | Nomination and Remuneration Committee Member |

The Nomination and Remuneration Committee's Authority and Duties

1. Considering criteria and procedures of nomination as well as selecting and proposing qualified persons to hold the position of the Company's directors to the Board of Directors so as to nominate them to the shareholders' meeting, or proposing the nomination to the Board of Directors for consideration and appointment.
2. Considering selecting and proposing qualified persons to hold the positions of the Managing Directors to the Board of Directors for consideration and appointment.
3. Considering and determining criteria for consideration of remuneration of directors and the Managing Directors.
4. Considering and determining remuneration of directors and proposing the same to the shareholders' meeting for consideration and approval.
5. Considering and reviewing salary rates and other remuneration for the Managing Directors and proposing the same to the Board of Directors for consideration and approval.
6. Proceeding with other matters as assigned by the Board of Directors.

9.2.4 Corporate Governance and Risk Management Committee

The Board of Directors appoints the Corporate Governance and Risk Management Committee to perform the duty to formulate policies and directions of operations in respect of the good corporate governance of the Company, including business ethics, and to ensure performance of duties with transparency and independence in compliance with the guidelines of the good corporate governance, consider risk management plan, risk management process, as well as monitor, inspect and review the Company's overall risks to stay at an appropriate level. To this effect, General Sampao Choosri, as an independent director, was appointed as Chairman of the Corporate Governance and Risk Management Committee. As of December 31, 2018, the Corporate Governance and Risk Management Committee comprises five members as follows:

- | | |
|-------------------------------------|---|
| 1. General Sampao Choosri | Corporate Governance and Risk Management Committee Chairman
(Independent Director) |
| 2. Mrs. Vallapa Assakul | Corporate Governance and Risk Management Committee Member
(Independent Director) |
| 3. Mr. Phongsarit Tantisuvanitchkul | Corporate Governance and Risk Management Committee Member |
| 4. Dr. Sombat Kitjalaksana | Corporate Governance and Risk Management Committee Member |
| 5. Mrs. Payao Marittanaporn | Corporate Governance and Risk Management Committee Member |

The Corporate Governance and Risk Management Committee's Authority and Duties

1. Studying and following up movement, tendency and performance in respect of the good corporate governance for submission to the Board of Directors for consideration as to appropriateness for adoption as guidelines for the Company's operations.
2. Improving and proposing the good corporate governance policy of the Company, including business ethics, to the Board of Directors.
3. Following up and evaluating the results under the good corporate governance principles of the Company as well as reporting the same to the Board of Directors.
4. Considering policies and work plans relating to risk management for submission to the Board of Directors for consideration.
5. Monitoring and reviewing overall risk management of the Company, strategies for risk management and alert system of all kinds of risks in order to deal with risks to stay at an acceptable level to ensure compliance with the risk management policy of the Company.
6. Reporting on risks and operations for minimizing risks to the Board of Directors.
7. Proceeding with other matters as assigned by the Board of Directors.

9.2.5 Executive Board

The Board of Directors appoints the Executive Board to assist in providing advice and suggestions to management and make other arrangements as assigned by the Board of Directors. As of December 31, 2018, the Executive Board comprises five directors as listed below:

- | | |
|-------------------------------------|---------------------------------|
| 1. Mr. Plew Trivisvavet | Chairman of the Executive Board |
| 2. Mr. Supong Chayutsahakij | Executive Director |
| 3. Mr. Phongsarit Tantisuvanitchkul | Executive Director |
| 4. Dr. Sombat Kitjalaksana | Executive Director |
| 5. Mrs. Payao Marittanaporn | Executive Director |

The Executive Board's Authority and Duties

1. Delivering guidelines for policy, supervising, providing suggestions and advice for the Managing Directors and management.
2. Setting up a business plan, budget and managerial authority of the Company as assigned by the Board of Directors.
3. Inspecting, following up to ensure compliance with the Company's policies and plans with efficiency.
4. Conducting feasibility studies on investment in new projects for business expansion and prospects.

5. Having power to approve any juristic act binding upon the Company in an amount not exceeding Baht 200 Million per transaction, excluding those transactions giving rise to a conflict or interests with the Company or its subsidiaries under the notifications of the Securities and Exchange Commission, including such transactions requiring approval from shareholders under the regulations of the Securities and Exchange Commission and the Stock Exchange of Thailand.
6. Having power to approve, appoint, remove, and determine salary and other remunerations, including expenses and facilities of the Company's officers or staff in the position of General Manager or higher, but not including the Managing Directors.
7. The Executive Board or the Chairman of the Executive Board has the power to convene the Executive Board's meetings and/or determine rules and regulations of the meetings as it deems appropriate.
8. Reporting on the Company's operational results to the Board of Directors.
9. Proceeding with other matters as assigned by the Board of Directors.

The Managing Directors' Authority and Duties

The Board of Directors determines the Managing Directors' authority and duties as follows:

1. Controlling and managing main business of the Company.
2. Monitoring all activities of the Company to ensure compliance with resolutions and policies as assigned and suggested by the Board of Directors.
3. Conducting feasibility studies on new projects and having power to consider approving various projects as authorized by the Executive Board.
4. Having power to approve, appoint, remove, and determine salary and other remunerations, including expenses and facilities of the Company's officers or staff in the position of General Manager or lower (but not including Deputy Managing Director, Assistant Managing Director, and General Manager).
5. Having power to approve any juristic act binding upon the Company in an amount not exceeding Baht 5,000,000 (Five Million Baht Only) per transaction.
6. Having power to sign and affix the Company's seal on cheques and withdraw money from all accounts of the Company and utilize credit facilities available to the Company by all banks or financial institutions in the amount not exceeding Baht 5,000,000 (Five Million Baht Only) per transaction.
7. Having power to make a payment order by various electronic methods in the amount not exceeding Baht 5,000,000 (Five Million Baht Only) per transaction and have power to appoint the sub-attorney acting on behalf of the Managing Directors.
8. Authorizing the Company's staff in the executive positions, namely, Deputy Managing Director, Assistant Managing Director, General Manager or equivalent to perform duties on behalf of the Managing Directors in certain matters (such as purchase order, procurement, payment order) as appropriate.
9. Appointing any Deputy Managing Directors or any other persons acting in place of the Managing Directors from time to time in the event that the Managing Directors are unable to perform their duties, whereby such acting persons shall have the same authority as the Managing Directors.
10. Having power to appoint any persons or groups of persons to engage in the Company's business under the supervision of the Managing Directors, or, if applicable, authorizing such persons to make arrangements as the Managing Directors deem appropriate and having power to change, amend, revoke and repeal such authorization.
11. Proceeding with other matters as assigned by the Board of Directors or the Executive Board from time to time.

In this regard, the Board of Directors regularly evaluates performance of duties of the Managing Directors for comparison with the target as determined on a yearly basis, and the Nomination and Remuneration Committee considers remuneration of the Managing Directors by assessing their performance in the previous year and proposing the same to the Board of Directors for approval under the criteria.

9.3 Nomination of Directors and Top Executives

(1) Nomination of Independent Directors

The Company establishes the structure of the Board of Directors which shall be composed of independent directors of at least one-third of all directors, but no fewer than three persons, whereby such independent directors can provide their opinions independently and perform the duty to safeguard benefits of the Company and shareholders at their best.

The Nomination and Remuneration Committee nominates directors who are qualified in terms of useful skills and experience for the Company and meet the qualifications of independent directors by the definition of the Company's independent directors, as follows:

1. Holding shares of not exceeding 0.5 percent of the total number of voting shares of the Company, its parent company, subsidiaries, associated companies, major shareholder or controller of the Company, including shares held by any related persons of each independent director;
2. Not being or having been a director having involvement in the management, an employee, a staff member, an advisor receiving a regular salary or a controller of the Company, its parent company, subsidiaries, associated companies, subsidiaries of the same tier, major shareholder or controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date, provided that such prohibited characteristics shall not apply to an independent director who was a public servant or an advisor to a government authority which is the Company's major shareholder or controller;
3. Not being a person having a relationship by blood or by legal registration in the capacity as parent, spouse, sibling and offspring, including spouse of the offspring of other director, executive, major shareholder, controller or person to be nominated as director, executive or controller of the Company or its subsidiaries;
4. Not having or having had any business relationship with the Company, its parent company, subsidiaries, associated companies, major shareholder or controller of the Company in a manner which may prevent the exercise of his/her independent judgment; and not being or having been a substantial shareholder or controller of any person having a business relationship with the Company, its parent company, subsidiaries, associated companies, major shareholder or controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date;

The aforesaid business relationship shall include any transaction in the ordinary course of business for lease of immovable property, any transaction relating to assets or services or grant or receipt of financial assistance through receiving or extending any loan, guarantee, providing assets as collateral, including any other similar action, which causes the Company or contractual party to be subject to indebtedness payable to the other party in the amount of three percent or more of the Company's net tangible assets or in the amount of Baht Twenty Million or more, whichever is lower. Such indebtedness shall be calculated according to the calculation method of connected transaction value under the Notification of the Capital Market Supervisory Board, Re: Rules on Connected Transactions, mutatis mutandis. However, the consideration of such indebtedness shall include the indebtedness incurred during the course of one year prior to the commencement of a business relationship with the same person;

5. Not being or having been an auditor of the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company; and not being a substantial shareholder, controller, or partner of an audit firm which employs the auditor of the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date;
6. Not being or having been a professional service provider, including legal advisor or financial advisor which receives an annual service fee exceeding Baht Two Million from the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company; and not being a substantial shareholder, controller, or partner of such professional service provider, unless such independent director has no longer been in such capacity for not less than two years prior to the appointment date;
7. Not being a director appointed as a representative of the Company's director, major shareholder or shareholder who is a related person of the major shareholder;

8. Not engaging in any business of the same nature as and in material competition with the business of the Company or its subsidiaries; or not being a substantial partner in a partnership or a director having involvement in the management, an employee, a staff member, an advisor receiving a regular salary or holding more than one percent of the total number of voting shares of another company engaging in any business of the same nature as and in material competition with the business of the Company or its subsidiaries;
9. Not having any other characteristics preventing the provision of independent opinions on the Company's operations.

(2) Nomination of Directors and Top Executives

(2.1) Nomination of Directors

(2.1.1) Criteria

The Nomination and Remuneration Committee considers nominating persons to be appointed as directors to replace those directors who vacate office, both resignations prior to the end of term and retirement by rotation, in accordance with the following criteria:

1. Having qualifications in compliance with the Public Limited Companies Act, the Securities and Exchange Act, rules of the SEC Office and rules of the Stock Exchange.
2. Having knowledge, ability, and experience in a variety of fields which will be beneficial and add value to the Company.
3. Having characteristics supporting and promoting the corporate governance to create value to the Company, such as, independence, willingness to share opinions, initiative, and performance of duties with responsibility, due care, integrity and full-time contribution, etc.
4. In case of a director who retires by rotation, the Nomination and Remuneration Committee considers from his past records whether he performed duties as director with due care, integrity and full-time contribution.
5. In the nomination of directors, there should be consideration of the required qualifications taking into account the necessary skills for the Board and qualifications in line with the Company's business strategies.
6. In case such vacancy is a director representing the Expressway Authority of Thailand or the Mass Rapid Transit Authority of Thailand under the conditions of the relevant Concession Agreements, the replacement director must be nominated by the said authority to fill the vacancy.

The Nomination and Remuneration Committee shall nominate such qualified persons to the Board of Directors for consideration for submission to the shareholders' meeting for appointment as directors.

(2.1.2) Nomination Procedures

The Board of Directors sets out the procedures for nomination of directors, and the Nomination and Remuneration Committee proceeds in accordance with the following procedures:

1. Nominating qualified persons to fill the vacancy.
2. Considering the qualifications of the directors who represent EXAT and MRTA in accordance with the conditions as specified in the Concession Agreements.
3. Considering the qualifications of persons nominated by minor shareholders according to the Company's policy to allow shareholders to propose their nominations in advance (if any).
4. Proposing the nominations to the Board of Directors for consideration and appointment (in case of interim vacancy).
5. Considering proposing the nominations to the Board of Directors for consideration and approval for submission to the annual ordinary general meeting of shareholders for an appointment.

Pursuant to the Articles of Association, at every annual general meeting, one-third of the number of directors must vacate their offices. If the number of directors is not a multiple of three, then the number nearest to one-third must retire from office. Therefore, the directors have a term of three years, and a retiring director may be re-elected. In this regard, the Company does not fix the number of terms of holding office as director or the number of other listed companies in which the directors will hold office as a directors but considers the suitability of appointment of directors who are due to retire by rotation to resume office.

Pursuant to the Articles of Association, the criteria and procedures for appointment of directors by shareholders are as follows:

1. One shareholder has one vote for every one share held by that shareholder;
2. When electing directors, each shareholder shall exercise all of his or her votes to elect all directors to be elected on such occasion, or in case the shareholders' meeting deems it appropriate, the casting of votes is made to elect directors on an individual basis. In this regard, in casting votes, whether in the election of directors on an individual basis or the election of all directors, each such person elected by the shareholders must receive votes from shareholders according to the total number of shares held by each shareholder under clause 1., and no shareholder can allot his or her votes to any person in any number.
3. In case of the election of directors on an individual basis, persons receiving the most votes are those who are elected to be directors, in descending order, for the number of directors who are to be elected. If there is a tie for the last to be elected and this exceeds the said number of directors, the election shall be drawn by lots.

(2.2) Nomination of Managing Directors and Executives

1. The executives in the position of Managing Directors must be nominated by the Nomination and Remuneration Committee, which considers nominating qualified persons, namely, those who have knowledge and capacities and experience which are useful for management and operations to achieve objectives or targets as determined by the Board of Directors and have a good understanding of the Company's business, whereby the Nomination and Remuneration Committee shall propose the nominations to the Board of Directors for consideration and appointment.
2. For any executives at the level of General Manager or higher, the Managing Directors proposes the nominations to the Executive Board for consideration and appointment.

9.4 Supervision of Operations of Subsidiaries

To ensure that supervision of operations of the Company's subsidiaries is conducted in compliance with the business policy specified by the Board of Directors of the Company and in line with the Corporate Governance Code, and to safeguard investment benefits of the Company and its shareholders, the Board of Directors of the Company thus sets out criteria and guidelines for supervision and control of management of the subsidiaries, as follows:

- 1) The subsidiaries are encouraged to put the Corporate Governance Code into practice.
- 2) The selection of any persons as representatives of the subsidiaries is subject to the approval of the Board of Directors of the Company, according to their respective shareholding percentage.
- 3) The subsidiaries shall be supervised through representative directors and executives and in compliance with the policies specified by the parent company.
- 4) Any significant matters, such as strategies, action plan, capital increase or reduction, company dissolution, including various important policies shall be considered. The guidelines for exercising the right to cast votes in the extraordinary general meeting of shareholders are also formulated.
- 5) The operational results shall be followed up through the management, executive board, for reporting to the Board of Directors of the Company.
- 6) The subsidiaries shall be monitored to ensure their compliance with laws, relevant regulations stipulated by the supervisory units, including generally acceptable accounting standards.

The Company requires its subsidiaries to yearly review the respective internal control systems to ensure adequacy and appropriateness, whereby the Internal Audit Office of the Company shall regularly review, follow up and evaluate compliance with the good internal control principles, which is specified in the annual audit plan.

In this regard, the Company has assigned the Managing Directors or his/her delegate(s) to monitor each of such companies, as a shareholder. Currently, the Company appoints directors who are its representatives to supervise and monitor operations of the subsidiaries, as follows:

Northern Bangkok Expressway Company Limited (NECL), comprising seven directors:

- Five directors who are members of the Executive Board of the Company;
- One director who is a representative from EXAT;
- One managing director of NECL.

Bangkok Metro Networks Limited (BMN), comprising eight directors:

- Four directors who are representatives from the Company;
- Three director who is a representative from other shareholder;
- One managing director of BMN.

9.5 Control of Inside Information Usage

The Company determines its written control of inside information usage in accordance with the Corporate Governance Code, as follows:

Inside Information Usage Policy

- (1) Due to the fact that the Company is listed on the Stock Exchange of Thailand, any sale or purchase of the Company's securities by any of its directors, executives or staff in a manner which may take advantage of a third party by using information material to changes in the prices of the securities which have not yet been disclosed to the public and to which he/she has access in the exercise of his/her duty or position in the Company, is then considered as unfair securities trading practices, subject to a criminal penalty under the law.

Therefore, the Company has set guidelines to prevent the use of insider information. Such guidelines will be revised from time to time as appropriate, and all directors, management, and staff of the Company will strictly adhere to these guidelines with accountability as well as causes and effects on a case by case basis. These guidelines or policies will be stricter than the provisions of applicable laws and will apply to directors, management and staff, including related persons.

- (2) Securities Sale and Purchase Using Insider Information

Persons who should not sell or purchase securities pursuant to the guidelines to prevent the use of insider information are as follows:

1. Directors and management of the Company;
2. Directors and management of the subsidiaries, including its affiliates;
3. All staff of the Company and of the Company's subsidiaries, who have perceived insider information of the Company;
4. Spouses and minor children of the directors, executives and staff, who have perceived insider information of the Company; and
5. Relatives who live with the directors, executives, and staff who have perceived insider information of the Company.

Securities refer to shares, share warrants, convertible debentures and transferable subscription rights issued by the Company.

General Practice

1. Any person who has perceived insider information of the Company should not sell or purchase the securities under any circumstances if such person knows or should have known the publicly undisclosed material information that may affect change in the market price of the Company's securities.
2. Any person who has perceived material insider information of the Company from their duties and positions as the Company's staff shall not disclose such information to any other person while such information has not yet been disclosed to the public, unless it is done in the performance of their duties to the Company.

Specific Guidelines

In addition to the general guidelines to prevent the use of insider information, persons who have perceived insider information of the Company shall also comply with the following guidelines:

1. Any person who has perceived insider information of the Company and is directly involved in the preparation of the Company's financial statements and the balance sheet is prohibited from any purchase or sale from the commencement of such preparation until the end of the day immediately following the disclosure date of such financial statements.
2. Any director, management or staff who has received the draft financial statements as referred to above, is prohibited from selling or purchasing the Company's securities from the day that he or she receives the draft financial statements until the end of the dissemination date of the financial statements.
3. Any person who has perceived insider information of the Company and knows or should have known that the Company will disclose material information that may affect change in the market price of the Company's securities, is prohibited from selling or purchasing the Company's securities from the day that he/she knows or should have known such information until the end of the day immediately following the disclosure and dissemination date of such information.

(3) Report of Persons who have Perceived Insider Information of the Company

A. Duty to Prepare Reports

Directors, Managing Directors or persons who hold management positions as specified in the Securities and Exchange Act shall be required to prepare disclosure reports of their initial securities holdings, and changes in such holdings, pursuant to the relevant laws and regulations, together with such reports to the Company.

B. Reporting Procedures

Directors, Managing Directors or persons as specified in paragraph A. above who have the duty under law to disclose their securities holdings, their spouses' securities holdings, and their minor children's securities holdings to government agencies or regulators shall submit copies of such reports to the Company on the same day.

Protection and prevention of inside information usage

- (1) The Company has policies and procedures for controlling the use of inside information by directors, executives and staff to prevent any occurrence of the use of inside information for personal interests or the interests of others. The work rules and regulations of the Company prohibit staff from disclosing the Company's confidential information to any third parties or abusing their positions for personal gains or others. Any violation is deemed a disciplinary misconduct. In addition, this obligation has been specified as an important condition in new employment agreements, whereby staff must keep confidential information relating to the Company's business to which they have access, whether directly or indirectly, and must refrain from disclosing it to any third parties or other unauthorized persons. In this regard, the confidential information relating to the Company's business refers to financial information, marketing plan or business plan, wages, etc.

- (2) The Company has a control system for use of the Company's information by adopting such information security systems as the restriction of access to the Company's information by setting authorization level of staff's access to the Company's information to correspond to their responsibilities and setting user password for common use of data files with other persons via the computer system, provided that the password must be changed every three months.

The Company has applied the ISO/IEC 27001:2013, which is the international standard that describes the best practices relating to information security system, to improvement of the toll collection system at the control center to ensure compliance with the standard, and the Company also lays down standard for management of significant information to ensure continued operations of the business, with an aim of enhancing the organization's worldwide reputation for reliability.

- (3) The Company prohibits executives who know insider information from taking any actions contrary to Section 242, which does not allow securities trading by using insider information for his own or another person's benefit, under the Securities and Exchange Act, including relevant rules and regulations.

9.6 Remuneration for Auditor

The Audit Committee and management jointly consider the qualifications of the auditor in respect of the reliability, independence, knowledge and experience in audit services, advice on accounting standards, certification of the financial statements in a timely manner, and appropriate remuneration, and then propose this matter to the Board of Directors for submission to the annual ordinary general meeting of shareholders to consider approving the appointment of the auditor.

The proposed auditor shall have neither relationship with nor interest in the Company or its subsidiaries, executives, major shareholders or their related persons.

Remuneration for auditor is divided into two categories, namely:

(1) Audit fee

The Company paid the audit fees for 2018 in the amount of Baht 3,830,000 to EY Office Limited. When compared to the average audit fees of other listed companies in the same sector, the Company's audit fee was reasonable.

The Company's subsidiaries, namely, Northern Bangkok Expressway Company Limited and Bangkok Metro Networks Limited, paid the audit fees for 2018 amounting to Baht 542,000 and Baht 1,170,000, respectively.

(2) Non-audit fee

In 2018, the Company used any other services from EY Office Limited in the amount of Baht 250,000 as a fee for auditing the concession during construction of the MRT Blue Line Extension Project.

9.7 Compliance with the Corporate Governance Code for Listed Companies 2017

The Board of Directors has understood the roles, duties, benefits, and principles of the Corporate Governance Code for Listed Companies 2017, whereby the Board of Directors has suitably applied the Corporate Governance Code to the contexts of the Company. The Corporate Governance and Risk Management Committee, which is deemed a subcommittee with the duty to supervise and monitor to ensure the Company's compliance with the Corporate Governance Code to promote and support the Company's business operations conducive to the sustainable value creation, requires that the appropriateness of compliance with the Corporate Governance Code shall be reviewed at least once a year. The Board of Directors has then authorized the Corporate Governance and Risk Management Committee to consider and evaluate the application of the same for proposal to the Board of Directors for further consideration.

9.8 Compliance with the Corporate Governance Code in other Matters

The Company has complied with the Corporate Governance Code for Listed Companies in order to achieve assessment in various aspects. The Company then received the "Very Good" rating as a whole from corporate governance assessment in the Corporate Governance Report of Thai Listed Companies from the Thai Institute of Directors Association (IOD). The Company has conformed to all principles of the Corporate Governance Code for Listed Companies 2017, except for the following:

1. The Board of Directors consisting of 5-12 directors: the Company gives priority to the good corporate governance together with the nomination of personnel who have knowledge and capability to conduct management. At this point, the Company realizes necessities and potential benefits from the nomination of personnel who have appropriate qualifications, knowledge and capability to be appointed as additional directors. Currently, some directors serving on the Board of Directors are from the amalgamation between Bangkok Expressway Public Company Limited and Bangkok Metro Public Company Limited and from directors who are representatives from the Expressway Authority of Thailand and the Mass Rapid Transit Authority of Thailand in accordance with the conditions of the Concession Agreement, and as such, the Company has 17 directors.

2. Determination of the number of terms of holding of office as director and independent director: The Board of Directors does not clearly determine any number of terms of holding of office as director. In regard to determination of a term of consecutive holding of office as independent director of not exceeding nine years, the Board of Directors considers and deems that the appointment of independent directors to resume office as directors will be useful for the Company and shareholders since the directors consecutively holding such office will have better knowledge and experience in the Company's business operations and create more value for shareholders. In this regard, no director serves on the Board of Directors for more than nine years.
3. Determination of the number of other companies in which each director will hold directorships: The Board of Directors has no policy to limit the number of other companies in which each director may hold directorships since, after considering the matter; it is of the view that all directors devote their time to regularly attend meetings.

However, in 2018, none of the Company's directors held office as directors in more than five listed companies.

4. Determination of the number of other companies in which the Managing Directors will hold directorships: The Board of Directors has no policy to limit the number of other companies in which the Managing Directors may hold directorships since, after considering the matter; it is of the view that the Managing Directors devote their time to conduct management and regularly attend meetings.

However, in 2018, the two Managing Directors represented the Company to hold directorships in one listed company invested by the Company.

10. Corporate Social Responsibility

Nowadays, the transportation systems is essential for an urban lifestyle, whether it be road or rail systems, all of which play a key role in integrating livelihoods of the people in the society from one side of the city to the other side. For that reason, Bangkok Expressway and Metro Public Company Limited (the “Company”), as the expressway and metro service provider, with its commitment to being one vital component in development of the related transportation systems, is thus determined to establish a connection of the fully-integrated transportation system to facilitate the people’s travelling and help mitigate traffic problems in Bangkok and its surrounding provinces. This is to upgrade the quality of life of the service users, whereby provision of safe, rapid and efficient services is always given priority to ensure delivery of services with modern transportation network and improved life quality to the people, through the business operations continuously based on the social and environmental responsibility, the guidelines to which the Company has always adhered for the sustainable business operations.

10.1 Policy Overview

The Company is committed to operating its businesses with particular emphasis on society and the environment in pursuit of the Company’s sustainable business growth. As such, the Company focuses on transparency and fairness in its operations with the aim of coordinating benefits and growing together with all groups of stakeholders. Therefore, the Company adopts and communicates its operating policy for sustainable development to all staff to ensure that they seriously implement and harmoniously incorporate it into their own work processes for sustainable growth of the Company and all its groups of stakeholders, as follows:

1. To be a leading organization for sustainable development through communication and exchange of best practices with all groups of the Company’s stakeholders;
2. To build up the culture and concept of the sustainable development for incorporation into every work process and decision-making process of the Company;
3. To promote training, learning, and counseling, focusing on practices according to sustainable development guidelines;
4. To support the operations, disseminate the guidelines, and ensure collaboration at the regional level as well as transferring the body of knowledge to achieve sustainable development on a continuous basis.

10.2 Corporate Social Responsibility and Sustainable Development

The Company, as the expressway operator, is committed to fulfilling the people’s requirements for their travelling via the expressway network which has been connected and stretched to the central business districts of Bangkok. The expressway service is considered the transportation service provided to the expressway users who need convenience, rapidity, and safety in their travelling. For that reason, the Company has continued to conduct the study and improvement of the expressways to ensure engineering safety in accordance with international standards; enhance efficiency in the service provision to the expressway users by way of addition of Easy Pass lanes, including relocation of the positions of the lane entrance gates to minimize traffic conflict points with the cash lanes, which will mitigate the traffic congestions in front of the toll plazas. Furthermore, the Company has conducted a study on new routes in response to the urbanization in the future.

With regard to the metro system, the Company has emphasized creativity and development of the modes of services to facilitate the passengers’ travelling both peak and off-peak hours based on the Company’s professional operations on the motto “Service above all else”. The Company then sets out the aims for quality services, namely, convenience, fast, reliability, punctuality, and above all, safety which is the first priority of which all staff have to be aware. Moreover, to create an atmosphere of safety throughout the service users’ travelling, staff shall strictly comply with the safety requirements of the Company, including public relations regarding safety via media and activities to ensure knowledge and understanding of the general people.

As for the commercial development business, it is considered as the Company's non-core business to which the Company also gives importance other than its core businesses, thereby diversifying the Company's services which can fully satisfy the needs of the service users and those who live along the stations. In this regard, the Company has developed spaces for retail shops and sale promotions covering the total of 19,490 square meters. In the previous year, the Company did develop the spaces in the basement level of the Park & Ride Building at Lat Phrao Station, in association with the Mall Group, to made available to the supermarket of premium quality under the "Gourmet Market" brand name in order to fill a demand of the urban life, resulting in an opportunity for those who wish to start a business, as well as expansion of spaces to accommodate a growing volume of metro use in the future.

With the Company's competency of and commitment to provision of the expressway and metro services, the Company always gives priority to provision of convenient, rapid and safe services which meet standards to the service users, in which the Company believe that it will be able to play a part in completing daily life for all persons for good.

Summary of Social Performance

Human Capital Development

The Company is determined to be a leading, fully-integrated transportation service provider in Thailand and ASEAN, with its social mission to provide the transport service with convenience, rapidity, and safety by engaging in the business with its commitment to social and environmental responsibility, attainment of value added creation and optimum benefits for all stakeholders with fairness and sustainability. Therefore, it is a clear policy of the Company to be responsible for the rights of all groups of stakeholders, as follows:

1. Internal stakeholders, i.e., staff, executives, and shareholders of the Company and its subsidiaries
2. External stakeholders, i.e., customers, business partners, lenders, counterparts, competitors, society, communities, schools located near the rights of way and the electric train routes, including government sector and relevant authorities.

BEM's Human Resource Development

At present, the Company has to continue facing the ongoing changes and business competitions. To enable the Company to create the "Path to Happiness for Better Travelling Mode", the Company emphasizes the development of its personnel to ensure their readiness and capabilities which will not only create value for the Company, but also for the society as a whole.

1. The Source of Happiness

The Company appreciates the value and importance of its staff, rest assured that the qualified staff is an essential factor in contributing to the organization's sustainable growth and success, as well as being competitiveness indicating factor. Therefore, the Company is determined to look for talent and good persons and regularly and continuously support the development and training of staff at all levels. The Company is also committed to fair treatment towards its staff under the nondiscrimination policy and provision of equitable opportunity for employment pursuant to the work rules and regulations and laws. The Company treats all staff equally regardless of gender, age, race, religion, work position or physical abilities.

The Company has always treated and cared for its staff at all levels in all respects, for example, job description, safety, occupational health and work environment, including training and development of skills in various aspects, together with career opportunity and advancement, fair consideration and welfare through the clearly specified criteria for career path, and fair and appropriate remuneration based on benchmarking with the same industry. Furthermore, the Company has promoted a participatory work environment and teamwork as well as organizing the workplace on the occupational safety and health basis, not to mention the fact that staff are also allowed to show off their abilities.

Realizing the significance and development of personnel as mentioned above satisfy staff to work for the Company to achieve the Company's goals, and with the Company's notion that staff are regarded as valuable resources and its strong belief in their inner potential in order to make staff proud and determined to perform works as well as improving their own performance on a continual basis.

“Source of Happiness”, the Company has regularly arranged for development of personnel in both main and supporting lines of work on a systematic basis. “Career Opportunity and Advancement”, the Company is determined to restructure its organization and the work positions, and career paths, and salary of staff to be more appropriate and fair to ensure staff career paths. Therefore, the human resources management has become absolutely essential and necessary, and the Company must establish more clear and concrete, appropriate and fair direction for the retention of existing personnel, and recruitment of new staff for business expansion, as well as development of knowledge and skills for both existing and new staff, and update of job descriptions, including transfer of staff according to their knowledge and abilities, and promotion for career advancement.

Particularly staff in main line of work directly related to services on the expressway and rail systems, where quality and safety are compulsory, in order to achieve its goal of providing excellent service to the utmost satisfaction and impression of the service users of the expressways and MRT system. The Company formulates training courses so that staff will have skills and ability to use equipment and devices for specific tasks, i.e., rescue operation, traffic management, toll collection and maintenance of the system and carriageway, including training courses relating to the metro system, various relevant rules and regulations, especially knowledge regarding work safety.

Moreover, the Company has nurtured innovative development by allowing staff to provide suggestions and opinions which are useful for the development of competency in work process as well as supporting varied studies and researches which are striving for benefits and value creation for the business, on a community, social and eco-friendly basis.

“Staff Capacity Building”, the Company focused on personnel training and development, both inside and outside the organization, to maintain core knowledge within the organization, and to prepare our personnel to become the international standard service operator, as well as conveying important knowledge in other aspects to enable them to further knowledge in the future. Training courses provided for staff are described below.

1) Knowledge Management: KM

The Company implemented the knowledge management project as intermediate KM Roadmap, with the objectives to identify the body of core knowledge which was necessary and important for the organization, to ensure a systematic collection of knowledge for all staff to have wide access to the source of such knowledge, knowledge sharing for ensuring the optimum benefits, and furthering the Company’s corporate transition into a learning organization. Other than the management of core knowledge for the Company’s businesses, the Company also promoted a community of practices (CoPs) to ensure learning and sharing of work experiences, problem-solving, including solutions and improvement to work processes, in order to come up with the best practices.

2) Codes of Conduct and Business Ethics Training

This training course was intended to serve as guidance for all staff regarding their work responsibilities and duties and to ensure that they understand and follow the preliminary guidance described in the Company’s Codes of Conduct and Business Ethics handbook, which is in line with the Company’s vision, mission, and corporate culture, in order to achieve goals for improved quality of work and life for staff. The Company also provides for refresher training to update staff’s knowledge by way of E-Learning & E-Exam, which all new staff are required to attend, including regular exams for the existing staff on a yearly basis.

3) Annual Training & Development

The Company put into practice the idea of developing staff competency by improving the Training Roadmap for all levels of staff, namely, executives, supervisors, and operating staff. The roadmap is intended to make sure that staff gain basic knowledge and skills required for their work performance, both technical and soft skills. These two types of skills are fostered in mandatory programs for new staff, e.g., an orientation program for new staff about the Company and about the “Path to Happiness for Better Travelling Mode” including rules, regulations, and requirements; a work safety program; and a quality management system program.

The existing permanent staff are given refresher training on knowledge every year. All of these training programs should enable staff to apply such knowledge to their work performance and adapt themselves to the corporate culture, so as to have a sense of pride and to conduct themselves properly and in line with the goals. In such training programs, staff are also encouraged to employ their own expertise.

Rescue Operation and Traffic Management

The Company, in association with the Expressway Authority of Thailand (EXAT), has conducted rescue operation drills and assistance in case of serious accidents on the expressways, with safety training every year, including training on use of the rescue operation vehicles on the expressways, safe driving training, traffic volunteer training and on the job training; and the Company has arranged for three-month new staff orientation prior to actual operation on the expressways, as well as service mind training.

The existing permanent staff are given refresher training on knowledge every year. All of these training programs should enable staff to apply such knowledge to their work performance and adapt themselves to the corporate culture, so as to have a sense of pride and to conduct themselves properly and in line with the goals. In such training programs, staff are also encouraged to employ their own expertise.

Toll Collection Operation

The Company’s personnel in charge of this field comprise personnel with the duty to collect tolls of the Si Rat - Outer Ring Road Expressway, whereby the Company provides the personnel training in toll collection to ensure that tolls are correctly and completely collected for facilitating the expressway users’ toll payment to be made rapidly. The Company’s personnel in charge of toll revenue operation are responsible to ensure that tolls are correctly, transparently and timely collected, in collaboration with the government sector, namely, EXAT. The Company provides internal on the job training regarding the role and responsibilities of toll collection controllers, emphasizing that tolls must be collected timely, and the counting of vehicles and collection records must be verified for accuracy.

In addition, the condition of toll collection equipment must be checked to be ready for full-time service and to ensure the accuracy of toll collection, which will help assure the Company’s complete revenue streams and equally protect the interests of shareholders and stakeholders. The Company also arranged overseas study visits on toll collection systems.

Structure Maintenance Operation

This is to ensure that the expressways will be ready and safe for service. The Company is internationally recognized as a company specializing in the inspection and maintenance of the Segmental Box Girder structures, with regular inspection, monitoring, and surveillance all year round.

Train Control Officer and Train Operation Control Officer Training

The train control officer training takes at least 600 hours of training and the train operation control officer training takes at least 1,100 hours of training, which are provided in theory and in practice by way of actual train driving and train-driving simulator, training to use equipment in train operation control room, emergency response drills and exercises, including on the job training, where safety is given the top priority, whereby professional trainers are provided to closely monitor staff's training. Moreover, the Company's staff are given refresher training on a yearly basis to ensure that all trained staff will be able to discharge their duties in the metro service provision with safety, convenience, rapidity, reliability, punctuality, and efficiency in order to improve the quality of life of residents.

Enhancing Quality of Life

2. On the Path to Happiness

The expressway users and MRT users are the heart of the Company. The Company is then ready to deliver and improve the expressway services to ensure the most efficiency as the "Path to Happiness for Better Travelling Mode" of rapid and safe transportation, uplift the quality of life, and play a role in developing Thai society. The Company appreciates innovations which will help minimize the impact of the operations on society, environment and stakeholders from construction to repair and maintenance of the expressways to stand ready for service to users to ensure their convenience and safety both under normal and emergency situations.

To maintain the Path to Happiness, the Company emphasizes taking care of the delivery process and improvement of services in detail on a regular basis, as follows:

The delivery process and improvement of services in detail of **the expressway service**

- 2.1 Expressway Construction: The Company adopted the internationally recognized Segmental Box Girder technology, which meets the AASHTO (American Association of State Highway Transportation Officials) standards, and which was considered a sophisticated technology at the time it was adopted. As a result, the Company was able to minimize the impact on at-grade traffic and dust and noise pollution during the construction. The construction was completed according to plan without any protests from society and nearby communities. The expressways are safe, meet standards and effectively respond to users' transportation needs.
- 2.2 Expressway Maintenance: The Company carries out regular inspection and maintenance of the main structures of the expressways, under the independent consulting engineer's supervision and quality assessment of the expressways. The expressways are in a stable condition, meet standards and safety requirements, and the expressway users are able to enjoy convenient, rapid and safe transportation to their destinations.
- 2.3 Expressway Services: The expressways, by physical characteristics, mostly are elevated and linked as a network with a total length of approximately 256 kilometers. The expressways have become effective strategic routes for sending aid to disaster victims, transporting equipment and supplies, and travelling by both public and private sectors, during the occurrence of any event or disaster which may impede the at-grade roads. Those events in the past have perfectly confirmed the strategic route status. Therefore, the Company, in its capacity as the operator of the Si Rat Expressway, the Si Rat - Outer Ring Road Expressway and the Udon Rattaya Expressway, sets out practical guidelines for dealing with unusual occurrences, so as to make the expressways available for service under emergency situations and return to normal as soon as possible. In this regard, the Company is ready to take various actions as follows:

- (1) **Expressway Control Center:** The Company's communications staff in the Control Center monitor traffic condition on the expressways and provide travelling information to the expressway users. CCTV surveillance systems are installed on the expressways, along with radio-communications systems through the Control Center working 24 hours in close collaboration with other relevant authorities. The Company's rescue operation teams are patrolling the expressways at all times, and therefore, they are ready to instantly assist service users in any incident on the expressways. In addition, the teams also coordinate with police officers on duty on the expressways and at-grade roads in order to facilitate traffic management 24 hours a day. The traffic condition on the expressways is viewable by at-grade police officers from the video signals connected with the Company's CCTVs.
- (2) **The automatic toll collection system or Easy Pass** was implemented by the Company's collaboration with the government sector beyond the terms of the relevant Concession Agreements, with the intention to improve services and minimize environmental impact from traffic congestion. This system has helped save travelling time and fuel for the expressway users, protect the environment, minimize pollution at the toll plazas, reduce fuel consumption, and improve the quality of life.
- (3) **With respect to safety innovations,** the Company sets up a dedicated unit responsible for research and development (R&D) to regularly improve the safety of the expressways by means of road safety audits. The audit results are used for the expressway improvements for greater safety.

The delivery process and improvement of services in detail of the MRT service

- 2.4 Value added to safety: The Company's business operations give priority to the safety of passengers, staff, contractors, including everyone in the MRT system, as evidenced by the adoption of the international standard safety management system as a guideline for operations, namely, OHSAS/TIS 18001. Moreover, Lloyd's Register Rail (LR) is engaged as a safety consultant to provide suggestions on risk management and to devise new safety management techniques for improvement of the Company's work processes to ensure more safety. As a result, the statistics of work-related accidents, including the statistics of passengers' injuries while using the MRT service, are likely to reduce. It is for this reason that the Company did receive the National Outstanding Awards 2013-2014 for Occupational Safety, Health, and Environment.
- 2.5 Value added to convenience: As the metro is a mass rapid transit system with rapidity and definite service schedule for the service users' commute convenience as they can somewhat precisely anticipate the service schedules and sets out their commute plans, the Company thus gives priority to value added in convenience in its services from making an entrance to the stations, utilization of services until leaving the stations. To this effect, the Company has made various preparations to suit the convenience of the passengers and the service users in all respects such as information services, common ticketing system, and facilities within the stations.
- 2.6 Value added to rapidity: As the metro is a mass rapid transit system which offers the rapid services, a main reason that people select to commute by the metro, therefore, the Company supports other services from the passengers' entering into the stations until leaving the services with rapidity by means of development of the efficiency in service provision from where the passengers make an entrance to the stations and during the services, deletion of certain repeated steps which cause any unnecessary delay or increase in certain steps which more impress the passengers such as the passenger volume management system during rush hours on platforms, rapid services in the time when the passengers are so crowded or during the exhibitions, ticket issue or stored value card services are provided by staff who are active in providing clear suggestions, etc.

- 1) Value added to reliability: The Company is committed to the regular services of the required standard to build the reliability in the metro system in respect of safety, convenience, and rapidity, whereby the Company continues to improve the quality of the services, for instance, maintenance and test of equipment are planned in a preventive and corrective manner, annual rehearsals for handling various emergency stimulations together with internal and external rescue agencies, improvement of safety system, ethical and equitable treatment towards passengers. Moreover, the Company accepts any comments or complaints from customers for further taking remedial actions to ensure improved services. The MRT service capability was assessed by Train Service Delivery, namely, the Company's MRT service capability was always more than 99 percent. In 2018, the Company's Train Service Delivery, the Chalome Ratchamongkhon Line (Blue line), represented 99.98 percent from the target of 99.70 percent.
- 2) Value added to punctuality: The clear and punctual schedule of the MRT service enables passengers to manage their travelling time and do various activities more easily, not to mention that it results in their quality of life and mind health. The punctuality of the MRT service can be assessed by examining train punctuality with delays of not more than 5 minutes (Train Punctuality (Delay within 5 Min.)) in all MRT stations, which in 2018, the Company's Train Punctuality (Delay within 5 Min.), the Chalome Ratchamongkhon Line (Blue line), represented 99.88 percent from the target of 99.75 percent.

As for the Chalong Ratchatham Line (Purple Line), the train service availability is with delays of not more than 3 minutes during peak hours and not more than 6 minutes during off-peak hours. In 2018, represented 99.93 percent from the target of 99.25 percent. Plus, the train service punctuality is with delays of not more than 3 minutes, in 2018, represented 99.97 percent from the target of 99.25 percent.

Moreover, the Company's membership in NOVA Group of Metros, a consortium of international metro service operators in a program of railway benchmarking, has inspired the development and improvement of service operations to achieve a higher level of success. Other than the standard set of service performance indicators, the Company has set out benchmarking indicators that are comparable to those of other members of the NOVA Group of Metros in various aspects in order to share knowledge and experience which will result in improvement and development of the services. Furthermore, in comparison with information in the NOVA Group, the Company's operational results are excellent in various respects, such as train punctuality as compared with the train schedule, repair and maintenance to ensure the availability of trains for service, and work safety of staff, etc.

Other than the safety, efficiency in the services and new technology as employed to satisfy the service users' needs, the Company has also realized the significance of its traders which are considered as a business supply chain as comparable to the service users.

The Company formulates a policy to fairly treat its business partners and promotes the knowledge, understanding, practice, development in accordance with the framework for sustainable development in the Company's business sector, building reliability through the fair business operations with its traders and financial supporters, regarded as key success factor which enables the Company to deliver the quality services to the expressway users even during a crisis. The Company then set out the practices towards traders in a way of the business operations with fairness to ensure that acquisition of goods and services meet standards, with the commitment to developing and maintaining sustainable relationships with traders, and having the clear objective regarding quality of goods and services as suitable for monetary value, technical quality and trust in each other.

The Company has arranged for the procurement process with equality and fairness for its traders in all systems, which is in accordance with the operating process governing procurement under the requirements of the ISO 9001 quality management system, by methods and measures adopted in against unfair competitions, determined the guidelines to promote respect for intellectual property rights of traders and safeguard the rights in assets, as well as the business operations with the supply chain in strict compliance with the international standards of the ISO 9001 quality management system and the ISO 14001 environmental management system through provision of knowledge, understanding and close monitoring system, to rest assured that the Company's supply chain transacting a business with the Company has carried out its operations with environmental care to ensure sustainability in mutual business operations. As for the group of financial supporters, it included lenders, debenture holders, creditors, the Company is determined to comply with agreements and commitments and maintain the financial discipline on a strict basis.

Regarding safety for staff and contractors, the Company has conducted its work safety in accordance with Thai laws and local and international safety standards, i.e., TIS 18001:2011 and OHSAS 18001:2007, as assessed by TUV NORD (Thailand) Limited. The main objective is to supervise welfare for work performance in respect of occupational safety, health, and environment of staff and persons in connection with operations in the metro system. The Company also prepared Plod Online E-magazine for communication with its staff to ensure their awareness of safety, quality, and environment.

3. Happy Society

Throughout the period of the business operations, the Company is committed to being the “Path to Happiness for Better Travelling Mode” and the pursuit of happiness of travellers, the following matters are then given priority:

1. **Family:** Spending quality family time can be made in various manners, one of which is travelling together as a family on expressway route or metro route, to see and experience new stories of community lifestyles and to ensure income distribution to their destinations;
2. **Education of children and youth:** The Company aims to promote experience in organizing activities and outdoor learning which can allow children to gain important first-hand experience and apply such gained experience to their lives in the future, and meanwhile, the Company has provided educational opportunities for underprivileged children and youth with good academic records, by way of distribution of scholarships to them as a cost for sustainable career.
3. **Public interest assistance** and alleviation of hardships from various disasters: The Company has always provided assistance to recovery the suffered society from such disasters.

4. Summary of Environmental Performance

Environmental Quality Promotion and Environmental Impact Reduction (More Quality and Less Impact)

The Company, in its capacity as the expressway and metro service provider, has realized the business operations based on sustainable development in three aspects, namely, economy, continuously developing quality of services; society, taking care of the Source of Happiness to ensure that they have the improved quality of life, with the readiness to transfer value to the society nearby and as a whole; environment, emphasizing prevention and control of pollution.

The Company is determined to develop the quality of the services, with the commitment to environmental responsibility; therefore, the environmental management policy has been formulated, with the guidelines as follows:

Environmental Policy

1. Giving the priority to prevention and control of pollution to ensure compliance with the international standards and taking into account the environmental impacts of the service users, staff and communities;
2. Instilling awareness on the utilization of natural resource energy in an efficient manner into staff and promoting them to so do;
3. Performing duties in compliance with laws and other requirements in relation to the environment;
4. Reviewing the objectives and goals for improving the environmental management system on a regular basis;
5. Disseminating the environmental policy to the public and other concerned parties.

It is deemed to be all staff's and traders' responsibility to strictly and regularly adhere to this policy for ensuring a good environment for the service users, staff, traders, and nearby communities.

The Company has a policy and is determined to continuously take care of every sector of society in respect of the management of improved operational results, and creation of value added to shareholders, and giving priority to nearby communities as well as taking care of both nearby and remote communities. In 2018, the Company organized the corporate social and environmental contribution activities as follows:

1) Activities for Development of Quality of Life on Safe Travelling

The Company aims to serve safety and reduce the road accident by held the safety driving training to develop driving skill, coping with unexpected emergency skill, and basic car care tips with free access to the activity.

“Lady Safety Driving”

The Company organized the Lady Safety Driving activity to promote safe driving, provide driving techniques for handling emergencies to reduce possible accidents, together with basic car care tips for women, as well as taking them to visit the Si Rat - Outer Ring Road Expressway Control Center.

2) Good Family Relationships

“Moms & Kids Strengthen Relationships with BEM by Visiting Lawo Kingdom”

The activity was held on the occasion of the National Mother’s Day, as a special opportunity for family members to express their love and affection for each other, and to play a part in strengthening family relationships, the Company then invited the expressway users to travel on the Si Rat Outer - Ring Road Expressway to trace the history of the golden age during the early Ayutthaya period by visiting, for example, Somdet Phra Narai National Museum, The Twelve Royal Store Buildings, and Official Residence for Ambassadors (Wichayen House) as formerly reserved for welcoming the French ambassadors, etc., as well as doing activities to strengthen family relationships by cooking the original Thai dessert and making flower garlands for moms to express kids’ gratitude towards their moms while telling moms that I love mom in the midst of a heartwarming atmosphere.

“Dads & Kids to Strengthen Relationships with BEM by Following the Trace of the King’s Trip to Bang Pa-In Royal Palace”

The activity was held to strengthen family relationships on the occasion of the National Father’s Day, the Company then organized the “BEM Invites Dads & Kids to Follow the Trace of the King’s Trip to Bang Pa-In Royal Palace in Ayutthaya Province” activity by inviting the expressway users to travel on the Si Rat - Outer Ring Road Expressway connecting to the Si Rat Expressway heading to Chaeng Watthana continuing on the Udon Ratthaya Expressway to the Bang Pa-In Royal Palace in Ayutthaya Province to make a visit to the exquisite architecture as perfectly mixed between Thai and western arts as well as learning the history and pay homage to the Buddha image at Wat Niwet Dhamma Prawat, together with participation in an activity to strengthen family relationships by planting Hoya in glass terrariums for giving it to dads while saying that I love dad in a heartwarming atmosphere.

“Charitable Rally”

The Company organized the BEM Rally activity, by taking participants to travel on the Si Rat - Outer Ring Road Expressway to do activities and play games about Thai way of life in Nakhon Pathom Province and granted income of Baht 200,000 without deduction of expenses to Thai Heart Foundation in the program “treating congenital heart disease in child by surgery and cardiac catheterization after office hours”.

3) Awareness of Environmental Preservation

“Let’s Love Environment with BEM”

To sustainably maintain the balance of nature, and the environmental preservation is of great importance to everyone and requires active participation, the Company then organized the program titled Let’s Love Environment with BEM to instill awareness of environmental preservation by taking a group of management and staff to jointly grow coral and take away trash to clean up the Toei Ngam Beach in Chonburi Province to raise awareness of environmental preservation and jointly restore the marine ecosystem.

4) Moral and Ethical Awareness for Corporate Social Responsibility

“Blood Donating”

It is to give blood to give life as a part of the greatest giving. The Company, in association with The Thai Red Cross Society and Faculty of Medicine Vajira Hospital, Navamindradhiraj University, then organized three blood donation activities at the Si Rat - Outer Ring Road Expressway Control Center, with active participation of management, staff and residents living nearby.

5) Good Relationships with Related Authorities

The cooperation for the provision of good services to meet the utmost satisfaction of the expressway users is regarded as a key goal of the three collaborating authorities, namely, staff of the Company, staff of EXAT, and police officers of the Expressway Police Station 2. To strengthen relationships among them in order to ensure unity and maximum efficiency of the services, the Company organized activities, as follows:

“Let’s Watch Movie with Expressway”

The Company invited families of staff of EXAT and police officers of the Expressway Police Station 2 as well as families of the Company’s staff to meet, enjoy games, and watch an inspiring movie titled “A Wrinkle in Time”, the classic fantasy adventure movie, at Esplanade Cineplex.

“Lawo Kingdom Tour with BEM”

The Company brought the management and staff of toll collection division of EXAT and toll revenue division, toll collection division of the Company, to tour the city of history in the early Ayutthaya period by visiting Somdet Phra Narai National Museum, The Twelve Royal Store Buildings, to strengthen relationships among agencies.

“Donation of Cars and Motorcycles to EXAT and the Expressway Police Station 2”

The Company granted cars and motorcycles to EXAT and the Expressway Police Station 2 for use on the Si Rat Expressway, including the Si Rat - Outer Ring Road Expressway to ensure smooth operations of the relevant authorities and take care of the expressway users and provide the rapid and efficient services for the expressway users.

6) Promotion of Youth Learning

Education represents a key foundation for youths’ sustainable development of knowledge, abilities, thoughts, and values in order to become decent and quality citizens of society. The Company continues to encourage and support youth education every year through various activities as follows:

“Scholarships to Adjacent Schools”

The Company organized the BEM Grants Scholarships to Underprivileged Students with Good Academic Records and Funds for Development of 9 Schools adjacent to the Si Rat Expressway, the Udon Rattaya Expressway and the Si Rat - Outer Ring Road Expressway activity, to raise morale of the youth in studying hard and grow up as a quality adult in the country’s development in the future.

“Scholarships to Children of EXAT’s Staff”

The Company, in association with EXAT and the EXAT Club, granted scholarships to children of EXAT’s staff who are working on the Si Rat Expressway and the Udon Rattaya Expressway. The executives from both authorities jointly granted such scholarships.

“Scholarships for Children of the Expressway Police Station 2’s Police Officers”

The Company granted scholarships to children of the Expressway Police Station 2’s police officers, who collaborated with the Company in ensuring convenience and safety of the expressway users.

7) Support for Outdoor Learning Experience

Outdoor experience is an opportunity for children to fully gain experiences, which will help them to understand various things clearly and comprehensively, and be able to apply the gained knowledge to their life in the future. The Company thus organized outdoor learning experience activities as follows:

“Hero in my mind”

The Company organized the Hero in my mind activity on the occasion of the National Children’s Day to broaden experience of children to use their imagination to create books and pencils, and to have a great enjoyment with super heroes as well as meeting the real “rescue heroes” who kept taking care of them and shared their experience, knowledge, along with seeing the expressway operating cars closely, in which a lot of staff’s children, students from nearby schools and neighboring residents participated.

“Happy Children’s Day with MRT Activity”

The Company organized the National Children’s Day activity for 2018 by presenting gifts to children to bring them happiness at both MRT lines, i.e., the M.R.T. Chaloen Ratchamongkhon Line (MRT Blue Line), at Hua Lamphong Station, and the M.R.T. Chaleng Ratchadham Line (MRT Purple Line), at Nonthaburi Civic Center Station, in order to enhance their outdoor learning. Such activity was very enjoyable and attractive to both children and their parents.

“Let’s Learn The Golden Jubilee Museum of Agriculture”

The Company brought a group of teachers and students, totaling 50 persons, from Wimmattayaram School, adjacent to the Si Rat - Outer Ring Road Expressway to visit the Golden Jubilee Museum of Agriculture to widen their experience in agriculture by cultivating paddy straw mushrooms in baskets, seeing a 3-dimension movie titled Phai Ruak Kap Tantawan Phu Yaso (The Ruak Bamboo and the Arrogant Sunflower), as well as touring the Forest Museum and experiencing agricultural livelihood to support children’s outdoor learning.

“Let’s See the Inspiring Movie with BEM”

The Company brought a group of teachers and students, totaling 190 persons, from Wat Pracha Satthatham School and Watuthatharam School, adjacent to the expressways, to see a movie titled 2,215 Believe Crazy Dare to Walk, the inspiring documentary film from behind the scenes of the historic charitable marathon under the Kao Kon La Kao project by Toon Bodyslam, with the marathon distance from Amphoe Betong to Amphoe Mae Sai, at Esplanade Cineplex.

“MRT Happy Blue Line Spread the Happiness Everyday”

The Company held the MRT painting competition titled “MRT Happy Blue Line Spread the Happiness Everyday” in which the primary students of the primary school nearby the MRT system participated the art skills activity and also learned the MRT safety system. On this occasion, General Prayut Chan-o-cha, the Prime Minister, accompanied by the Council of Ministers, as welcomed by the Governor of the Mass Rapid Transit Authority of Thailand (MRTA) and the Chairman of the Executive Board of Bangkok Expressway and Metro Public Company Limited, attended the competition and gave the reward to the winner. His group also made a visit to the M.R.T. Chaloen Ratchamongkhon Line and the Seats or the Thrones taken by His Majesty the late King Bhumibol Adulyadej and Her Majesty Queen Sirikit when they graciously presided over the official opening ceremony of the M.R.T. Chaloen Ratchamongkhon Line Project (Hua Lamphong - Bang Sue) on July 3, 2004, as well as ending up with the Give Book Get Back with MRT activity and visiting the foundation stone for the M.R.T. Chaloen Ratchamongkhon Line within MRT Hua Lamphong Station.

“Share 2 Child Activity”

The Company organized the “Share2Child activity” to widen youth’s experience in outdoor learning by inviting a group of teachers and students from Wat Paknam School (Phibunsongkhram) in Nonthaburi Province, to go on a school trip to Wat Phra Chetuphon Vimolmangklaram Rajwaramahaviharn by paying homage to the Reclining Buddha as well as travelling to learn the history at the Museum Siam, together with participation in the lecture and learning about the safety in use of the MRT system, and appreciating the Happy Blue Line exhibition, as well as making a trial running from the M.R.T. Chaloem Ratchamongkhon Line (MRT Blue Line) connecting to the M.R.T. Chalong Ratchadham Line (MRT Purple Line). This school trip activity significantly created an impression and increased knowledge of the children.

“Give Books Get Back with MRT”

The Company invited the MRT passengers to jointly donate books for children and youth, both new and second-hand books, to be gathered up and contributed to educational institutions under the Dream Learning Center for Kids by MRT program, under which the passengers jointly donated a lot of books at Lat Phrao Station and Queen Sirikit National Convention Center where received the donation. For sharing the books, the Company further delivered them to other projects, such as Mobile Library for Market People Project as initiated by Her Royal Highness Princess Maha Chakri Sirindhorn, Books For Children Foundation, Baannokkamin Foundation, the northern and southern border schools, Chiangrai Central Prison, community libraries in Nonthaburi Province. More than 22,500 books were selected and contributed to various agencies.

“Making Dream Come True with Learning Center for Kids by BEM”

The Company jointly presented learning and teaching equipment and the books donated by the MRT passengers under the Give Books Get Back with MRT program to three institutions, i.e., 1. Nursery Child Center, Suan Phak Community, Bangkok; 2. Child Development Center, Soi Suanruen Community, Wongsawang, Bang Sue, Bangkok; 3. Preschool Center in Wat Wimut Yaram, Bang Phlat District, Bangkok, to develop the education quality of kids and youth, nearby the MRT routes and the Si Rat - Outer Ring Road Expressway. The Company also continued to hold educational center development activities and recreational activities for kids and youth.

8) Activities for Development of Quality of Life on Public Health

“M Care Activity”

The Company, in association with hospitals and its partners, organized exhibition booths to provide information on health, safety, and free health checkups for MRT passengers and residents surrounding the MRT routes and nearby communities at Phahon Yothin Station and Lat Phrao Station comprising;

Health checkup service by conventional medicine namely, monitoring blood pressure, blood glucose test, pulmonary function test, exercise stress test, screening for hepatitis B / C, oral and dental checkup, initial visual test including demonstrating properly exercise, MOVE Hobbit exercise, basic life support and choking first aid, AED using, first aid plus providing knowledge and suggestion about breast cancer.

Health checkup service by alternative medicine, integrative medicine, and traditional Chinese medicine namely, providing initial health checkup together with health care suggestion plus providing service of basic body massage and body massage therapy under the physiological basis.

9) Support for Other Social Activities

“Lankilaphat 2”

The Company played a part in humbly fulfilling the royal wishes of His Majesty the late King Bhumibol Adulyadej and Her Majesty Queen Sirikit to improve the quality of life of the people which not only contributed to healthy body, but also healthy mind, by endowing a fund and joining the board of committee and the subcommittee of the Lankilaphat Project. There were pilot projects, i.e., Lankilaphat 1, located in Khlong Chan Housing Community, Bang Kapi District; and Lankilaphat 2, located under the expressway (Ururong section), Ratchathewi District.

“Joint Development of Sport Field with BEM”

The Company organized an activity for improving the quality of social life and enhancing sport skills of kids and youth residing nearby the MRT routes and the Si Rat - Outer Ring Road Expressway, titled “Joint Development of Sport Fields with BEM”. The Company, in association with Soi Suk San 1 Community, Bang Sue District, Bangkok, improved and developed the sport field in the community as well as providing it with sport equipment and also held a friendly futsal match between the Company’s staff and youth in Suk San 1 Community. This sport field would be available as public space for allowing youth in the community and youth nearby to play sports and exercise to improve mental and physical health of the people as a whole.

“Happy Smile Happy the Elderly”

The Company, in collaboration with Duang Prateep Foundation, organized the activity “Happy Smile Happy the Elderly” by bathing rite for Buddha images and pouring water on the hands of the revered elderly and asking for blessing, as well as delivering a lecture on safety of use the MRT system for the elderly, as well as sponsoring the luncheon, and ending with the recreational activities to bring the elderly happiness, for promoting the family institution. There were executives and staff actively participating in this activity.

“Thot Pha-pa Samakki Ceremony for 2018”

Bangkok Expressway and Metro Public Company Limited and CH. Karnchang Public Company Limited jointly hosted Thot Pha-pa Samakki Ceremony for 2018 at Wat Kalayanamitr Varamahavihara, , Bangkok, and at Wat Hongratanaram Rajawaravihara, , Bangkok Yai District, Bangkok, to participate in donation for development of educational quality and as a scholarship to Phrapariyattidhamma School, and also, to renovate the temples, preserve and nurture the Buddhism.

“Thot Kathin Samakki Ceremony for 2018”

The Company, in association with communities surrounding the expressway project route, the MRT route and the MRT passengers, together with a group of management and staff, hosted Thot Kathin Samakki Ceremony for 2018 at Wat Paknam, Nonthaburi, to participate in donation for renovation of the hall of the Buddhist temple, as well as maintaining and following the Buddhism.

10.3 Anti-Corruption Policy

10.3.1 The Company's Anti-Corruption Policy

The Company realizes and gives priority to anti-corruption and fraud prevention, both inside and outside its organization. The Company thus formulates guidelines for the proper conduct of directors, management and staff via the code of business ethics of the Company. Furthermore, with the potential damage from corruption in mind, the Company then formulates anti-corruption policy containing the key practical guidelines as follows:

1. The Company's staff at all levels should carry out activities with fairness, integrity, and transparency in business dealings with various agencies, provided that such activities must be lawful, and they have the duty to comply with the anti-corruption policy in the code of business ethics of the Company.
2. The Company promotes fair treatment with integrity towards its traders and compliance with any contractual commitments made with the Company's stakeholders.
3. Executives' and staff's awareness must be promoted to ensure that they refrain from committing any fraud and realize the consequences of corruption.
4. Directors, executives, and staff must refrain from accepting or offering any reception, gifts, and any other payments which are extravagant and unusual to those in business dealings with the Company.
5. The Company arranges for staff training to educate them regarding the anti-corruption policy, practices, and guidelines.

The Company which operates the expressway business and the metro business did formulate and implement their respective anti-corruption policies, which can be summarized as follows:

10.3.2 Anti – Corruption Guidelines

The Company sets out measures, based on both disciplinary and legal actions, against corruption. The fact-finding must be conducted by a committee comprising representatives from the human resources department, from the department of the offender and from other units. The Managing Director is authorized to consider imposing disciplinary actions in case of written warning and termination of employment. Should the misconduct constitute embezzlement, legal action will be undertaken to protect the Company's interests. Guidelines under this policy are as follows:

1. No business dealings may be entered into with any organization or unit which is involved in corruption.
2. Disciplinary and legal actions will be imposed and instituted against such staff who are involved in corruption.

Additional Anti-Corruption Practices

The Company intends to operate its business with transparency without involvement with any corruption, in accordance with the corporate governance policy. All directors, executives and staff must perform their duties with integrity, due care, prudence and in the best interests of the Company and fairness to stakeholders, as well as free from corruption, both internal and external.

1. The Company and its subsidiaries set out policy and measures for anti-corruption and prevention of payments or acceptance of bribery, including any actions contrary to morality and customary practices, which are written in the corporate governance policy, the Company's code of business ethics, and the work rules and regulations, for compliance by all directors, executives and staff.

2. The Company is aware of business risks from both internal and external factors which may affect its operations. The Company therefore sets out a systematic risk management, monitoring and measures to continuously minimize risks. The Corporate Governance and Risk Management Committee was thus appointed to consider the policy level while the Management has the duty to supervise the overall risk management process and perform the day-to-day operation on behalf of the Corporate Governance and Risk Management Committee. Such duties include monitoring, evaluation and preparation of a risk management report at the department level for submission to the Board of Directors for information. Moreover, the risk management manual and plan are prepared as operational guidelines, including risk monitoring, evaluation and review in line with the internal and external circumstances. All work units must also prepare emergency plans for any emergency situation so as to be ready to resolve problems forthwith.
3. In order to comply with the written anti-corruption policy, the Company also builds up recognition of anti-corruption practices in the organization by way of training, using both physical and psychological approaches, to develop a positive attitude because the Company believes that decency emanates from inside out. In preparation for the application for certification of membership in Thailand's Private Sector Collective Action Coalition Against Corruption, the Company had various departments conduct a self-assessment to identify potential improvements in compliance with the anti-corruption measures in Thailand's Private Sector Collective Action Coalition Against Corruption. Moreover, the Company assigned two representatives, who are responsible for the corporate governance and the internal audit, to attend the Anti-Corruption: The Practical Guide (ACPG 15) course, organized by the Institute of Directors Association (IOD).
4. The Company surveys the compliance with the code of business ethics yearly for the management to review their conduct in accordance with the code of business ethics.
5. The Company treats misconduct relating to fraud and corruption as serious disciplinary misconduct, and any violation is subject to severe disciplinary action up to termination of employment without prior warning. The details of such misconduct are described as follows:
 - (1) Disclosure of the Company's confidential information to any third parties;
 - (2) Breach of duty and/or fraudulent acts towards the Company, including a conspiracy with others to do so;
 - (3) Abuse of position for personal interest or for the interest of others;
 - (4) Acceptance of undue consideration in relation to assigned tasks;
 - (5) Showing impolite manners or use of aggressive, threatening, insulting words or causing bodily injury to supervisors, including visitors.

11. Internal Control and Risk Management

11.1 Internal Control

The Board of Directors continues to realize the significance of its good and effective internal control system, including its good corporate governance guidelines. It believes that a good internal control system is founded on a good performance process, organization chart and work system, which could help the Company achieve goal or mission with efficiency and effectiveness, as well as minimize risk and prevent possible damage in the Company's business operations. The Board of Directors has thus authorized the Audit Committee comprising independent directors to audit the evaluation of the effectiveness of the internal control system. The Internal Audit Office, which independently performs its duty and directly reports to the Audit Committee, audits the work operation system in various departments of the Company as per the annual audit plan approved by the Audit Committee to ensure each department's efficient and effective performance of work and optimized use of its resources, as well as ensuring corruption control and prevention. This also includes the control of the work performance, the timely, accurate and reliable financial reports, as well as the compliance with the policies as well as laws and regulations of the government agencies and relevant authorities. Furthermore, the effectiveness of the internal control system is regularly reviewed to ensure the optimum benefit to the shareholders from the business operation based on fairness in terms of benefits to all stakeholders. In addition, the Audit Committee shall have the duties to consider, select and submit for the appointment of the auditor, including remuneration of the auditor, consider accurate and complete disclosure of the Company's connected transactions or any transactions which may give rise to any conflicts of interest.

11.2 Risk Management

The Board of Directors has realized the significance of using the risk management system in the administration by assigning the Corporate Governance and Risk Management Committee to supervise and review the Company's overall risks, risk management strategy, and risk alert system. This is to ensure proper and timely response to various challenges, as well as to provide training for executives and staff about the risk management guidelines for their understanding and engagement in the firmwide risk management, covering both corporate level and operational level. The Company's management takes into account various risk factors currently sustained or threatened to be sustained in the future by the Company to analyze impact and possibility of such risks and to determine measures to prevent and deal with such risks to stay at an acceptable level in line with the Company's policy, and to report to the Corporate Governance and Risk Management Committee to consider the adequacy and appropriateness. The risk management plan shall be reviewed every year, and the effectiveness of the risk management system shall be evaluated every quarter, and at any time when the risk level has changed, whereby the results are regularly monitored on a quarterly basis by the secretary to the Corporate Governance and Risk Management Committee and reported to the management and the Corporate Governance and Risk Management Committee for acknowledgment and further report to the Board of Directors. The significant risk factors and management are described in Risk Factors on pages 82 to 87.

- 11.3 The Board of Directors has evaluated the adequacy of the internal control system based on the Internal Control Adequacy Evaluation Form, taking into consideration various components, i.e., corporate internal control, risk assessment, control measures, information and communication system, and follow-up system. It was concluded that the Company's internal control system was considered adequate and appropriate to the business operation without material defect in the internal control system, and it could control and prevent corruption and improper or unauthorized use by executives or employees of the property of the Company and the subsidiaries. The financial report of the Company was accurate and reliable in accordance with the generally accepted accounting standards and the financial reporting standards. The Company's business operation was in accordance with the law on securities and exchange and other applicable laws.

The Board of Directors, the Audit Committee and the auditor were of the opinion that the Company's business operation was transparent and in accordance with the good corporate governance principles, its internal control system was suitable, effective and capable of preventing improper or unauthorized use by executives or employees of the property of the Company.

The Head of the Internal Audit Unit is Miss Vasana Wattananukulchai, General Manager of the Internal Audit Ofce. The Audit Committee is of the view that she has knowledge, abilities and work experience and is qualified to efficiently and adequately perform duties as the Head of the Internal Audit Unit. The appointment, removal, and transfer of a person holding an office as Head of the Internal Audit Unit shall be subject to the Audit Committee's approval. (The details are described on page 207.)

The Head of the Compliance Unit is Mr. Phakpoom Thaweewittayarat, Deputy Managing Director - Administration and Company Secretary, having knowledge on laws and accounting, abilities and work experience in the position of Company Secretary for a long time, who shall be responsible for compliance matters. (The details are described on page 208.)

12. Connected Transactions

12.1 Criteria and Procedures for Approval of Execution of Connected Transactions

Transactions with persons who may have a conflict of interests are subject to the conditions and criteria in the ordinary course of business. The execution of connected transactions and transactions with a conflict of interests are in accordance with the regulations of the Stock Exchange of Thailand and the Office of the Securities and Exchange Commission.

In the consideration and approval of any connected transaction, the Company shall propose such matter to the Board of Directors' Meeting, in which the directors having any involvement which may give rise to a conflict of interests shall not be entitled to attend and vote on such matter. Furthermore, the Audit Committee, as assigned by the Board of Directors, shall consider the disclosure of the Company's information in respect of the connected transaction or the transaction which may have a conflict of interests, to ensure accuracy and completeness.

In respect of connected transactions with general commercial terms which the Company and its subsidiaries have or may have in the future, the Company already requested approval in principle from the Board of Directors' Meeting.

12.2 Policy or Trend of Future Connected Transactions

The Company shall comply with the requirements and regulations of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, as well as the rules on disclosure of information on connected transactions and acquisition and disposition of material assets of the Company and its subsidiaries, including the accounting standards as prescribed by the Federation of Accounting Professions. In case there is any transaction which may have a conflict of interests in the future, for example, hire of a group of persons who may have a conflict of interests for construction, project management, maintenance, the Board of Directors, together with the Audit Committee, will consider the necessity and justification for execution of such transaction, as well as pricing and conditions on the execution of such transaction whether they are in the ordinary course of business, and in comparison with third party prices or market price, provided that the interested parties shall not take part in the consideration and approval for execution of the transaction. The Company has no policy for lending loans or providing guarantee to any person who may have a conflict of interests in accordance with the definition of the SEC Office.

In case that the Audit Committee has no expertise to consider any potential connected transaction, the Company will arrange for an independent expert or the Company's auditor to provide an opinion on such connected transaction in support of the decision-making by the Board of Directors and/or the Audit Committee or shareholders, as the case may be. In this regard, the Company discloses its connected transactions in the Company's notes to the financial statements as audited or reviewed by the Company's auditor.

12.3 Connected Transactions of the Company and the Subsidiaries with Persons who May Have a Conflict of Interests for 2018 and 2017

1. Transactions of the Company and its Subsidiary with CH. Karnchang Public Company Limited (“CK”)

CK engages in the construction business and a full range of development, investment, and management of large-scale infrastructure concession projects within the country and the region. CK is also the Company’s related company since CK is the Company’s major shareholder, holding shares in the Company representing 30.83¹ percent of the Company’s registered and paid-up capital. CK and the Company also have common directors and executives namely, (1) Mr. Plew Trivisvavet (2) Mr. Phongsarit Tantisuvanitchkul (3) Mrs. Payao Marittanaporn who is the spouse of Mr. Prasert Marittanaporn.

Transaction	Transaction Volume (Million Baht)		Transaction Nature/Necessity and Justification
	Accounting Period Ended December 31, 2018	Accounting Period Ended December 31, 2017	
Design and Construction of the Connection between the Si Rat - Outer Ring Road Expressway and the northern part of the Si Rat Expressway (Heading to Chaeng Watthana) - Construction cost - Trade payable	217.25 2.71	57.75 34.43	The Company engaged CK for design and construction of the connection between the Si Rat - Outer Ring Road Expressway and the northern part of the Si Rat Expressway (heading to Chaeng Watthana), with the total value of Baht 275 Million, for a construction period not exceeding 18 months. The work price was already considered by the independent certified engineer and deemed reasonable.
Inspection and Repair of the Structures of the Si Rat Expressway - Costs of inspection and repair of the structure of the Si Rat Expressway - Trade payable	28.91 1.83	30.17 0.90	The Company engaged CK for inspection and repair of the structures of the Si Rat Expressway as follows: 1) No. 3, Phase 5: The Company executed an engagement contract on September 26, 2016, in the amount of Baht 32,341,180, with a term of 10 months from the date of the contract signing. 2) No. 4, Phase1: The Company executed an engagement contract on September 1, 2017, in the amount of Baht 24,884,140, with a term of 12 months from the date of the contract signing. The Company also executed the Variation Order for additional works in the amount of Baht 985,706. 3) No. 4, Phase 2: The Company executed an engagement contract on August 17, 2018, in the amount of Baht 31,920,642, with a term of 12 months from the date of the contract signing. The work prices were reasonable and lower than the prices as assessed by the Company and the independent certified engineer.

¹ Information as at the latest closing date of the share register for suspension of the share transfer of the Company on September 5, 2018

Transaction	Transaction Volume (Million Baht)		Transaction Nature/Necessity and Justification
	Accounting Period Ended December 31, 2018	Accounting Period Ended December 31, 2017	
Interest Income from Ordinary Share Subscriptions Receivable Bangkok Metro Public Company Limited - Interest income	-	12.91	<p>On July 2, 2015, the Company sold its 2,050,134,895 shares in Bangkok Metro Public Company Limited to CK, at the price of Baht 1.79 per share. The Company received the share payment on the transaction date in the amount of Baht 2,000 Million. The remaining payment was gradually made until made in full by August 2017. The interest income for such share payment in 2017 amounted to Baht 12.91 Million. The selling price of shares was reasonable and comparative to the market price. Such price was concluded after negotiation and agreement based on the weighted average price of shares in Bangkok Metro Public Company Limited for the past 60 days, less discount of approximately 5 percent due to big lot trading. The conditions on payment were set to enable the Company to sell all such shares on a single occasion at the agreed price.</p>
Civil Infrastructure and Electrical and Mechanical Systems Maintenance for the M.R.T. Chaloe Ratchamongkhon Line Project (MRT Blue Line) - Cost of maintenance of civil infrastructure and electrical and mechanical systems - Replacement of M&E Systems - Trade payable	144.45 70.47 118.62	90.95 - 22.74	<p>On November 17, 2015, the Company executed the Project Management Agreement engaging CK for Civil Infrastructure and Electrical and Mechanical Systems Maintenance for the M.R.T. Chaloe Ratchamongkhon Line Project (MRT Blue Line) for a period of 8 years, with the total contract value of Baht 1,270 Million.</p> <p>Subsequently, on August 29, 2018, the Company executed the Amendment Agreement with CK for Civil Infrastructure and Electrical and Mechanical Systems Maintenance for the MRT Blue Line Extension Project, for a period of 8 years and 6 months, together with the extension of the contract term of the M.R.T. Chaloe Ratchamongkhon Line Project for another 3 years and 5 months to end at the same time as the Agreement for the MRT Blue Line Extension Project, as well as adjustment and replacement of the expired M&E Systems of the M.R.T. Chaloe Ratchamongkhon Line Project, with the total contract value of Baht 2,778 Million, which was considered an integral part of the aforesaid Project Management Agreement.</p> <p>Such work value was reasonable and lower than that as appraised by the independent certified engineer.</p>

Transaction	Transaction Volume (Million Baht)		Transaction Nature/Necessity and Justification
	Accounting Period Ended December 31, 2018	Accounting Period Ended December 31, 2017	
<p>Civil Infrastructure and Electrical and Mechanical Systems Maintenance, including Maintenance of Elevators and Escalators inside the Metro Stations, Elevated Structures and Depot, as well as Supply of Equipment, Tools, Spare Parts and Personnel for Maintenance Services for the MRT Purple Line Project</p> <ul style="list-style-type: none"> - Cost of maintenance of civil infrastructure and electrical and mechanical systems - Improvement of civil infrastructure in stations and depot, as well as the supply of related spare parts and equipment - Trade payable 	<p>209.97</p> <p>-</p> <p>80.60</p>	<p>211.70</p> <p>65.00</p> <p>61.17</p>	<p>On November 17, 2015, the Company executed the Project Management Agreement with CK for Civil Infrastructure and Electrical and Mechanical Systems Maintenance, including maintenance of elevators and escalators inside the metro stations, elevated structures and depot, as well as supply of equipment, tools, spare parts and personnel for maintenance services for the MRT Purple Line, for a period of 8 years from November 17, 2015 to November 16, 2023, with the contract value of Baht 1,520 Million.</p> <p>Subsequently, on December 14, 2016, the Company additionally executed the Project Management Agreement with CK for Civil Infrastructure and Electrical and Mechanical Systems Maintenance for the MRT Purple Line, with the contract value of Baht 155 Million, for a period of 7 years from January 1, 2017 to December 31, 2023.</p> <p>Such work value was reasonable and lower than that as appraised by the independent certified engineer.</p>
<p>Project Management, as well as Supply, Installation, and Test Run and Commissioning of M&E Equipment for the MRT Blue Line Project</p> <ul style="list-style-type: none"> - Project management cost - Trade payable 	<p>8,116.55</p> <p>521.21</p>	<p>8,789.07</p> <p>1,170.14</p>	<p>On June 20, 2017, the Company executed Project Management Agreement with CK for Project Management, as well as Supply, Installation, and Test Run and Commissioning of M&E Equipment for the MRT Blue Line Project, in the total amount of Baht 19,643 Million.</p> <p>Subsequently, on February 9, 2018, the Company executed the Variation Order engaging CK for management of construction and improvement of the administrative building in the area of Huai Khwang Depot, as well as supply and installation of the (additional) M&E Equipment for the MRT Blue Line Project, for a total value of Baht 558 Million, whereby it shall be deemed as an integral part of the aforesaid Project Management Agreement.</p> <p>Later, on July 12, 2018, the Company executed the Variation Order for expediting the opening of the train operation ahead of schedule and installation of the telecommunication network system inside metro stations of the MRT Blue Line Extension Project, in the total amount of Baht 898 Million, and the scope of works under the existing Agreement remained unchanged.</p> <p>The work value was reasonable and lower than that as appraised by the independent certified engineer.</p>

Transaction	Transaction Volume (Million Baht)		Transaction Nature/Necessity and Justification
	Accounting Period Ended December 31, 2018	Accounting Period Ended December 31, 2017	
Office Space Lease in Viriyathavorn 2 Building			
- Office space rental and service charge	7.88	7.89	The subsidiary: Bangkok Metro Networks Limited ("BMN") entered into the office space lease agreement in Viriyathavorn 2 Building with CK, for the term of 3 years, ending on July 9, 2019. The office rental rate was comparable to the rental rates charged by the lessor to third party lessees.
- Trade payable	0.08	0.07	

2. Transactions of the Company and its Subsidiary with Mass Rapid Transit Authority of Thailand ("MRTA")

MRTA engages in mass rapid transit business and other business for the benefit of Mass Rapid Transit Authority of Thailand and the people in using the mass rapid transit service. MRTA is connected with the Company since MRTA holds shares in the Company representing 8.22² percent of the Company's registered and paid-up capital. In this regard, MRTA and the Company have a common director, namely, Mr. Yuttana Yimgarund, and MRTA's executive, namely, Mrs. Natamon Bunnak, is a director of the Company.

Transaction	Transaction Volume (Million Baht)		Transaction Nature/Necessity and Justification
	Accounting Period Ended December 31, 2018	Accounting Period Ended December 31, 2017	
Remuneration from Farebox Revenue and Commercial Development Revenue			
- Remuneration from farebox revenue and commercial development revenue	355.66	384.81	The transaction was in accordance with the conditions of the Concession Agreement with which the Company is required to comply.
- Prepaid project remuneration	3,495.20	2,487.43	
- Building and land taxes	1.59	3.56	
- Trade and other payables	125.15	111.93	
Space Lease for Advertising Board Installation			
- Remuneration for use of space	0.99	0.12	BMN took on space lease for advertising board installation, as follows: 1) in the vicinity of Park & Ride Building at the MRT Lat Phrao Station. 2) in the vicinity of the connection to Central Plaza Grand Rama 9 at Phra Ram 9 Station. 3) in the vicinity of the connection building to the feeder system at Sukhumvit Station. The rental rate was reasonable.
- Building and land taxes	10.23	6.78	

² Information as at the latest closing date of the share register for suspension of the share transfer of the Company on September 5, 2018

3. Transaction of the Company with CK Power Public Company Limited (“CKP”)

CKP operates its core business as a holding company by holding shares in other companies engaging in the business of production and sale of electricity generated from various kinds of energy and provision of consulting service and other services related to electricity production projects. CKP is connected with the Company since the Company holds shares in CKP as at December 31, 2018 representing 17.83 percent of its registered and paid-up capital. CK is a major shareholder of the Company and CKP, namely, as at September 5, 2018, CK holds shares in the Company representing 30.83 percent of its registered and paid-up capital, and as at April 20, 2018, CK holds shares in CKP representing 27.41 percent of its registered and paid-up capital. In this regard, CKP and the Company have a common director, namely, Mr. Plew Trivisvavet, and CKP’s director, namely, Mr. Prasert Marittanaporn, is the spouse of Mrs. Payao Marittanaporn, the Managing Director of the Company and acting Managing Director of NECL.

Transaction	Transaction Volume (Million Baht)		Transaction Nature/Necessity and Justification
	Accounting Period Ended December 31, 2018	Accounting Period Ended December 31, 2017	
Capital Gains from Disposal of Shares in Xayaburi Power Company Limited	244.16	-	On June 28, 2018, the Company disposed of all of its shares in Xayaburi Power Company Limited to CKP, with the capital gains from such disposal of shares in the Consolidated Income Statements in the amount of Baht 244 Million. Such connected transaction was executed in accordance with the ordinary course of business and had the general trading conditions as approved in principle by the Audit Committee and the Board of Directors.

13. Financial Highlights

Summary of Auditor's Report

EY Office Limited, as the auditor for the Company and its subsidiaries, has audited the consolidated statement of financial position of Bangkok Expressway and Metro Public Company Limited and its subsidiaries, which comprise the consolidated statement of financial position as at 31 December 2018, and the related consolidated statement of income, comprehensive income, changes in shareholders' equity and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, and have also audited the separate financial statement of Bangkok Expressway and Metro Public Company Limited as at 31 December 2018. The auditor is of the opinion that the financial statements referred to above present fairly, in all material respects, the financial position of Bangkok Expressway and Metro Public Company Limited and its subsidiaries, and of Bangkok Expressway and Metro Public Company Limited, as at 31 December 2018, their operational results and cash flow for the year then ended in accordance with Thai Financial Reporting Standards.

(Unit : Baht)

Statement of financial position	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
Assets						
Current assets						
Cash and cash equivalents	526,200,490	0.51	2,627,062,725	2.66	777,001,145	0.94
Current investments	1,282,474,987	1.24	1,449,457,222	1.47	5,941,349,949	7.18
Bank deposit for unearned fare box revenue	150,016,110	0.14	-	-	-	-
Trade and other receivables	514,055,818	0.50	426,286,028	0.43	1,614,563,463	1.95
Receivable from sales of investment	-	-	-	-	756,834,379	0.91
Current portion of receivable under the concession agreement	1,649,683,274	1.59	1,649,683,274	1.67	-	-
Other current assets	94,158,489	0.08	127,581,197	0.12	129,541,368	0.16
Total current assets	4,216,589,168	4.06	6,280,070,446	6.35	9,219,290,304	11.14
Non-current assets						
Receivable under the concession agreement, net of current portion	10,860,414,888	10.46	12,510,098,163	12.65	-	-
Investments in associates	6,368,744,918	6.13	9,592,230,802	9.70	9,667,680,300	11.68
Other long-term investments	6,688,646,612	6.44	1,654,862,090	1.67	1,237,849,790	1.50
Investment properties	120,357,493	0.12	120,357,493	0.12	120,357,493	0.15
Building and equipment	323,936,668	0.31	361,168,428	0.37	340,732,838	0.41
Rights to operate expressway sectors	35,146,019,997	33.85	38,448,873,562	38.87	41,551,825,215	50.19
Rights to use sites for expressway construction	390,198,219	0.38	719,073,059	0.73	1,020,623,701	1.23
Intangible asset under concession agreement of the MRT Blue Line Project	35,427,555,680	34.12	25,954,096,373	26.24	17,048,090,154	20.59
Project cost of the MRT Chalong Ratchadham Line	654,691,451	0.63	666,742,626	0.67	627,255,954	0.76
Prepaid project remuneration	3,495,195,243	3.37	2,487,433,243	2.51	1,614,607,949	1.95
Other intangible assets	84,777,999	0.08	75,257,871	0.08	68,228,569	0.08
Deferred tax assets	6,312,191	0.01	4,997,667	0.01	201,887,940	0.24
Other non-current assets	47,468,811	0.04	44,103,679	0.03	67,132,878	0.08
Total non-current assets	99,614,320,170	95.94	92,639,295,056	93.65	73,566,272,781	88.86
Total assets	103,830,909,338	100.00	98,919,365,502	100.00	82,785,563,085	100.00

Statement of financial position (Continued)	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
Liabilities and shareholders' equity						
Current liabilities						
Short-term loans from financial institutions	2,814,594,224	2.71	3,629,184,736	3.67	4,715,775,247	5.70
Trade and other payables	1,683,472,969	1.62	2,107,884,865	2.13	898,075,149	1.08
Current portion of long-term loans from financial institutions	3,041,760,069	2.93	3,808,760,069	3.85	2,066,750,000	2.50
Current portion of debentures	5,000,000,000	4.82	-	-	-	-
Unearned fare box revenue	163,117,129	0.16	138,261,714	0.14	111,971,378	0.14
Deposits on stored value ticket	65,265,286	0.06	54,367,547	0.05	43,313,997	0.05
Income tax payable	69,746,084	0.07	62,132,371	0.06	31,444,025	0.04
Current portion of provision for compensation for site acquisition cost	1,546,891,698	1.49	1,600,000,000	1.62	1,500,000,000	1.81
Other current liabilities						
Retention guarantees	45,609,821	0.04	19,917,415	0.02	70,983,137	0.09
Value added tax payable	76,044,732	0.07	56,978,843	0.06	31,237,795	0.04
Withholding tax deducted at source payable	90,510,248	0.09	94,180,664	0.10	1,929,000	0.01
Others	9,826,997	0.01	11,156,420	0.01	86,277,548	0.09
Total current liabilities	14,606,839,257	14.07	11,582,824,644	11.71	9,557,757,276	11.55
Non-current liabilities						
Long-term loans from financial institutions, net of current portion	18,373,779,608	17.70	25,801,112,363	26.08	16,952,402,523	20.48
Debentures, net of current portion	33,169,822,210	31.95	28,170,623,095	28.48	23,167,912,861	27.99
Derivative financial liabilities	21,808,675	0.02	52,954,374	0.05	18,608,408	0.02
Provision for compensation for site acquisition cost, net of current portion	-	-	1,411,401,698	1.43	2,817,151,698	3.40
Provision for long-term employee benefits	686,898,092	0.65	483,787,045	0.49	471,043,876	0.57
Deferred tax liabilities	1,353,842,048	1.30	217,152,225	0.22	-	-
Other non-current liabilities	5,892,925	0.01	20,211,885	0.02	17,982,160	0.02
Total non-current liabilities	53,612,043,558	51.63	56,157,242,685	56.77	43,445,101,526	52.48
Total liabilities	68,218,882,815	65.70	67,740,067,329	68.48	53,002,858,802	64.03

Statement of financial position (Continued)	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
Shareholders' equity						
Share capital						
Registered						
15,285,000,000 ordinary shares of Baht 1 each	15,285,000,000	14.72	15,285,000,000	15.45	15,285,000,000	18.46
Issued and paid-up						
15,285,000,000 ordinary shares of Baht 1 each	15,285,000,000	14.72	15,285,000,000	15.45	15,285,000,000	18.46
Premium on ordinary shares	5,816,938,084	5.60	5,816,938,084	5.88	5,816,938,084	7.03
Capital deficit from change in shareholding in subsidiaries	(75,770,451)	-0.07	(32,148,702)	-0.03	(32,148,702)	-0.04
Retained earnings						
Appropriated - statutory reserve	1,232,890,000	1.19	1,077,490,000	1.09	928,690,000	1.12
Unappropriated	12,133,780,735	11.69	8,948,481,343	9.05	7,763,596,451	9.38
Other components of shareholders' equity	1,105,927,958	1.06	(27,575,760)	-0.03	(72,824,264)	-0.09
Equity attributable to shareholders of the Company	35,498,766,326	34.19	31,068,184,965	31.41	29,689,251,569	35.86
Non-controlling interests of the subsidiaries	113,260,197	0.11	111,113,208	0.11	93,452,714	0.11
Total shareholders' equity	35,612,026,523	34.30	31,179,298,173	31.52	29,782,704,283	35.97
Total liabilities and shareholders' equity	103,830,909,338	100.00	98,919,365,502	100.00	82,785,563,085	100.00

Income statement	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
Revenues						
Revenue from expressway business	10,173,901,910	53.30	9,956,687,741	64.68	9,300,724,132	70.28
Revenue from rail business	4,736,002,363	24.81	4,520,903,061	29.37	3,230,064,080	24.41
Revenue from commercial development business	704,536,036	3.69	675,836,158	4.39	573,349,010	4.33
Other income						
Gains on sale of investments	499,393,573	2.62	11,887,334	0.07	11,929,580	0.09
Gain on reclassification of investment	2,496,266,396	13.08	-	-	-	-
Interest income	450,618,868	2.36	175,173,105	1.14	68,199,690	0.52
Others	26,601,445	0.14	52,743,740	0.35	49,128,131	0.37
Total revenues	19,087,320,591	100.00	15,393,231,139	100.00	13,233,394,623	100.00
Expenses						
Cost of expressway business	1,837,541,483	9.63	1,735,419,841	11.27	1,511,964,604	11.43
Cost of rail business	3,541,571,456	18.55	3,352,428,083	21.78	2,371,420,998	17.92
Cost of commercial development business	169,940,207	0.89	177,294,401	1.15	200,057,169	1.51
Amortisation on rights to operate completed expressway sectors and compensation for site acquisition cost	4,036,823,398	21.15	3,694,893,202	24.00	3,470,883,807	26.23
Amortisation on intangible asset under concession agreement of the MRT Blue Line Project	188,047,080	0.99	246,289,965	1.60	440,076,422	3.33
Selling expenses	111,421,323	0.58	95,313,153	0.62	92,585,157	0.70
Administrative expenses	1,252,317,805	6.56	1,049,120,611	6.82	892,214,665	6.73
Total expenses	11,137,662,752	58.35	10,350,759,256	67.24	8,979,202,822	67.85
Profit before share of profit from investments in associates, finance cost and income tax expenses	7,949,657,839	41.65	5,042,471,883	32.76	4,254,191,801	32.15
Share of profit from investments in associates	432,797,238	2.27	405,916,311	2.63	347,349,465	2.62
Profit before finance cost and income tax expenses	8,382,455,077	43.92	5,448,388,194	35.39	4,601,541,266	34.77
Finance cost	(1,857,460,775)	-9.74	(1,610,435,067)	-10.46	(1,425,748,566)	-10.77
Profit before income tax expenses	6,524,994,302	34.18	3,837,953,127	24.93	3,175,792,700	24.00
Income tax expenses	(1,189,146,759)	-6.23	(695,602,106)	-4.52	(562,927,698)	-4.26
Profit for the year	5,335,847,543	27.95	3,142,351,021	20.41	2,612,865,002	19.74
Profit attributable to:						
Equity holders of the Company	5,317,038,037	27.86	3,123,129,324	20.29	2,605,854,468	19.69
Non-controlling interests of the subsidiaries	18,809,506	0.09	19,221,697	0.12	7,010,534	0.05
	5,335,847,543	27.95	3,142,351,021	20.41	2,612,865,002	19.74
Basic earnings per share						
Profit attributable to equity holders of the Company	0.35		0.20		0.17	

Statement of comprehensive income	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
Profit for the year	5,335,847,543	27.95	3,142,351,021	20.41	2,612,865,002	19.74
Other comprehensive income						
<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods:</i>						
Unrealised gain (loss) from cash flow hedges, net of income tax	24,916,559	0.13	(27,476,773)	-0.18	(14,886,726)	-0.11
Unrealised gain on valuation of available-for-sale securities, net of income tax	1,112,425,756	5.83	-	-	-	-
Share of other comprehensive income of associate recognised due to reclassification of investment	(37,094,724)	-0.19	-	-	-	-
Share of other comprehensive income from associates	33,256,127	0.17	72,725,277	0.47	23,010,920	0.17
Other comprehensive income to be reclassified to profit or loss in subsequent periods, net of income tax	1,133,503,718	5.94	45,248,504	0.29	8,124,194	0.06
<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods:</i>						
Actuarial gain, net of income tax	10,711,355	0.06	45,830,261	0.30	(134,132,646)	-1.01
Share of other comprehensive income from associates	-	-	(2,635,896)	-0.01	13,580	0.00
Other comprehensive income not to be reclassified to profit or loss in subsequent periods, net of income tax	10,711,355	0.06	43,194,365	0.29	(134,119,066)	-1.01
Other comprehensive income for the year	1,144,215,073	6.00	88,442,869	0.58	(125,994,872)	-0.95
Total comprehensive income for the year	6,480,062,616	33.95	3,230,793,890	20.99	2,486,870,130	18.79
Total comprehensive income attributable to:						
Equity holders of the Company	6,461,253,110	33.85	3,213,133,396	20.87	2,479,859,596	18.74
Non-controlling interests of the subsidiaries	18,809,506	0.10	17,660,494	0.12	7,010,534	0.05
	6,480,062,616	33.95	3,230,793,890	20.99	2,486,870,130	18.79

Cash flow statement	2018	2017	2016
Cash flows from operating activities			
Profit before tax	6,524,994,302	3,837,953,127	3,175,792,700
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:			
Amortisation and depreciation	3,866,567,954	3,544,655,128	3,422,513,416
Allowance for doubtful debt	(272,590)	272,590	471,546
Gains on sale of investments	(499,393,573)	(11,887,334)	(11,929,580)
Unrealised gain on change in value of investments	(10,442,237)	(29,720,956)	(19,160,863)
Gain on reclassification of investment	(2,496,266,396)	-	-
Loss (gain) on disposals/write-off of equipment, intangible asset under concession agreement of the MRT Blue Line Project and other intangible assets	(1,639,242)	6,028,232	1,197,724
Project remuneration expense	355,662,416	384,806,190	503,539,074
Compensation for site acquisition cost	464,364,839	495,800,643	550,049,984
Provision for long-term employee benefits	220,232,028	76,747,586	63,285,807
Share of profit from investments in associates	(432,797,238)	(405,916,311)	(347,349,465)
Unrealised loss (gain) on exchange rate	102,702	(105,460)	509,200
Interest income	(450,618,868)	(175,173,105)	(67,646,250)
Interest expenses	1,662,162,353	1,572,881,432	1,173,937,460
Financial fees	98,665,000	-	-
Profit from operating activities before changes in operating assets and liabilities	9,301,321,450	9,296,341,762	8,445,210,753
Operating assets (increase) decrease			
Bank deposit for unearned fare box revenue	(150,016,110)	-	-
Trade and other receivables	(43,104,677)	155,095,799	(1,530,393,882)
Receivable under the concession agreement	1,649,683,275	412,420,819	-
Other current assets	85,434,222	101,986,629	118,245,333
Other non-current assets	(3,438,527)	13,393,495	(59,034,205)
Cash paid for project remuneration	(1,350,459,625)	(1,252,089,706)	(1,167,855,334)
Operating liabilities increase (decrease)			
Trade payables and other payables	21,244,663	8,049,920	27,111,561
Unearned fare box revenue	24,855,415	26,290,336	21,997,482
Deposits on stored value ticket	10,897,739	11,053,550	8,575,064
Other current liabilities	27,513,762	(8,194,092)	(14,279,907)
Other non-current liabilities	(14,318,960)	2,229,724	1,002,021
Cash paid for long-term employee benefits	(10,325,738)	(7,740,208)	(3,733,720)
Cash paid for compensation for site acquisition cost	(1,600,000,000)	(1,500,000,000)	(1,500,000,000)
Net cash flows from operating activities	7,949,286,889	7,258,838,028	4,346,845,166
Cash received from interest income	452,272,207	139,602,025	14,076,604
Cash paid for income tax	(334,491,602)	(248,930,830)	(515,595,620)
Net cash flows from operating activities	8,067,067,494	7,149,509,223	3,845,326,150

Cash flow statement (Continued)	2018	2017	2016
Cash flows from investing activities			
Cash received from sales of current investments	13,949,038,431	19,366,871,411	18,982,197,653
Cash paid for purchase of current investments	(13,767,671,038)	(14,833,370,394)	(24,401,743,246)X
Cash paid for purchase of investments in subsidiary	(60,284,267)	-	-
Cash received from sales of investments in associates	540,351,710	-	46,971,310
Cash received from sales of other long-term investment	2,075,443,606	-	-
Increase in other long-term investments	(107,436,375)	(417,012,300)	(324,762,300)
Cash received from sales of investment before amalgamation	-	769,741,462	600,000,000
Cash received from sales of equipment and intangible asset under concession agreement of the MRT Blue Line Project	3,215,729	7,706,184	8,074,075
Purchase of equipment	(23,042,080)	(89,131,306)	(233,477,194)
Advance payment for purchase of equipment	-	(77,040)	(83,400)
Cash received from interest income	4,676,477	21,484,010	12,907,263
Cash received from dividend income	493,938,904	551,455,191	498,953,704
Cash paid for project cost of the MRT Chalong Ratchadham Line	(390,955)	(65,000,000)	(362,076,317)
Cash paid for intangible asset under concession agreement of the MRT Blue Line Project	(9,963,513,656)	(7,906,570,615)	(412,493,534)
Cash paid for expressway construction	(284,809,045)	(130,085,647)	(5,732,648,468)
Interest expenses capitalised as cost of projects	(181,764,061)	(48,805,714)	(301,989,908)
Increase in other intangible assets	(30,649,444)	(25,644,761)	(43,075,180)
Net cash flows used in investing activities	(7,352,896,064)	(2,798,439,519)	(11,663,245,542)
Cash flows from financing activities			
Cash received from short-term loan from financial institution	10,000,000,000	-	10,400,000,000
Repayment of short-term loans from financial institutions	(10,816,000,000)	(1,088,000,000)	(28,090,000,000)
Cash received from long-term loans from financial institutions	5,300,000,000	500,000,000	12,344,000,000
Repayment of long-term loans from financial institutions	(13,475,010,069)	(3,536,448,559)	(10,759,185,781)
Cash received from issuance of debentures	10,000,000,000	5,000,000,000	23,500,000,000
Cash paid for redemption of debentures	-	-	(300,000,000)
Cash paid for financial fees	(181,553,849)	(8,219,329)	(67,423,644)
Interest paid	(1,655,419,747)	(1,534,140,236)	(1,081,644,863)
Dividend paid	(1,987,050,000)	(1,834,200,000)	(1,834,200,000)
Net cash flows from (used in) financing activities	(2,815,033,665)	(2,501,008,124)	4,111,545,712
Net increase (decrease) in cash and cash equivalents	(2,100,862,235)	1,850,061,580	(3,706,373,680)
Cash and cash equivalents at beginning of year	2,627,062,725	777,001,145	4,483,374,825
Cash and cash equivalents at end of year	526,200,490	2,627,062,725	777,001,145

Significant Financial Ratios

	Unit	2018	2017	2016
LIQUIDITY RATIO				
1. Liquidity Ratio	Time	0.20	0.46	0.96
2. Quick Ratio	Time	0.19	0.45	0.87
3. Cash Flow Ratio	Time	0.52	0.68	0.21
PROFITABILITY RATIO				
4. Gross Profit Margin	%	37.40	39.25	38.99
5. Cash to Profitability Ratio	%	65.77	75.11	49.53
6. Net Profit Margin	%	20.35	20.45	19.69
7. Return on Equity	%	9.90	10.31	8.87
EFFICIENCY RATIO				
8. Return on Total Assets	%	3.76	3.75	3.25
9. Return on Fixed Assets	%	10.57	10.81	10.40
10. Assets Turnover	Time	0.18	0.18	0.16
FINANCIAL POLICY RATIO				
11. Interest Bearing Debt to Equity Ratio	Time	1.34	1.37	1.30
12. Interest Coverage Ratio	Time	7.41	6.06	6.61
13. Net Debt to EBITDA	Time	6.00	5.72	5.96
Per Share DATA				
14. Book Value per Share	Baht	2.32	2.03	1.94
15. Net Earnings per Share	Baht	0.35	0.20	0.17
16. Dividend per Share	Baht	0.15	0.13	0.11

Note: The Company has not presented Accounts Receivable Turnover, Average Collection Period, Accounts Payable Turnover, Average Debt Servicing Period and Cash Cycle because these ratios are not appropriated for consideration of the Company's operation according to the amount of accounts receivable and accounts payable which are not significant for the Company's nature of operation.

Not include transaction related to the novation of the M&E systems under the concession agreement of the MRT Chalong Ratchadham Line Project which the MRTA is fully responsible for both loan repayment and interest expense in accordance to the concession agreement and gain on fair value adjustment of investment due to reclassification which was recorded in the third quarter of the year 2018.

Report on Responsibilities of the Board of Directors towards the Financial Report

The Company's Board of Directors realizes the significance of its duties and responsibilities in supervising the Company's business to ensure good management in accordance with laws, objectives and the Company's Articles of Association, as well as resolutions of the shareholders' meetings with integrity and prudence. The Board of Directors protects the benefits of the Company, shareholders and general investors by ensuring that the Company's financial report contains accurate and full accounting records that reflect the Company's actual financial status and operational results.

The Company's Board of Directors appointed the Audit Committee comprising independent directors fully qualified in accordance with the requirements of the Stock Exchange of Thailand to review and ensure accuracy and sufficiency of the financial report, including accurate and complete disclosure of connected transactions or transactions with possible conflict of interest, in compliance with the requirements of the Stock Exchange of Thailand and relevant rules and regulations. In this regard, the Audit Committee has already reported its performance to the Company's Board of Directors.

The Company's Board of Directors is of the opinion that the financial statements for 2018 of the Company and the Subsidiaries, which have been reviewed by the Audit Committee in conjunction with the management, and audited by the Company's auditor, reflect accurate financial status and operational results as appropriate in material aspects in accordance with generally accepted accounting principles.



(Dr. Virabongsa Ramangkura)

Chairman of the Board of Directors

27 February 2019



(Mrs. Payao Marittanaporn)

Managing Director

27 February 2019

14. Management Discussion and Analysis

Significant events

1. On March 30, 2018, Bangkok Expressway and Metro Public Company Limited (“the Company”) had refinanced long term loans for the Si Rat-Outer Ring Road Expressway Project (SOE) for total of Baht 10,000 Million with floating interest rate by issuing debentures with fixed interest rate from 2.05 to 3.01 percent per annum to reduce financial cost and risk management from floating interest rate. As a result, the Company has saved interest expense approximately by Baht 510 - 940 Million through the concession agreement period.
2. On June 28, 2018, the Company sold all 7.5 percent of investment in Xayaburi Power Company Limited (XPCL) to CK Power Public Company Limited (CKP) with total gains on sale of investment in the amount of Baht 184 Million, net of corporate income tax.
3. On July 16, 2018, the Company sold 111.2 million shares of CK Power Public Company Limited (CKP) to an unrelated company. As a result, the interest in the equity of CKP decreased from 19.34 percent to 17.83 percent. Following this sale, the Company reclassified the investment in CKP from investment in associated company to investment in available-for-sale securities, which consistent with the investment proportion and the purpose of the Company investment. The Company recorded gain on fair value adjustment of investment due to reclassification in the amount of Baht 2,030 Million, net of corporate income tax.
4. On September 21, 2018, the Supreme Administrative Court rendered the judgement of dispute regarding the competing road with the Udon Ratthaya Expressway which Northern Bangkok Expressway Company Limited (NECL), the subsidiary of the Company, requiring Expressway Authority of Thailand (EXAT) to compensate for the revenue which decreased from the estimation as a result of its impacts from the competing road.

On October 2, 2018, the Council of Ministers then passed the resolution requiring that such state agency shall conduct negotiations with its disputing parties to mitigate the damage of the state and to ensure the justice for the people, provided that such negotiations shall be conducted transparently and legitimately by mainly taking into account the benefits of the nation. In this regard, EXAT and the Company/the subsidiary have reached a mutual agreement to settle the disputes in the best interests of the state, people and in fairness to both contractual parties. *(Please see details in notes of financial statement for the year 2018)*

EXAT and the Company/the subsidiary have agreed to settle the disputes under the Second Stage Expressway Agreement, the Agreement for the Extension of the Second Stage Expressway System (Sector D), and the Bang Pa-in - Pak Kret Expressway Agreement which have the total value of approximately Baht 137,517 Million, by means of review and amendment of the three Concession Agreements to be extended to end in 2057, toll rates shall be revised at a fixed rate to increase every 10 years and the Company shall have the duty to invest in improvement of the Second Stage Expressway in the total amount of approximately Baht 31,500 Million to solve the traffic congestion problem after the report of the Environmental Impact Assessment (EIA) of EXAT has been approved. In this regard, EXAT would propose the negotiation results to the Council of Ministers for consideration and approval in accordance with the process required by the Private Investment in State Undertakings Act B.E.2556 (2013). Nevertheless, there would be a change in the aforementioned guidelines as proposed.

EXAT and the Company/the subsidiary will sign the Amendment Agreements of the existing Concession Agreements after obtaining the approval from the shareholders’ meeting and after obtaining the consent from the Council of Ministers.

5. On September 30, 2018, the Company has operated the Connection between the Si Rat-Outer Ring Road Expressway and the Northbound Si Rat Expressway (heading to Chaeng Watthana), approximately 360 meters, which is more convenient for the expressway users of the Si Rat - Outer Ring Road Expressway (Inbound) heading to Ngam Wong Wan, Chaeng Watthana and continuing to the Udon Ratthaya Expressway heading to Muang Thong and Bang Pa-in by turning left before Bang Sue Interchange near the Suburban Metro Maintenance Center which can reduce travel time from using local road and traffic congestion on Kamphaeng Phet 2 Road.

Overview Operational Results

In the year 2018, the Company had the net profit attributable to equity holders of the Company in the amount of Baht 5,317 Million representing an increase from the previous year by Baht 2,194 Million or 70.3 percent from gain on fair value adjustment of investment due to reclassification, net of tax, in the amount of Baht 2,030 Million which is the non-cash gain and gain from operation increased by Baht 164 Million from the increase in revenue and the decrease in financial cost.

The Company had revenue from Expressway business of Baht 10,174 Million, representing an increase by Baht 217 Million or 2.2 percent, revenue from Rail business of Baht 4,736 Million representing an increase by Baht 215 Million or 4.8 percent and revenue from Commercial Development business of Baht 705 Million representing an increase by Baht 30 Million or 4.4 percent. In addition, interest income amounted to Baht 435 Million was received from the MRTA under the concession agreement of the MRT Chalong Ratchadham Line Project (MRT Purple Line), which the Company had recorded since the fourth quarter of the year 2017 where the income is equal to the interest expense from the long term loan for investing in the MRT Purple Line. The MRTA is fully responsible for both loan repayment and interest expense in accordance to the concession agreement.

Cost of service amounted to Baht 9,775 Million representing an increase by Baht 569 Million or 6.2 percent mainly from the increase in repair and maintenance expense in accordance to the schedule together with the increase in amortization on rights to operate completed expressway sectors and amortization on intangible asset under concession agreement of the MRT Blue Line Project (non-cash expenses) which inline to the increase in traffic volume and ridership.

Selling and administrative expenses amounted to Baht 1,364 Million representing an increase by Baht 220 Million or 19.2 percent mainly from the pre-operating expense of the new project which cannot be recorded as cost of construction according to accounting standard and employee expense from legal severance pay rates for retirement according to the draft of a new Labour Protection Act.

Financial cost amounted to Baht 1,857 Million representing an increase by Baht 246 Million or 15.3 percent, mainly from interest expense amounting to Baht 435 Million from long term loan for investing in the MRT Purple Line which the MRTA is fully responsible according to the concession agreement (same amount of interest income as described above). However, if not included this transaction, financial cost decreased by Baht 189 Million from principle repayment and refinancing long term loan of SOE at the end of the first quarter of this year resulting to the decrease in financial cost.

Segmental performance

1. Expressway business

The Company had revenue from Expressway business of Baht 10,174 Million, representing an increase from the previous year by Baht 217 Million or 2.2 percent, mainly from the increase in toll revenue from SOE. In the year 2018, SOE average traffic volume was at 56,090 trips/day representing an increase by 12 percent when compared to the previous year in accordance to expressway users learning behavior, together with the opening of the Connection between the Si Rat-Outer Ring Road Expressway and the Northbound Si Rat Expressway (heading to Chaeng Watthana) on September 30, 2018. For the First Stage Expressway (FES) and the Second Stage Expressway (SES), toll revenue was slightly increased from the previous year. For the Bang Pa-in - Pak Kret Expressway (Sector C+), toll revenue increased by 5.3 percent due to the expansion of suburban area resulting to the traffic volume increased. Sector C+ average traffic volume in the year 2018 was at 91,076 trips/day representing an increase by 5.7 percent when compared to the previous year.

Cost of service for operation of Expressway business consisted of costs of toll, amortization of rights to operate completed expressway sectors and compensation for site acquisition cost. For the year 2018, the cost was at Baht 5,875 Million, representing an increase from the previous year by Baht 445 Million or 8.2 percent mainly from the amortization of rights to operate completed expressway sectors.

2. Rail business

The Company had revenue from Rail business of Baht 4,736 Million, representing an increase from the previous year by Baht 215 Million or 4.8 percent mainly from farebox revenue of the MRT Blue Line resulting from the connection between the MRT Purple Line Project and the MRT Blue Line Project in August 2017 which convenience and time efficiency for passengers as a result ridership of both projects increased. The average ridership of the MRT Blue Line Project in the year 2018 was at 311,538 trips/day representing an increase from the previous year by 5.5 percent and the average ridership per working days was at 360,735 trips/day representing an increase from the previous year by 5.5 percent.

Cost of Rail business consisted of costs of farebox, O&M cost and amortization of intangible asset under the MRT Blue Line Project. For the year 2018, the cost was at Baht 3,687 Million, representing an increase from the previous year by Baht 127 Million or 3.6 percent mainly from the repair and maintenance expense.

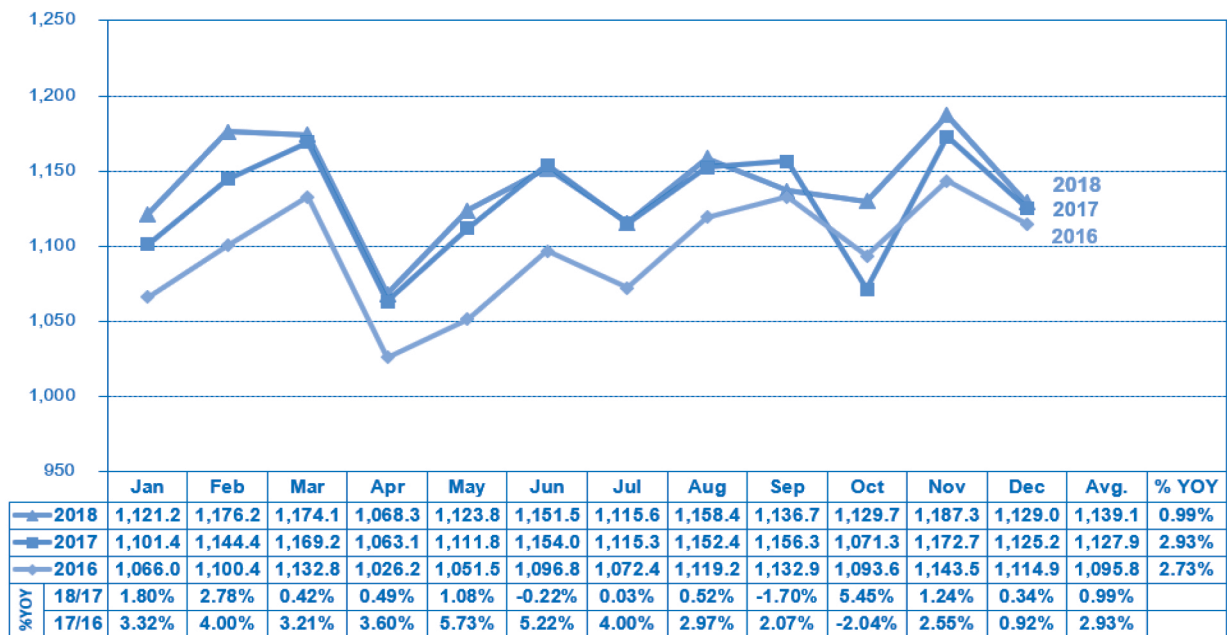
3. Commercial Development Business

In the year 2018, total commercial development revenue was Baht 705 Million, representing an increase from the previous year by Baht 30 Million or 4.4 percent from the increase in retail and advertising revenue.

Cost of Commercial Development business for the year 2018 was at Baht 213 Million, representing a decrease from the previous year by Baht 3 Million or 1.4 percent.

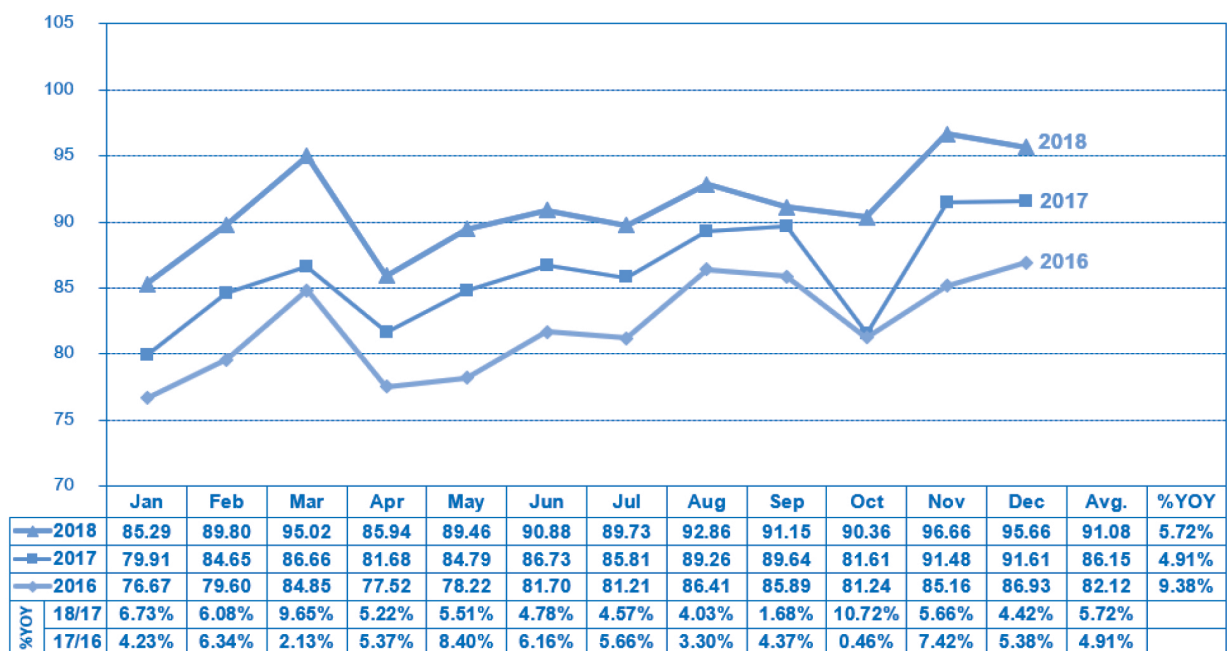
Average Daily Traffic Volume for the First Stage Expressway, the Second Stage Expressway and the Si Rat-Outer Ring Road Expressway

(Thousand Trips / Day)



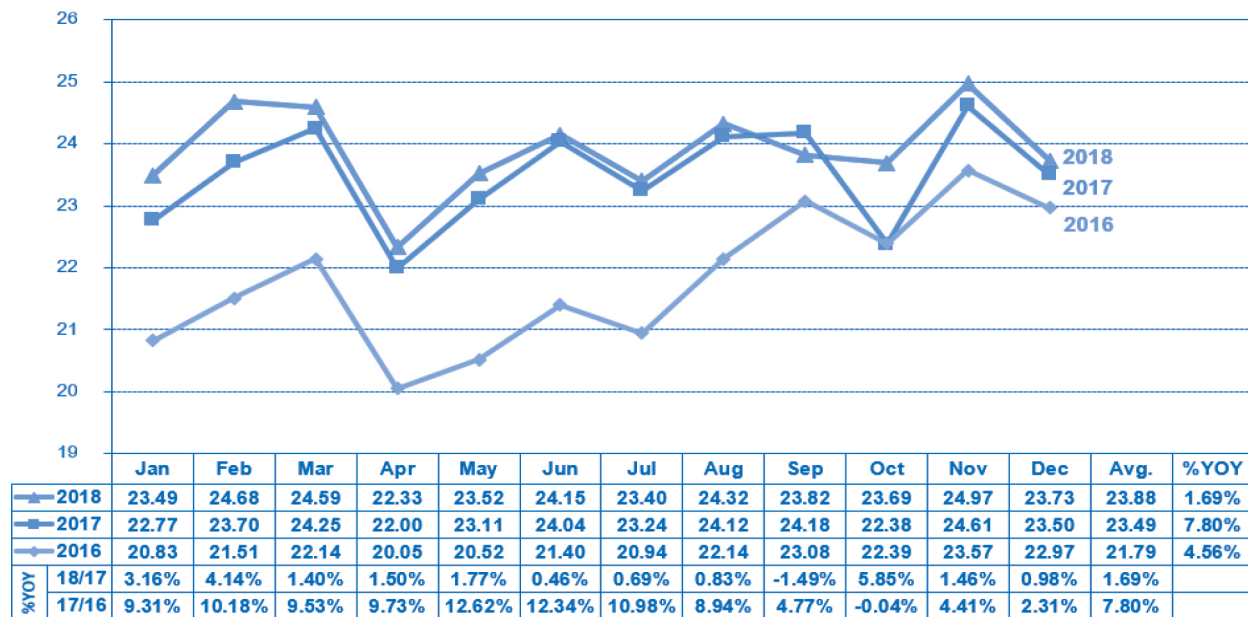
Average Daily Traffic Volume for the Bang Pa-in - Pak Kret Expressway

(Thousand Trips / Day)



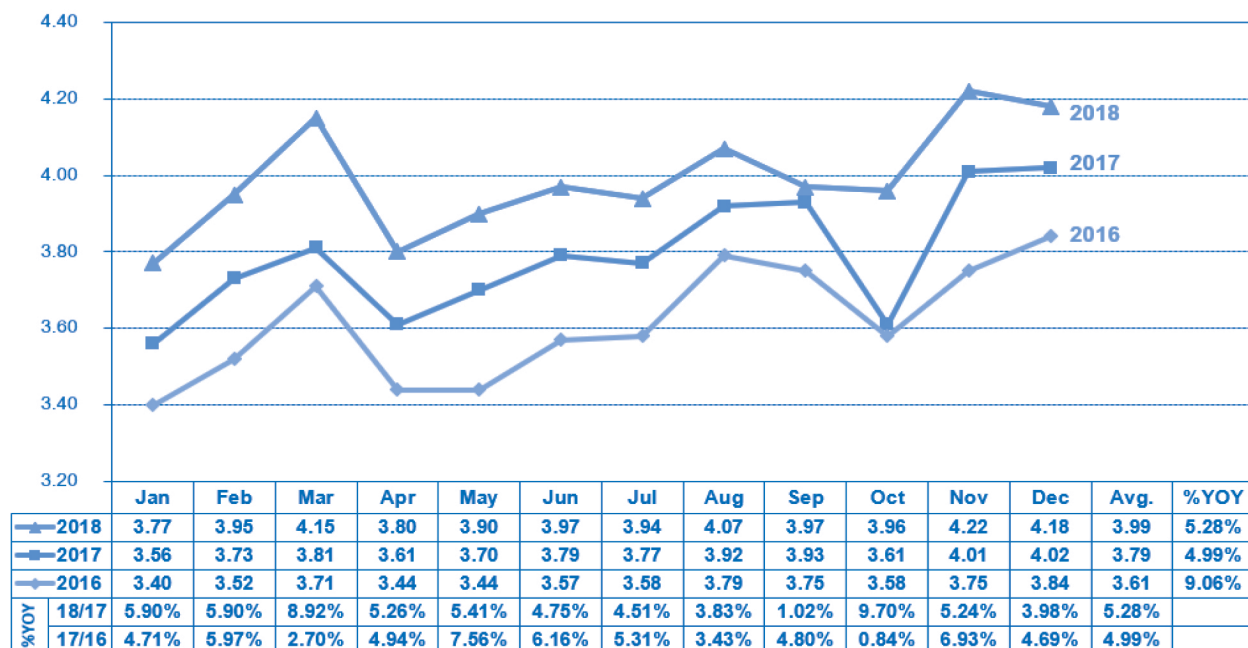
**Average Daily Toll Revenue for the First Stage Expressway, the Second Stage Expressway
and the Si Rat-Outer Ring Road Expressway**

(Million Baht / Day)



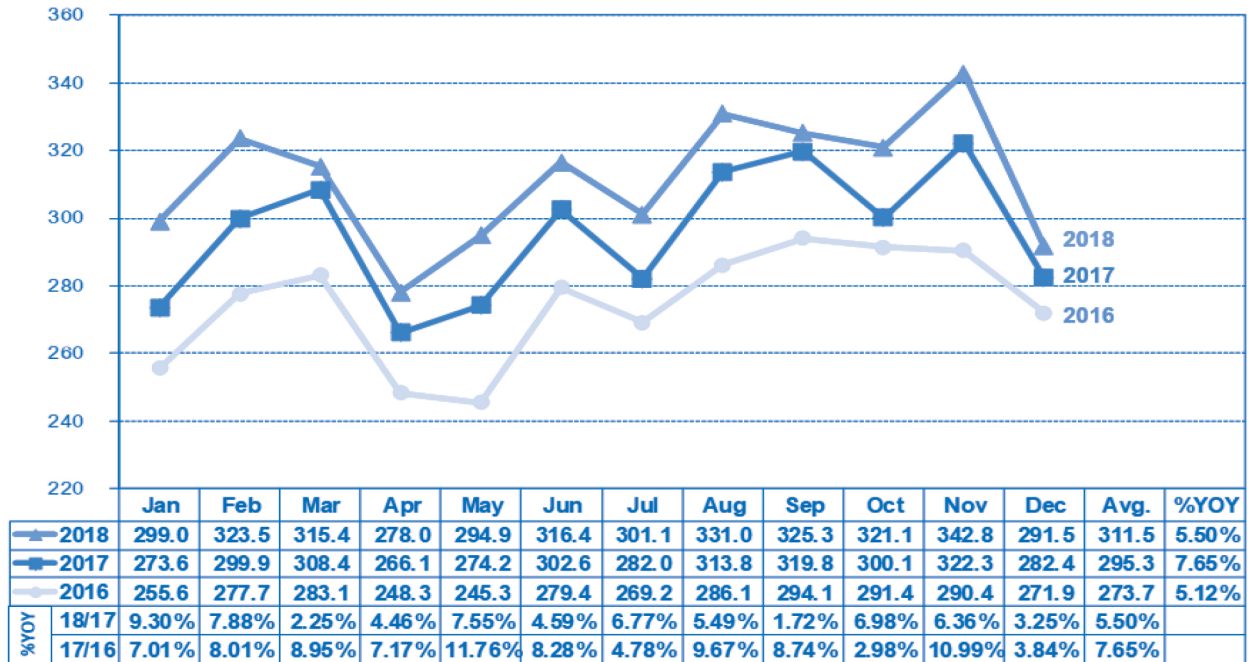
Average Daily Toll Revenue for the Bang Pa-in - Pak Kret Expressway

(Million Baht / Day)



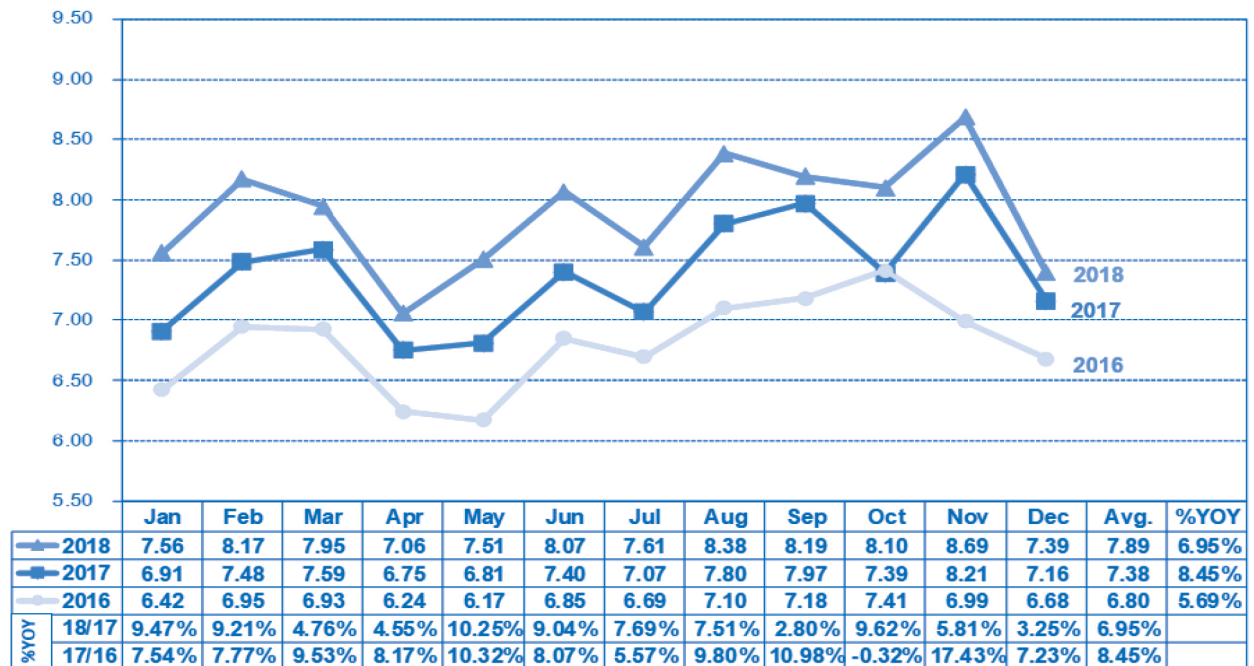
Average Daily Ridership for the MRT Blue Line

(Thousand Trips / Day)



Average Daily Farebox Revenue for the MRT Blue Line

(Million Baht / Day)



Financial Position

As at December 31, 2018, the Company and its subsidiaries had total assets amounted to Baht 103,831 Million, representing an increase by Baht 4,912 Million or 5 percent when compared with total assets as at December 31, 2017 mainly from the increase in construction in process of the Blue Line Extension Project. Total liabilities amounted to Baht 68,219 Million, representing an increase by Baht 479 Million or 0.7 percent. Total shareholders' equity amounted to Baht 35,612 Million, representing an increase from the previous year by Baht 4,433 Million or 14.2 percent when compared to the end of the year 2017 resulted from the net profit from operation.

Cash Flows

For the year 2018, the Company and its subsidiaries generated cash flows from operating activities amounting to Baht 8,067 Million. Cash used in investing activities amounting to Baht 7,353 Million detailed as follow; (1) payment for the M&E equipment of the MRT Blue Line Project in the amount of Baht 10,145 Million, (2) investment in the Si Rat-Outer Ring Road Expressway Project in the amount of Baht 285 Million, (3) acquisition of fixed assets and other assets in the net amount of Baht 51 Million, (4) cash receipt from sales of investments and addition investment in subsidiary in the net amount of Baht 2,448 Million and (5) dividend received and interest income in the amount of Baht 680 Million. The Company and its subsidiaries utilized cash of Baht 2,815 Million from financing activities due to (1) repayment of long term loans in the net amount of Baht 8,175 Million, (2) dividend payment in the amount of Baht 1,987 Million, (3) payment of interest and finance cost in the amount of Baht 1,837 Million, (4) repayment of short term loan in the net amount of Baht 816 Million and (5) received from issuance of debentures in the amount of Baht 10,000 Million.

As at December 31, 2018, the Company and its subsidiaries had cash and cash equivalents amounting to Baht 526 Million, representing a decrease from the end of the previous year by Baht 2,101 Million.

Significant Financial Ratios*

For the year 2018, the Company had Net Profit Margin ratio at 20.35 percent, Return on Equity ratio at 9.90 percent, Return on Total Assets ratio at 3.76 percent which was nearly to the previous year, Debt to Equity ratio at 1.59 times and Net Interest Bearing Debt to Equity ratio at 1.34 times which was lower than the rate stated in the loan and debenture agreements at 2.5 times.

* The operational results were calculated based on the consolidated financial statements which consist of the Expressway Business, Rail Business, Commercial Development Business, the manufacture and distribution of treated water business and electricity production business. Therefore, there was no similar type of business in the industry that can be used as a benchmark for comparison.

Not include transaction related to the novation of the M&E systems under the concession agreement of the MRT Chalong Ratchadham Line Project which the MRTA is fully responsible for both loan repayment and interest expense in accordance to the concession agreement and gain on fair value adjustment of investment due to reclassification which was recorded in the third quarter of the year 2018.

Information of Directors, Executives and Company Secretary (As of December 31, 2018)

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
1. Dr. Virabongsa Ramangkura - Chairman of the Board of Directors (appointed on December 30, 2015)	75	- Doctor of Law (Honorary), Webster University, St. Louis, USA - Ph.D. (Economics), University of Pennsylvania, USA - M.A. (Economics), University of Pennsylvania, USA - B.A. Political Science (First Class Honors), Chulalongkorn University - National Defence Course for the Joint State Private Sector, Class 1, National Defence College - Director Certification Program (DCP 43/2004), Thai Institute of Directors Association	-	-	2005 - Present 2004 - Present 1994 - 2015 1996 - 2012 2008 - Present 2006 - Present 1995 - Present 2004 - 2016 2012 - 2013	- Chairman of the Board of Directors - Director and Audit Committee Member - Chairman of the Board of Directors - Director - Chairman of the Board of Directors - Chairman of the Board of Directors - Chairman of the Executive Board - President - Chairman of the Board of Directors	Listed Companies: Finansa Public Company Limited Polyplex (Thailand) Public Company Limited Bangkok Expressway Public Company Limited Bangkok Airways Public Company Limited Other Companies: Nam Ngum 2 Power Company Limited SouthEast Asia Energy Limited Double A (1991) Public Company Limited Thai-Lao Association, Ministry of Foreign Affairs The Bank of Thailand
2. Mr. Plew Trivisvavet - Vice Chairman of the Board of Directors - Chairman of the Executive Board - Nomination and Remuneration Committee Member - Authorized Signatory Director (appointed on December 30, 2015)	73	- Honorary Doctorate (Civil Engineering), Kasetsart University - Honorary Doctorate of Engineering, Civil Engineering, Rajamangala University of Technology Isan - Honorary Doctorate of Engineering, Thai-Nichi Institute of Technology - M.Sc. (Electrical Engineering), Osaka University, Japan - B.Sc. (Electrical Engineering), Osaka University, Japan - National Defence Course for the Joint State Private Sector, Class 6, National Defence College - Director Certification Program (DCP 50/2004), Thai Institute of Directors Association - Director Accreditation Program (DAP 18/2004), Thai Institute of Directors Association - Finance for Non-Finance Directors (FND 13/2004), Thai Institute of Directors Association - Capital Market Academy Leader Program, Class 4/2007, Capital Market Academy	0.1577% (24,109,405 shares) (0.1420% held by himself, 0.0157% held by his spouse)	-	2011 - Present 2012 - Present 2009 - Present 2008 - Present 2007 - Present 2003 - Present 1994 - Present 1994 - 2015 1994 - 2015 2004 - 2015 2010 - Present 2006 - Present 2006 - Present 1996 - Present	- Director - Chairman of the Executive Board - Director - Vice Chairman of the Board of Directors - Corporate Governance and Risk Management Committee Member - Nomination and Remuneration Committee Member - Chairman of the Executive Board - Chief Executive Officer - Director - Chairman of the Executive Board - Nomination and Remuneration Committee Member - Chairman of the Board of Directors - Chairman of the Executive Committee - Nomination and Remuneration Committee Member - Director and Chairman of the Executive Board - Director and Chairman of the Executive Board - Director and Chairman of the Executive Board - Chairman of the Board of Directors and Chairman of the Executive Board	Listed Companies: CK Power Public Company Limited TTW Public Company Limited CH. Karnchang Public Company Limited Bangkok Expressway Public Company Limited Bangkok Metro Public Company Limited Other Companies: Xayaburi Power Company Limited Nam Ngum 2 Power Company Limited SouthEast Asia Energy Limited Northern Bangkok Expressway Company Limited

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
3. Mr. Vitoon Tejtassanasoontorn - Director (appointed on December 30, 2015) - Chairman of the Audit Committee (appointed on February 25, 2016) - Nomination and Remuneration Committee Member (appointed on December 30, 2015)	78	- B.A. in Commerce, Thammasat University	0.0053% (803,893 shares)	-	2014 - Present	- Chairman of the Nomination and Remuneration Committee	Listed Companies: CH. Karnchang Public Company Limited
		- Director Certification Program (DCP 2/2000), Thai Institute of Directors Association			2007 - Present	- Chairman of the Corporate Governance and Risk Management Committee	
		- IOD Chartered Directors, Thai Institute of Directors Association, Class 1/2007			1999 - Present	- Director and Chairman of the Audit Committee	
		- Audit Committee Program (ACP 27/2009), Thai Institute of Directors Association			2007 - 2014	- Nomination and Remuneration Committee Member	
		- Advanced Audit Committee Program (AAPC 3/2010), Thai Institute of Directors Association			2005 - 2015	- Independent Director, Audit Committee Member, and Nomination and Remuneration Committee Member	Bangkok Metro Public Company Limited
		- Role of the Compensation Committee (RCC 12/2011), Thai Institute of Directors Association			2004 - Present	- Director	Other Companies: Asahi Glass Foundation of Thailand AGC Flat Glass (Thailand) Public Company Limited Kiarti Thane Country Club Co., Ltd. Pattaya Estate Co., Ltd. Kiarti Land Co., Ltd. Diachrome Chemicals Limited Thaisri Insurance Public Company Limited Glass Way Co., Ltd.
					1991 - Present	- Deputy Senior Managing Director	
					1988 - Present	- Director and Executive Director	
					1988 - Present	- Director and Executive Director	
					1988 - Present	- Director and Executive Director	
					1987 - Present	- Director	
					2015 - 2018	- Director and Chairman of the Audit Committee	
			-	-	1991 - 2018	- Director	Glass Way Co., Ltd.
					1988 - 2017	- Director and Executive Director	Sriracha Resort Co., Ltd.
					1986 - 2017	- Director and Executive Director	Sakata-Thai Corporation Ltd.
4. Gen. Chetta Thanajaro - Director - Chairman of the Nomination and Remuneration Committee - Audit Committee Member (appointed on December 30, 2015)	80	- Master of Arts (Political Science), Ramkhamhaeng University			2005 - 2015	- Independent Director, Chairman of the Audit Committee	Listed Companies: Bangkok Metro Public Company Limited
		- Bachelor of Science, Chulachomklao Royal Military Academy, Class 9			1999 - 2003	- Chairman of the Nomination and Remuneration Committee	
		- Infantry Basic Officer Leadership Course, United States Army Infantry School			1996 - Present	- Audit Committee Member	Bangkok Expressway Public Company Limited
		- The Royal Thai Army Command and General Staff Course			2005 - Present		Other Companies: The Royal Development Project Double A (1991) Public Company Limited L.P.N. Platemill Public Company Limited Ministry of Defence Ministry of Science and Technology
		- National Defence Course for The Joint State-Private Sector Regular Course Class 6, National Defence College,			2005 - Present	- President Advisor	
		- Director Certification Program (DCP 33/2003), Thai Institute of Directors Association			2004	- Director	
		- Finance for Non-Finance Directors (FND 7/2003), Thai Institute of Directors Association			2003 - 2004	- Minister of Defence and Technology	
5. Gen. Sampao Choosri - Director - Chairman of the Corporate Governance and Risk Management Committee - Audit Committee Member (appointed on December 30, 2015)	77	- Chulachomklao Royal Military Academy			2004 - 2015	- Director	Listed Company: Bangkok Expressway Public Company Limited
		- Royal Military Academy (Saint Cyr), France			2007 - 2015	- Audit Committee Member	
		- The Army Command and General Staff College, Class 51				- Chairman of the Nomination and Remuneration Committee	Other Companies: Mae Fah Luang University TIPS Co., Ltd. Dhospaak Company Limited
		- National Defence Course for the Joint State Private Sector, Class 6, National Defence College				- Corporate Governance and Risk Management Committee Member	
		- Director Accreditation Program (DAP 15/2004), Thai Institute of Directors Association			2013 - Present	- Chairman of the Mae Fah Luang University Council	
					2012 - Present	- Chairman of the Board of Directors	
					2001 - Present	- Chairman of the Board of Directors	Dhospaak Company Limited

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
6. Dr. Annop Tanlamai - Director - Audit Committee Member (appointed on February 25, 2016)	69	<ul style="list-style-type: none"> - Ph.D. Engineering Management, University of Missouri, USA - M.B.A. (Quantitative Business Analysis), Indiana University, Bloomington, USA - M.S. in Engineering Management, University of Missouri, USA - Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University - Director Certification Program (DCP 154/2011), Thai Institute of Directors Association - The Audit Committee's Role in Compliance and Ethical Culture Oversight Program, Thai Institute of Directors Association 	-	-	2012 - Present	- Director and Chairman of the Audit Committee	Listed Companies: MK Restaurants Group Public Company Limited Bangkok Expressway Public Company Limited Other Companies: Chitralada Technology College Mahidol University Chulalongkorn University
					2001 - 2015	- Director	
					2001 - 2015	- Audit Committee Member	
					2011 - 2015	- Nomination and Remuneration Committee Member	
					2011 - 2015	- Corporate Governance and Risk Management Committee Member	
					2016 - Present	- Dean of Faculty of Business Administration	
					2012 - 2016	- Dean of College of Management	
					2007 - 2011	- Dean of Faculty of Commerce and Accountancy	
					1999 - 2007	- Director of the Committee of Master of Business Administration Program (MBA), Faculty of Commerce and Accountancy	
7. Mrs. Vallapa Assakul - Director - Corporate Governance and Risk Management Committee Member (appointed on December 30, 2015)	68	<ul style="list-style-type: none"> - Master of Economics, University of Detroit, USA - Bachelor of Economics (Second Class Honors), Chulalongkorn University - Audit Committee Program (ACP 21/2008), Thai Institute of Directors Association - Director Certification Program (DCP 86/2007), Thai Institute of Directors Association - Director Accreditation Program (DAP 37/2005), Thai Institute of Directors Association - Role of the Compensation Committee (RCC 5/2008), Thai Institute of Directors Association 	-	-	2006 - Present	- Director	Listed Companies: Ocean Life Insurance Public Company Limited Vinythai Public Company Limited Bangkok Expressway Public Company Limited Bangkok Metro Public Company Limited TMB Bank Public Company Limited Other Companies: Ocean Property Co., Ltd. Ocean Development Co., Ltd. Siam Estate Co., Ltd. Ocean Life Insurance Co., Ltd. Ampham Co., Ltd. Northern Bangkok Expressway Company Limited
					2006 - 2016	- Supervision Committee Member	
					2012 - 2016	- Chairman of the Nomination and Remuneration Committee	
					2010 - 2015	- Director	
					2010 - 2015	- Director and Executive Director	
					2009 - 2015	- Independent Director	
					2012 - 2015	- Chairman of the Risk Committee	
					2005 - 2007	- Director	
					2004 - 2007	- Senior Executive Vice President, Corporate and Investment Banking Group	
					2013 - Present	- Director	
					2013 - Present	- Director	
					2010 - Present	- Director	
					2008 - Present	- Director	
					2010 - 2016	- Director and Executive Director	
8. Mr. Supong Chayutsahakij - Director - Nomination and Remuneration Committee Member - Executive Director - Authorized Signatory Director (appointed on December 30, 2015)	77	<ul style="list-style-type: none"> - Honorary Ph.D. (Management Science), Phranakorn Rajabhat University - Master of Political Science (Politics and Government), Sukhothai Thammathirat Open University - Executive Master of Business Administration, Sasin Graduate Institute of Business Administration of Chulalongkorn University - Master of Engineering (Electrical), University of Tokyo, Japan - Bachelor of Engineering (Electrical), University of Tokyo, Japan - Director Certification Program (DCP 8/2001), Thai Institute of Directors Association - Audit Committee Program (ACP 17/2007), Thai Institute of Directors Association 	-	-	2006 - Present	- Director and Audit Committee Member	Listed Companies: Siam Steel International Public Company Limited CK Power Public Company Limited Bangkok Expressway Public Company Limited Bangkok Metro Public Company Limited Other Companies: Xayaburi Power Company Limited SouthEast Asia Energy Limited Nam Ngum 2 Power Company Limited Thai-Nichi Institute of Technology Northern Bangkok Expressway Company Limited Bangkok Metro Networks Limited CK Power Limited
					2013 - 2016	- Director	
					1994 - 2015	- Director	
					2003 - 2015	- Vice Chairman of the Executive Board	
					2007 - 2015	- Nomination and Remuneration Committee Member	
					2009 - 2015	- Corporate Governance and Risk Management Committee Member	
					2009 - 2015	- Vice Chairman of the Board of Directors	
					2002 - 2015	- Director and Executive Committee Member	
					2014 - Present	- Director	
					2008 - Present	- Director	
					2008 - Present	- Director	
					2006 - Present	- Chairman of the Institute	
					1996 - Present	- Director and Executive Director	
					2009 - 2017	- Chairman of the Board of Directors	
					2011 - 2013	- Director	

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
9. M.L. Prasobchai Kasemsant - Director (appointed on December 30, 2015)	63	- M.S. (Civil Engineering) and M.S. (Operations Research), Stanford University, USA, 1979 - B.S. (Civil Engineering, Mathematics), Virginia Military Institute, Virginia, USA, 1976 - Thailand Energy Academy Course for Management, Class 3, 2013 - National Defence Course, Class 50, National Defence College - Director Certification Program (DCP 33/2003), Thai Institute of Directors Association	-	-	1994 - 2015 Oct 2015 - Present 2013 - Sep 2015 2012 - 2013 2009 - 2010	- Director and Executive Director - Retired Military Officer - Chairman of the Defence Advisory Board - Deputy Permanent Secretary for Defence (Energy and Defence Industry) - Director-General, Office of Defence Logistics, Office of Permanent Secretary	<u>Listed Company:</u> Bangkok Expressway Public Company Limited <u>Other Company:</u> Ministry of Defence
10. Mr. Phongsarit Tantisuvanitchkul - Director - Corporate Governance and Risk Management Committee Member - Executive Director - Authorized Signatory Director (appointed on December 30, 2015)	46	- Master of Engineering (Construction and Management), University of Michigan - Ann Arbor, USA - Bachelor of Engineering (Mechanical Engineering), Kasetsart University - Director Certification Program (DCP 155/2012), Thai Institute of Directors Association - Finance for Non-Finance Directors (FND 35/2007), Thai Institute of Directors Association - Understanding the Fundamental of Financial Statements (UFS 9/2007), Thai Institute of Directors Association	-	-	2016 - Present 2016 - Present 2011 - Present 2014 - 2015 2016 - Present Oct 2017 - Present 2009 - Oct 2017 2012 - 2015	- Director and Chairman of the Executive Committee - Senior Executive Vice President: Operation Group - Acting Executive Vice President: Business Development - Director and Executive Director - Director and Executive Director - Chairman of the Board of Directors - Director - Director	<u>Listed Companies:</u> TTW Public Company Limited CH. Karnchang Public Company Limited Bangkok Metro Public Company Limited <u>Other Companies:</u> Northern Bangkok Expressway Company Limited Bangkok Metro Networks Limited Transit Expert Co., Ltd.
11. Mr. Werapong Suppasedsak - Director (appointed on December 30, 2015)	52	- Master of Economics (Financial Economics), National Institute of Development Administration - Bachelor of International Economics, Ramkhamhaeng University - National Defence Course, Class 60/2017, National Defence College, National Defence Studies Institute - Corporate Governance for Capital Market Intermediaries (CGI 19/2017), Thai Institute of Directors Association - Director Certification Program (DCP 237/2017), Thai Institute of Directors Association - TLCA Executive Development Program (EDP 14/2014) by Thai Listed Companies Association (TLCA) - Director Accreditation Program (DAP 100/2013), 2013, Thai Institute of Directors Association - Executive Development Program (EDP/2011), Fiscal Policy Research Institute Foundation (FPRI) (Ministry of Finance)	-	-	2016 - Present 2014 - 2016 2011 - 2014 2016 - Present 2012 - 2015 2011 - 2014 2017 - Present 2014 - 2017	- Senior Executive Vice President - Managing Director - First Executive Vice President - Managing Director - Executive Vice President - Director - Director - Director - Director - Director - Director and Chairman of the Audit Committee	<u>Listed Companies:</u> Krung Thai Bank Public Company Limited Krungthai Panich Insurance Public Company Limited Bangkok Metro Public Company Limited Krungthai-AXA Life Insurance Public Company Limited <u>Other Companies:</u> KT ZMICO Securities Company Limited Suvarnabhumi Airport Hotel Company Limited

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
12. Mr. Panit Dunnvatanachit - Director (appointed on December 30, 2015)	62	<ul style="list-style-type: none"> - M.B.A. (Finance), Washington University, St. Louis, USA - Bachelor of Arts & Science, Washington University, St. Louis, USA - Director Certification Program (DCP 10/2001), Thai Institute of Directors Association - Capital Market Academy Leader Program, Class 14/2012, Capital Market Academy - Broadcasting Executive Forum, Class 1/2013, Office of the National Broadcasting and Telecommunications Commission - Thailand Energy Academy Course for Management, Class 4/2014, Thailand Energy Academy - Public-Private Partnerships for Executive Program (PEP 1/2016) 	-	-	2000 - Present 2003 - 2015 2003 - 2012 2006 - Present 1994 - Present 2003 - 2016 2000 - 2010	- Executive Vice President - Director - Executive Director - Director - Director - Director and Executive Director - Director and Member of the Executive Committee	Listed Companies: Bangkok Bank Public Company Limited Bangkok Expressway Public Company Limited Other Companies: Thai Yamaha Motor Co., Ltd. Krungthep Engineering Consultants Co., Ltd. Northern Bangkok Expressway Company Limited CBNP (Thailand) Limited
13. Mr. Yuttana Yimgarund - Director (appointed on November 30, 2016)	57	<ul style="list-style-type: none"> - Master of Public Administration, National Institute of Development Administration (NIDA) - Bachelor of Laws, Ramkhamhaeng University - Graduate Diploma in Public Law, Thammasat University - Sulkarak School Graduate Diploma, Customs Department - Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 13, King Prajadhipok's Institute - Senior Executive Development Program (SED), Class 71, Office of the Civil Service Commission - Anti-Corruption Strategic Management Course for Senior Executives, Class 3 - National Defence Course for the Joint State Private Sector, Class 25 - Capital Market Academy Leader Program, Class 18, Capital Market Academy - Corporate Governance for Directors and Senior Executives of State Enterprises and Public Organizations, Class 17 	-	-	2013 - Apr 1, 2017 Aug 2018 - Present 2016 - Present 2014 - Present 2015 - 2018 2015 2011 - 2015 2010 - 2011 2009 - 2010 2008 - 2009 2004	- Director representing the Ministry of Finance - Deputy Permanent Secretary - Director representing the Ministry of Finance - Director representing the Ministry of Finance - Inspector General - Principal Advisor on Customs Control Development - Deputy Director-General - Director of Laem Chabang Port Customs Bureau - Director of Regional Customs Bureau 1 - Director of Central Administration Bureau - Director of Land Investigation and Suppression Division	Listed Company: The Erawan Group Public Company Limited Other Companies: Ministry of Finance Mass Rapid Transit Authority of Thailand Tobacco Authority of Thailand (Thailand Tobacco Monopoly) Ministry of Finance Customs Department
14. Mrs. Natamon Bunnak - Director (appointed on April 20, 2018)	54	<ul style="list-style-type: none"> - Master of Economics (Business Economics), University of the Thai Chamber of Commerce - Master of Public and Private Management Program (Honors), National Institute of Development Administration - Bachelor of Science (Agricultural Economics), Kasetsart University - Director Accreditation Program (DAP 152/2018), Thai Institute of Directors Association 	-	-	- 2015 - Present 2013 - 2015	- - Assistant Governor and Acting Deputy Governor (Finance) - Director of Office of the Governor	Listed Company: - Other Company: Mass Rapid Transit Authority of Thailand

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
15. Mr. Wichan Ekarintrakul ⁽¹⁾ - Director (appointed on December 27, 2018)	54	- Master of Engineering (Traffic and Transportation Engineering), Chulalongkorn University - Bachelor of Engineering (Civil Engineering), Chulalongkorn University	-	-	- Apr 2018 - Present 2015 - 2018 2010 - 2015 2005 - 2010 2004 - 2005 2016 - 2017	- - Deputy Governor for Strategy & Planning - Deputy Governor for Technical Affairs - Director of Policy and Planning Department - Director of Planning and Project Analysis Division - Director of Expressway Engineering Division - Director	<u>Listed Company:</u> - <u>Other Companies:</u> Expressway Authority of Thailand Northern Bangkok Expressway Company Limited
16. Dr. Sombat Kitjalaksana - Director - Corporate Governance and Risk Management Committee Member - Executive Director - Managing Director - Authorized Signatory Director (appointed on December 30, 2015)	61	- Dr. Techn. (Soil Mechanic), University of Innsbruck, Austria - Bachelor and Master of Engineering (Civil), Chulalongkorn University - Director Certification Program (DCP 81/2006), Thai Institute of Directors Association - Finance for Non-Finance Directors (FND 19/2005), Thai Institute of Directors Association - Director Accreditation Program (DAP 36/2005), Thai Institute of Directors Association	0.0104% (1,599,141 shares)	-	2000 - Present 2006 - 2015 2014 - 2015 2011 - 2014 2004 - 2015 2004 - 2011 2001 - 2010 2000 - 2011 2016 - Present 2009 - Present	- Director and Executive Director - Director - Managing Director and Executive Director - Vice Chairman of the Executive Committee - Director - Executive Committee Member - Executive Vice President: Business Development - Managing Director - Director and Executive Director - Director	<u>Listed Companies:</u> TTW Public Company Limited CH. Karnchang Public Company Limited Bangkok Metro Public Company Limited CH. Karnchang Public Company Limited Bangkok Metro Public Company Limited <u>Other Companies:</u> Northern Bangkok Expressway Company Limited Bangkok Metro Networks Limited
17. Mrs. Payao Marittanaporn - Director - Corporate Governance and Risk Management Committee Member - Executive Director - Managing Director - Authorized Signatory Director (appointed on December 30, 2015)	61	- M.B.A., Chulalongkorn University - Higher Diploma in Auditing, Thammasat University - Bachelor of Accountancy, Chulalongkorn University - Director Certification Program (DCP 48/2004), Thai Institute of Directors Association - Role of the Compensation Committee (RCC 9/2009), Thai Institute of Directors Association - Capital Market Academy Leader Program, Class 11/2010, Capital Market Academy	-	-	2015 - Present 2007 - 2015 2013 - 2014 2007 - Present 2004 - Present 2011 - 2014	- Director - Nomination and Remuneration Committee Member - Risk Management Committee Member - Director and Executive Director - Managing Director - Director - Nomination and Remuneration Committee Member - Risk Management Committee Member - Acting Managing Director - Director and Executive Director - Director	<u>Listed Companies:</u> TTW Public Company Limited Bangkok Expressway Public Company Limited TTW Public Company Limited <u>Other Companies:</u> Northern Bangkok Expressway Company Limited Xayaburi Power Company Limited
18. Mr. Sanguan Kunatinun - Deputy Managing Director - Expressway Engineering (appointed on December 30, 2015)	58	- M.B.A., Thammasat University - Bachelor of Engineering, Chulalongkorn University - Director Certification Program (DCP 101/2008), Thai Institute of Directors Association	-	-	2014 - 2015 2006 - 2014	- Deputy Managing Director, Engineering - Assistant Managing Director, Engineering	<u>Listed Company:</u> Bangkok Expressway Public Company Limited <u>Other Company:</u> - None -

Remark: ⁽¹⁾ Mr. Wichan Ekarintrakul was appointed as a director on December 27, 2018 to replace Mr. Prasit Dachsiri who resigned his office on October 1, 2018.

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
19. Mrs. Sudruthai Prommart - Deputy Managing Director - Expressway Operation (appointed on December 30, 2015)	55	- M.B.A. (Financial Accounting), Northrop University, Inglewood, California, USA - Bachelor of Business Administration, Assumption University - Director Certification Program (DCP 151/2011), Thai Institute of Directors Association	-	-	2014 - 2015 2007 - 2014	- Deputy Managing Director, Operation - Assistant Managing Director, Operation	Listed Company: Bangkok Expressway Public Company Limited Other Company: - None -
20. Mr. Phakpoom Thaweewittayarat - Deputy Managing Director - Administration - Company Secretary (appointed on December 30, 2015)	52	- M.B.A., Thammasat University - Bachelor of Laws, Chulalongkorn University - Bachelor of Accountancy, Chulalongkorn University - Certified Public Accountant (CPA) - Certified Internal Auditor (CIA) - Director Certification Program (DCP 102/2008), Thai Institute of Directors Association - Company Secretary Program (CSP 9/2005), Thai Institute of Directors Association	-	-	2014 - 2015 2012 - 2014 2008 - 2015 2011 2008 - 2011	- Deputy Managing Director, Administration - Assistant Managing Director, Administration - Company Secretary - Senior General Manager of Administration Division - Senior General Manager of Managing Director Office	Listed Company: Bangkok Expressway Public Company Limited Other Company: - None -
21. Miss Panan Tosuwanthaworn - Deputy Managing Director - Finance (appointed on December 30, 2015)	51	- Master of Accountancy, Thammasat University - Bachelor of Accountancy, Thammasat University - Director Certification Program (DCP 158/2012), Thai Institute of Directors Association - CFO Certification Program, Class 1/2004, The Institute of Certified Accountants and Auditors of Thailand - Corporate Secretary Development Program, Class 13, Faculty of Commerce and Accountancy, Chulalongkorn University	-	-	2014 - 2015 2012 - 2014 2008 - 2011 Nov 2017 - Present	- Deputy Managing Director, Finance - Assistant Managing Director, Finance - Senior General Manager of Finance Division - Director	Listed Company: Bangkok Expressway Public Company Limited Other Company: Bangkok Metro Networks Limited
22. Mr. Witoon Hatairatana - Deputy Managing Director - Railway System Operation and Engineering (appointed on December 30, 2015)	61	- Master of Science (Business Administration), California University of Pennsylvania, USA - Bachelor of Engineering (Civil), Chulalongkorn University - Anti-Corruption for Executive Program (ACEP 13), Thai Institute of Directors Association	-	-	2014 - 2015 2012 - 2014 2007 - 2012 2005 - 2015 2004 - 2012 2002 - 2004 Nov 2017 - Present	- Deputy Managing Director - Acting Assistant Managing Director, Train Operation Group - Assistant Managing Director, Operations - Acting Marketing & Commercial Development Director - Risk Committee Member - Operations Director - Traffic Manager - Director	Listed Company: Bangkok Metro Public Company Limited Other Company: Bangkok Metro Networks Limited

Name-Surname/Position Date of Appointment	Age (Years)	Education/Training	Shareholding in the Company	Family Relationship between Directors and Executives	Work Experience for the Past 5 Years		
					Period	Position	Organization
23. Mr. Alvin Gee - Deputy Managing Director Operation Support (appointed on December 30, 2015)	47	- Bachelor of Science in Finance, Boston College, USA - Director Certification Program (DCP 165/2012), Thai Institute of Directors Association	0.0009% (144,272 shares) (spouse)	Spouse of Mr. Plew Trivisvavet's daughter	2013 - Feb 2016 2013 - Feb 2016 2011 - 2013 2008 - 2011 2013 - Feb 2016 2011 - 2013 2007 - 2008	- Director - Director, Executive Director and Managing Director - Deputy Managing Director, Accounting and Finance Department - Investor Relations Officer - Director, Executive Director and Managing Director - Deputy Managing Director - Business Analyst, Corporate Finance	Listed Companies: CK Power Public Company Limited SouthEast Asia Energy Limited Bangkok Metro Public Company Limited Other Companies: Nam Ngum 2 Power Company Limited TMB Macquarie Securities (Thailand) Limited
24. Dr. Vites Techangam - Deputy Managing Director - Technology & E-Business (appointed on October 1, 2017)	61	- Ph.D. in Computer Science, University of South Western Louisiana, U.S.A. - M.Sc. in Computer Science, University of California, U.S.A. - Bachelor of Engineering (Computer Engineering), Chulalongkorn University	-	-	Jun 2017 - Sep 2017 Jan 2015 - May 2017 Jun 2013 - Jan 2015 2011 - Jun 2013 2007 - 2010	- Senior Executive Vice President - Managing Director, Special Projects - Senior Executive Vice President - Managing Director, Technology Group - Senior Executive Vice President - Managing Director, Electronic Banking & Cash Management Group - President - Vice President	Listed Company: Krung Thai Bank Public Company Limited Other Company: KTB Computer Services Co., Ltd.
25. Mr. Anawash Suwanarit - Deputy Managing Director - Business Development (appointed on January 1, 2018)	44	- Master of Telecommunications, Northwestern University, Illinois, USA - Bachelor of Engineering (Electrical Engineering), Chulalongkorn University	-	-	2017 - Present 2015 - 2017 2012 - 2015 2009 - 2012 2007 - 2009	- Assistant Managing Director - Acting Deputy Managing Director - Business Development - Assistant Managing Director - Project Development - Director of Special Project Management Division - Deputy Managing Director - Operations Director	Listed Companies: Bangkok Expressway and Metro Public Company Limited Bangkok Metro Public Company Limited Other Companies: Bangkok Metro Networks Limited Metro Mall Development Limited
26. Miss Saranya Lertjiraprasert - General Manager of Accounting Division (appointed on December 30, 2015)	48	- Master of Business Administration, Ramkhamhaeng University - Higher Diploma in Auditing, Chulalongkorn University - Bachelor of Business Administration, Rajamangala University of Technology Thanyaburi	-	-	2015 - Present	- General Manager of Accounting Division	Listed Company: Bangkok Expressway and Metro Public Company Limited Other Company: - None -

Information of Directors in The Subsidiaries and Related Companies

Names of Directors and Executives	The Company	Related Companies													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Dr. Virabongsa Ramangkura	2										2		2		
2. Mr. Plew Trivisvavet	3,4		2,4	1,4,5	1	1,4	1	2	1	3	1,4	1,4	1,4	2	1
3. Mr. Vitoon Tejatussanasoontorn	1			1											
4. Gen. Chetta Thanajaro	1														
5. Gen. Sampao Choosri	1														
6. Dr. Annop Tanlamai	1														
7. Mrs. Vallapa Assakul	1														
8. Mr. Supong Chayutsahakij	1,4		1,4								1	1	1		
9. M.L. Prasobchai Kasemsant	1														
10. Mr. Phongsarit Tantisuvanitchkul	1,4	2	1,4	5						1,4					
11. Dr. Sombat Kitjalaksana	1,4	1	1,4							1,4					
12. Mrs. Payao Marittanaporn	1,4		1,4							1					
13. Mr. Werapong Suppasedsak	1														
14. Mr. Panit Dunnvatanachit	1														
15. Mr. Yuttana Yimgarund	1														
16. Mrs. Natamon Bunnak ⁽¹⁾	1														
17. Mr. Wichan Ekarintrakul ⁽²⁾	1														
18. Mr. Sanguan Kunatinun	5														
19. Mrs. Sudruthai Prommart	5														
20. Mr. Phakpoom Thaweewittayarut	5														
21. Miss Panan Tosuwanthaworn	5	1													
22. Mr. Witoon Hatairatana	5	1													
23. Mr. Alvin Gee	5														
24. Dr. Vites Techangam	5														
25. Mr. Anawash Suwanarit	5														

- Remarks :**
- Definitions : 1 = Director; 2 = Chairman of the Board of Directors; 3 = Vice Chairman of the Board of Directors;
4 = Executive Director; 5 = Executive
 - ⁽¹⁾ Mrs. Natamon Bunnak was appointed as a director on April 20, 2018 to replace Mr. Theeraphan Tachasirinugune who resigned his office on April 7, 2017.
 - ⁽²⁾ Mr. Wichan Ekarintrakul was appointed as a director on December 27, 2018 to replace Mr. Prasit Dachsiri who resigned his office on October 1, 2018.
 - The Company

1 = Bangkok Metro Networks Limited	2 = Northern Bangkok Expressway Company Limited
3 = CH. Karnchang Public Company Limited	4 = Mahasiri Siam Co., Ltd.
5 = CK Power Public Company Limited	6 = CH. Karnchang Holding Co., Ltd.
7 = CH. Karnchang-Tokyu Construction Company Limited	8 = CK. Office Tower Co., Ltd.
9 = TTW Public Company Limited	10 = SouthEast Asia Energy Limited
11 = Xayaburi Power Company Limited	12 = Nam Ngum 2 Power Company Limited
13 = CH. Karnchang Real Estate Co., Ltd.	14 = Construction Material Supply Co., Ltd.

Information of Directors in The Subsidiaries

Names of Directors	Northern Bangkok Expressway Company Limited	Bangkok Metro Networks Limited
1. Mr. Plew Trivisvavet	2, 3	-
2. Mr. Supong Chayutsahakij	1, 3	-
3. Mr. Phongsarit Tantisuvanitchkul	1, 3	2
4. Mr. Dumkerng Pankam ⁽¹⁾	1	-
5. Mrs. Payao Marittanaporn	1, 3	-
6. Dr. Sombat Kitjalaksana	1, 3	1
7. Mr. Witoon Hatairatana	-	1
8. Mrs. Thipsuda Yimwilai	-	1
9. Mr. Palin Lojanagosin ⁽²⁾	-	1
10. Mr. Pinijsorn Luechaikajohnpan ⁽³⁾	-	1
11. Miss Panan Tosuwanthaworn	-	1
12. Mr. Nattavut Trivisvavet	-	1

- Remarks :
- Definitions: 1 = Director; 2 = Chairman of the Board of Directors; 3 = Executive Director
 - Subsidiaries refer to material subsidiaries whose revenues exceed 10 percent of total revenues as per the consolidated statement of income of the latest accounting year.
 - ⁽¹⁾ He was appointed as a director on March 21, 2018.
 - ^{(2), (3)} They were appointed as directors on February 28, 2018.

Details Relating to Head of The Internal Audit Unit and Head of The Compliance Unit

1. Head of the Internal Audit Unit

Name-Surname	Miss Vasana Wattananukulchai				
Position	General Manager Internal Audit Office				
Education	<ul style="list-style-type: none">- M.B.A., National Institute of Development Administration- Bachelor of Accountancy, Bangkok University				
Work Experience	<table><tr><td>2008 - Dec 2015</td><td>- General Manager of Internal Audit Office Bangkok Expressway Public Company Limited</td></tr><tr><td>2006 - 2007</td><td>- General Manager of Toll Revenue Division Bangkok Expressway Public Company Limited</td></tr></table>	2008 - Dec 2015	- General Manager of Internal Audit Office Bangkok Expressway Public Company Limited	2006 - 2007	- General Manager of Toll Revenue Division Bangkok Expressway Public Company Limited
2008 - Dec 2015	- General Manager of Internal Audit Office Bangkok Expressway Public Company Limited				
2006 - 2007	- General Manager of Toll Revenue Division Bangkok Expressway Public Company Limited				
Related Training	<ul style="list-style-type: none">- Internal Auditing- Integrated Management ISO 9001, ISO 14001 and ISO 27001- Risk Management ISO 31000- Compliance Audit- Internal Control for Financial Reporting: Business Value-Added Strategy- Going from Good to Great in IT Governance and Outsourcing- In-depth Modern Risk Management Techniques- Anti-Corruption The Practical Guide (ACPG 15), Thai Institute of Directors Association (IOD)- Using Technology as an Efficient and Effective Auditing Tool Federation of Accounting Professions				
Duties and Responsibilities	<ol style="list-style-type: none">1. Internal audit work<ol style="list-style-type: none">1.1 Preparing the annual internal audit plan;1.2 Supervising the review of performance, adequacy, and appropriateness of the internal control system of the Company's work systems for compliance with the plan;1.3 Concluding the results of the review, together with observations and suggestions for improvement for the audited works, as well as following up the suggested improvement;1.4 Reporting on the audit results to the management and the Audit Committee.2. Works in support of the Audit Committee<ol style="list-style-type: none">2.1 Reviewing the annual and quarterly financial statements;2.2 Preparing information in support of the selection and nomination of the Company's auditor;2.3 Reviewing the disclosure of information to ensure compliance with the rules and regulations and the good corporate governance principles;2.4 Assessing the adequacy of the Company's annual internal control system;2.5 Coordinating and organizing the Audit Committee's meetings.3. Works in support of corporate risk management<ol style="list-style-type: none">3.1 Coordinating all internal work units to prepare and review the annual emergency and risk management plans as well as compiling the results thereof as the overall emergency and risk management plans;3.2 Quarterly following up and concluding the results of risk management from all relevant work units for presentation to the management and the Corporate Governance and Risk Management Committee on a quarterly basis;3.3 Coordinating and organizing the Corporate Governance and Risk Management Committee's meetings.4. Works on quality and environmental management system activity<ol style="list-style-type: none">4.1 Following up the results of system audit by the monitoring subcommittee and external certification agencies.5. Other works as assigned by the Audit Committee.				

Remark : Any appointment, removal, and transfer of Head of the Internal Audit Unit shall be subject to the power of the Audit Committee.

2. Head of the Compliance Unit

Name-Surname	Mr. Phakpoom Thaweewittayarut		
Position	<ul style="list-style-type: none">- Deputy Managing Director, Administration- Company Secretary		
Education	<ul style="list-style-type: none">- M.B.A., Thammasat University- Bachelor of Laws, Chulalongkorn University- Bachelor of Accountancy, Chulalongkorn University		
Work Experience	Oct 2014 - Dec 2015	<ul style="list-style-type: none">- Deputy Managing Director, Administration Bangkok Expressway Public Company Limited	
	2012 - Sep 2014	<ul style="list-style-type: none">- Assistant Managing Director, Administration Bangkok Expressway Public Company Limited	
	Sep 2011 - Dec 2011	<ul style="list-style-type: none">- Senior General Manager of Administration Division Bangkok Expressway Public Company Limited	
	2008 - Aug 2011	<ul style="list-style-type: none">- Senior General Manager of Managing Director Office Bangkok Expressway Public Company Limited	
Related Training	<ul style="list-style-type: none">- Certified Public Accountant (CPA)- Certified Internal Auditor (CIA)- Director Certification Program (DCP 102/2008), Thai Institute of Directors Association- Company Secretary Program (CSP 9/2005), Thai Institute of Directors Association		
Duties and Responsibilities	<ol style="list-style-type: none">1. Determining the scope of the good corporate governance in line with the Company’s structure in comparison with international practices or principles;2. Reviewing the appropriateness and adequacy of the Company’s good corporate governance policy and code of ethics, as well as their revisions to meet the international practices for good corporate governance;3. Reviewing with the management as to compliance with the good corporate governance principles as specified by the Company for disclosure in the Annual Report;4. Conducting the procedures for evaluation of the performance of the Board of Directors, the Managing Directors, as well as concluding the results for presentation to the Board of Directors;5. Providing suggestions for the preparation of the Company’s corporate governance development plan in compliance with the good corporate governance principles;6. Providing advice and suggestions on the good corporate governance practices to the Board of Directors;7. Performing any other functions as assigned by the Managing Directors.		

To the Shareholders of Bangkok Expressway and Metro Public Company Limited

Opinion

I have audited the accompanying consolidated financial statements of Bangkok Expressway and Metro Public Company Limited and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2018, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, and have also audited the separate financial statements of Bangkok Expressway and Metro Public Company Limited for the same period.

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Bangkok Expressway and Metro Public Company Limited and its subsidiaries and of Bangkok Expressway and Metro Public Company Limited as at 31 December 2018, their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards.

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Group in accordance with the Code of Ethics for Professional Accountants as issued by the Federation of Accounting Professions as relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Emphasis of matter

I draw attention to Note 42.1.11 to the financial statements regarding the dispute over a competing road with Udon Rattaya Expressway, which was ruled on by the Supreme Administrative Court in September 2018, in favour of the subsidiary. The dispute is only one of a number of all disputes relating to the Expressway Concession Agreements of the Company and the subsidiary and a number of these disputes are still being considered by a panel, arbitral tribunals, and administrative courts as described in Note 42 to the financial statements. The Company and the subsidiary have negotiated with the relevant government agencies to reach a comprehensive resolution of these disputes. The results of the dispute negotiation and settlement between the government agencies and the Company and the subsidiary are still pending, as the relevant government agencies are seeking approval from the cabinet. When approval is granted by the cabinet, the concession agreements are to be amended. As a result, there is still uncertainty about the compensation to be received by the subsidiary from the Expressway Authority of Thailand, as described in Note 42.1.11 to the financial statements. Therefore, in the financial statements as at 31 December 2018 the subsidiary did not record the compensation of Baht 1,790 million in the ruling of the Supreme Administrative Court regarding the dispute over a competing road with Udon Rattaya Expressway, together with interest thereon and related expenses that may be incurred. My opinion is not modified in respect of this matter.

Key Audit Matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the financial statements of the current period. These matters were addressed in the context of my audit of the financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

I have fulfilled the responsibilities described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report, including in relation to these matters. Accordingly, my audit included the performance of procedures designed to respond to my assessment of the risks of material misstatement of the financial statements. The results of my audit procedures, including the procedures performed to address the matters below, provide the basis for my audit opinion on the accompanying financial statements as a whole.

Key audit matters and how audit procedures respond to each matter are described below.

Capitalisation of project costs under construction

As discussed in Notes 1 B.1 to the financial statements, as a result of the concession agreement made with the Mass Rapid Transit Authority of Thailand, the Company has significant project which are operating under concession agreement. As at 31 December 2018, project costs under construction, in the statement of financial position, amounted to Baht 17,562 million. The project costs under construction recorded as “intangible assets under concession agreement of the MRT Blue Line Project”, as disclosed in Note 19 to the financial statements. I considered the capitalisation of project costs as assets to be a significant transaction. In addition, management needed to exercise substantial judgment in determining whether the costs were direct costs and could be recognised as costs of acquiring intangible assets, and in deciding to cease capitalisation of borrowing costs when they did not meet the conditions stipulated under financial reporting standards.

I assessed the method used for recognition of project costs under construction by inquiring with management to gain an understanding of the basis applied and judgement exercised by management in capitalising expenses as project costs under construction, including the capitalisation of borrowing costs, and disclosures in the notes to the financial statements. I reviewed the minutes of meetings, contracts and documents related to the project costs under construction. I also selected and checked representative samples of supporting documents for expenses recognised as project costs under construction incurred during the year to determine whether the recognition met the criteria under financial reporting standards. In addition, I tested the calculation and the recording of the borrowing costs capitalised as project costs under construction and reviewed the disclosures in the notes to the financial statements.

Disputes

As discussed in Note 42.2.2 to the financial statements, a subsidiary was involved in a dispute, in which the Expressway Authority of Thailand demanded the subsidiary start the Phase II construction of the Udon Ratthaya Expressway, and pay compensation totaling Baht 1,587.7 million. As the dispute has just entered the consideration process of the Arbitral Tribunal, the management needs to exercise significant judgement in considering related laws and regulations to assess the outcome. Moreover, this dispute was included in the settlement and negotiation process for disputes related to the Second Stage Expressway (the Si Rat Expressway and Sector D) and the Bang Pa-in - Pak Kret Expressway (Udon Ratthaya Expressway) with relevant government agency, as described in Note 42.1.11 to the financial statements. However, the actual outcome of the disputes may differ from the assessment made by the management.

I inquired with the Group’s management and legal department regarding the procedures followed to monitor disputes filed. I also inquired into the details and progress of disputes and the methods applied by management to assess the outcomes of the disputes, assessed the judgment exercised by management in assessing the outcomes of the disputes by reading relevant conditions and provisions of agreements, together with the claims and objections submitted by the subsidiary and counterparties to the Arbitral Tribunal for the purpose of providing background into the disputes, as well as the dispute settlements. In addition, I made inquiry of and had discussion with the external legal consultant of the Group regarding the details, case status, objections to the disputes and the probability of outcomes and the results of the dispute negotiation and settlements. Moreover, I sent confirmation letters to the external legal consultant retained by the Group to obtain details of cases and their status. I also assessed the expertise, ability, independence and integrity of the external legal consultant in accordance with relevant auditing standards and determined whether the laws and conditions referred to by the external legal consulting related to the subsidiary’s disputes and the possibility of the dispute negotiation and settlements. In addition, I reviewed the disclosures relating to the disputes in the notes to the financial statements.

Other Information

Management is responsible for the other information. The other information comprise the information included in annual report of the Group, but does not include the financial statements and my auditor’s report thereon. The annual report of the Group is expected to be made available to me after the date of this auditor’s report.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit or otherwise appears to be materially misstated.

When I read the annual report of the Group, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance for correction of the misstatement.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Thai Standards on Auditing, I exercise professional judgement and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

I am responsible for the audit resulting in this independent auditor's report.



Isaraporn Wisutthiyan

Certified Public Accountant (Thailand) No. 7480

EY Office Limited

Bangkok: 27 February 2019

Statement of Financial Position

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of financial position

As at 31 December 2018

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
Assets					
Current assets					
Cash and cash equivalents	7	526,200,490	2,627,062,725	423,687,097	2,526,936,395
Current investments	8	1,282,474,987	1,449,457,222	1,268,648,199	1,437,883,352
Bank deposit for unearned fare box revenue	9	150,016,110	-	150,016,110	-
Trade and other receivables	10	514,055,818	426,286,028	525,351,600	419,017,402
Current portion of long-term loans to related party	6	-	-	18,000,000	18,000,000
Current portion of receivable under the concession agreement	11	1,649,683,274	1,649,683,274	1,649,683,274	1,649,683,274
Other current assets		94,158,489	127,581,197	82,862,582	118,433,055
Total current assets		4,216,589,168	6,280,070,446	4,118,248,862	6,169,953,478
Non-current assets					
Long-term loans to and interest receivable					
from related parties, net of current portion	6	-	-	2,985,996,436	4,968,496,436
Receivable under the concession agreement, net of current portion	11	10,860,414,888	12,510,098,163	10,860,414,888	12,510,098,163
Investments in subsidiaries	12	-	-	363,869,867	303,585,600
Investments in associates	13	6,368,744,918	9,592,230,802	4,242,261,948	7,499,815,400
Other long-term investments	14	6,688,646,612	1,654,862,090	6,688,646,612	1,654,862,090
Investment properties	15	120,357,493	120,357,493	120,357,493	120,357,493
Building and equipment	16	323,936,668	361,168,428	282,540,765	315,812,844
Rights to operate expressway sectors	17	35,146,019,997	38,448,873,562	29,542,188,708	32,244,581,463
Rights to use sites for expressway construction	18	390,198,219	719,073,059	390,198,219	719,073,059
Intangible asset under concession agreement of					
the MRT Blue Line Project	19	35,427,555,680	25,954,096,373	35,089,506,008	25,608,388,894
Project cost of the MRT Chalong Ratchadham Line	20	654,691,451	666,742,626	654,691,451	666,742,626
Prepaid project remuneration	6	3,495,195,243	2,487,433,243	3,495,195,243	2,487,433,243
Other intangible assets	21	84,777,999	75,257,871	80,300,753	70,296,570
Deferred tax assets	35	6,312,191	4,997,667	-	-
Other non-current assets		47,468,811	44,103,679	18,021,920	17,152,796
Total non-current assets		99,614,320,170	92,639,295,056	94,814,190,311	89,186,696,677
Total assets		103,830,909,338	98,919,365,502	98,932,439,173	95,356,650,155

The accompanying notes are an integral part of the financial statements.

Statement of Financial Position (Continued)

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of financial position (continued)

As at 31 December 2018

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
Liabilities and shareholders' equity					
Current liabilities					
Short-term loans from financial institutions	22	2,814,594,224	3,629,184,736	2,814,594,224	3,629,184,736
Trade and other payables	23	1,683,472,969	2,107,884,865	1,658,799,942	2,036,963,224
Current portion of long-term loans from financial institutions	24	3,041,760,069	3,808,760,069	3,041,760,069	3,808,760,069
Current portion of debentures	25	5,000,000,000	-	5,000,000,000	-
Unearned fare box revenue	9	163,117,129	138,261,714	163,117,129	138,261,714
Deposits on stored value ticket		65,265,286	54,367,547	65,265,286	54,367,547
Income tax payable		69,746,084	62,132,371	48,142,059	36,454,936
Current portion of provision for compensation					
for site acquisition cost	26	1,546,891,698	1,600,000,000	1,546,891,698	1,600,000,000
Other current liabilities					
Retention guarantees		45,609,821	19,917,415	42,328,505	12,233,232
Value added tax payable		76,044,732	56,978,843	64,873,941	48,315,285
Withholding tax deducted at source payable		90,510,248	94,180,664	87,258,577	90,214,039
Others		9,826,997	11,156,420	8,076,121	8,982,359
Total current liabilities		14,606,839,257	11,582,824,644	14,541,107,551	11,463,737,141
Non-current liabilities					
Long-term loans from financial institutions, net of current portion	24	18,373,779,608	25,801,112,363	16,773,779,608	25,301,112,363
Debentures, net of current portion	25	33,169,822,210	28,170,623,095	33,169,822,210	28,170,623,095
Derivative financial liabilities		21,808,675	52,954,374	21,808,675	52,954,374
Provision for compensation for site acquisition cost,					
net of current portion	26	-	1,411,401,698	-	1,411,401,698
Unearned revenue from advertising management rights	27	-	-	11,865,402	13,113,762
Provision for long-term employee benefits	28	686,898,092	483,787,045	664,553,903	467,538,729
Deferred tax liabilities	35	1,353,842,048	217,152,225	1,353,842,048	217,152,225
Other non-current liabilities		5,892,925	20,211,885	999,709	1,751,708
Total non-current liabilities		53,612,043,558	56,157,242,685	51,996,671,555	55,635,647,954
Total liabilities		68,218,882,815	67,740,067,329	66,537,779,106	67,099,385,095

The accompanying notes are an integral part of the financial statements.

Statement of Financial Position (Continued)

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of financial position (continued)

As at 31 December 2018

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
Shareholders' equity					
Share capital					
Registered					
15,285,000,000 ordinary shares of Baht 1 each		15,285,000,000	15,285,000,000	15,285,000,000	15,285,000,000
Issued and paid-up					
15,285,000,000 ordinary shares of Baht 1 each		15,285,000,000	15,285,000,000	15,285,000,000	15,285,000,000
Premium on ordinary shares		5,816,938,084	5,816,938,084	5,816,938,084	5,816,938,084
Capital deficit from change in shareholding in subsidiaries		(75,770,451)	(32,148,702)	-	-
Retained earnings					
Appropriated - statutory reserve	29	1,232,890,000	1,077,490,000	1,232,890,000	1,077,490,000
Unappropriated		12,133,780,735	8,948,481,343	7,095,892,083	6,120,200,475
Other components of shareholders' equity		1,105,927,958	(27,575,760)	2,963,939,900	(42,363,499)
Equity attributable to shareholders of the Company		35,498,766,326	31,068,184,965	32,394,660,067	28,257,265,060
Non-controlling interests of the subsidiaries		113,260,197	111,113,208	-	-
Total shareholders' equity		35,612,026,523	31,179,298,173	32,394,660,067	28,257,265,060
Total liabilities and shareholders' equity		103,830,909,338	98,919,365,502	98,932,439,173	95,356,650,155

The accompanying notes are an integral part of the financial statements.

Income Statement

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Income statement

For the year ended 31 December 2018

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2018	2017	2018	2017
Revenues					
Revenue from expressway business		10,173,901,910	9,956,687,741	8,717,817,634	8,573,398,391
Revenue from rail business		4,736,002,363	4,520,903,061	4,736,002,363	4,520,903,061
Revenue from commercial development business	31	704,536,036	675,836,158	480,468,311	403,063,532
Other income					
Gains on sale of investments		499,393,573	11,887,334	561,521,690	11,584,181
Gain on reclassification of investment		2,496,266,396	-	-	-
Interest income		450,618,868	175,173,105	556,402,806	329,456,108
Dividend income	6, 13.2	-	-	493,938,904	551,455,190
Others		26,601,445	52,743,740	171,687,166	185,397,814
Total revenues		19,087,320,591	15,393,231,139	15,717,838,874	14,575,258,277
Expenses					
Cost of expressway business		1,837,541,483	1,735,419,841	1,611,214,005	1,518,255,658
Cost of rail business		3,541,571,456	3,352,428,083	3,541,571,456	3,352,428,083
Cost of commercial development business		169,940,207	177,294,401	156,742,337	90,559,239
Amortisation on rights to operate completed expressway sectors and compensation for site acquisition cost	17, 18, 26	4,036,823,398	3,694,893,202	3,436,362,588	3,156,353,460
Amortisation on intangible asset under concession agreement of the MRT Blue Line Project	19	188,047,080	246,289,965	150,553,499	214,655,637
Selling expenses		111,421,323	95,313,153	63,909,367	52,105,380
Administrative expenses		1,252,317,805	1,049,120,611	1,179,367,366	987,382,897
Total expenses		11,137,662,752	10,350,759,256	10,139,720,618	9,371,740,354
Profit before share of profit from investments in associates, finance cost and income tax expenses					
		7,949,657,839	5,042,471,883	5,578,118,256	5,203,517,923
Share of profit from investments in associates	13.2	432,797,238	405,916,311	-	-
Profit before finance cost and income tax expenses		8,382,455,077	5,448,388,194	5,578,118,256	5,203,517,923
Finance cost		(1,857,460,775)	(1,610,435,067)	(1,825,656,785)	(1,604,852,271)
Profit before income tax expenses		6,524,994,302	3,837,953,127	3,752,461,471	3,598,665,652
Income tax expenses	35	(1,189,146,759)	(695,602,106)	(645,031,218)	(623,194,397)
Profit for the year		5,335,847,543	3,142,351,021	3,107,430,253	2,975,471,255
Profit attributable to:					
Equity holders of the Company		5,317,038,037	3,123,129,324	3,107,430,253	2,975,471,255
Non-controlling interests of the subsidiaries		18,809,506	19,221,697		
		5,335,847,543	3,142,351,021		
Basic earnings per share					
Profit attributable to equity holders of the Company	36	0.35	0.20	0.20	0.20

The accompanying notes are an integral part of the financial statements.

Statement of Comprehensive Income

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of comprehensive income

For the year ended 31 December 2018

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2018	2017	2018	2017
Profit for the year		5,335,847,543	3,142,351,021	3,107,430,253	2,975,471,255
Other comprehensive income					
Other comprehensive income to be reclassified to profit or loss in subsequent periods:					
Unrealised gain (loss) from cash flow hedges, net of income tax		24,916,559	(27,476,773)	24,916,559	(27,476,773)
Unrealised gain on valuation of available-for-sale securities, net of income tax		1,112,425,756	-	2,981,386,840	-
Share of other comprehensive income of associate recognised due to reclassification of investment		(37,094,724)	-	-	-
Share of other comprehensive income from associates	13.2	33,256,127	72,725,277	-	-
Other comprehensive income to be reclassified to profit or loss in subsequent periods, net of income tax		1,133,503,718	45,248,504	3,006,303,399	(27,476,773)
Other comprehensive income not to be reclassified to profit or loss in subsequent periods:					
Actuarial gain, net of income tax	28	10,711,355	45,830,261	10,711,355	50,315,188
Share of other comprehensive income from associates	13.2	-	(2,635,896)	-	-
Other comprehensive income not to be reclassified to profit or loss in subsequent periods, net of income tax		10,711,355	43,194,365	10,711,355	50,315,188
Other comprehensive income for the year		1,144,215,073	88,442,869	3,017,014,754	22,838,415
Total comprehensive income for the year		6,480,062,616	3,230,793,890	6,124,445,007	2,998,309,670
Total comprehensive income attributable to:					
Equity holders of the Company		6,461,253,110	3,213,133,396	6,124,445,007	2,998,309,670
Non-controlling interests of the subsidiaries		18,809,506	17,660,494	-	-
		6,480,062,616	3,230,793,890	-	-

The accompanying notes are an integral part of the financial statements.

Statement of Changes in Shareholders' Equity

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of changes in shareholders' equity

For the year ended 31 December 2018

(Unit: Baht)

	Consolidated financial statements										
	Equity attributable to the shareholders of the Company										
	Other components of shareholders' equity										
	Other comprehensive income										
	Capital deficit from change in shareholding in subsidiaries	Premium on ordinary shares	Retained earnings	Unrealised gain (loss) from cash flow hedges	Unrealised valuation of available-for-sale securities	Share of other comprehensive income from associates	Total other components of shareholders' equity	Total equity attributable to shareholders of the Company	Equity attributable to non-controlling interests of the subsidiaries	Total shareholders' equity	
Issued and paid-up share capital			Appropriated - statutory reserve	Unappropriated							
15,285,000,000	(32,148,702)	5,816,938,084	928,690,000	7,763,596,451	(14,886,726)	-	(57,937,538)	29,689,251,569	93,452,714	29,782,704,283	
Profit for the year	-	-	-	3,123,129,324	-	-	-	3,123,129,324	19,221,697	3,142,351,021	
Other comprehensive income for the year	-	-	-	44,755,568	(27,476,773)	-	72,725,277	90,004,072	(1,561,203)	88,442,869	
Total comprehensive income for the year	-	-	-	3,167,884,892	(27,476,773)	-	72,725,277	45,248,504	17,660,494	3,230,793,890	
Transferred to statutory reserve (Note 29)	-	-	-	(148,800,000)	-	-	-	-	-	-	
Dividend paid (Note 37)	-	-	-	(1,834,200,000)	-	-	-	(1,834,200,000)	-	(1,834,200,000)	
Balance as at 31 December 2017	15,285,000,000	5,816,938,084	1,077,490,000	8,948,481,343	(42,363,499)	-	14,787,739	31,068,184,965	111,113,208	31,179,298,173	
Balance as at 1 January 2018	15,285,000,000	5,816,938,084	1,077,490,000	8,948,481,343	(42,363,499)	-	14,787,739	31,068,184,965	111,113,208	31,179,298,173	
Profit for the year	-	-	-	5,317,038,037	-	-	-	5,317,038,037	18,809,506	5,335,847,543	
Other comprehensive income for the year	-	-	-	10,711,355	24,916,559	(3,838,597)	(3,838,597)	1,144,215,073	-	1,144,215,073	
Total comprehensive income for the year	-	-	-	5,327,749,392	24,916,559	(3,838,597)	(3,838,597)	6,461,253,110	18,809,506	6,480,062,616	
Investment in subsidiary (Note 12)	-	-	(43,621,749)	-	-	-	-	(43,621,749)	(16,662,517)	(60,284,266)	
Transferred to statutory reserve (Note 29)	-	-	-	(155,400,000)	-	-	-	-	-	-	
Dividend paid (Note 37)	-	-	-	(1,987,050,000)	-	-	-	(1,987,050,000)	-	(1,987,050,000)	
Balance as at 31 December 2018	15,285,000,000	5,816,938,084	1,232,890,000	12,133,780,735	(17,446,940)	1,112,425,756	10,949,142	35,498,786,326	113,280,197	35,612,026,523	

The accompanying notes are an integral part of the financial statements.

Statement of Changes in Shareholders' Equity

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of changes in shareholders' equity

For the year ended 31 December 2018

(Unit: Baht)

	Separate financial statements									
	Other components of shareholders' equity									
	Retained earnings		Unrealised		Unrealised gain on valuation		Total other		Total	
	Issued and paid-up share capital	Premium on ordinary shares	Appropriated - statutory reserve	Unappropriated	gain (loss) from cash flow hedges	of available-for-sale securities	shareholders' equity components of	shareholders' equity	shareholders' equity	shareholders' equity
Balance as at 1 January 2017	15,285,000,000	5,816,938,084	928,690,000	5,077,414,032	(14,886,726)	-	(14,886,726)	27,093,155,390	27,093,155,390	27,093,155,390
Profit for the year	-	-	-	2,975,471,255	-	-	-	2,975,471,255	2,975,471,255	2,975,471,255
Other comprehensive income for the year	-	-	-	50,315,188	(27,476,773)	-	(27,476,773)	22,838,415	22,838,415	22,838,415
Total comprehensive income for the year	-	-	-	3,025,786,443	(27,476,773)	-	(27,476,773)	2,998,309,670	2,998,309,670	2,998,309,670
Transferred to statutory reserve (Note 29)	-	-	148,800,000	(148,800,000)	-	-	-	-	-	-
Dividend paid (Note 37)	-	-	-	(1,834,200,000)	-	-	-	(1,834,200,000)	(1,834,200,000)	(1,834,200,000)
Balance as at 31 December 2017	15,285,000,000	5,816,938,084	1,077,490,000	6,120,200,475	(42,363,499)	-	(42,363,499)	28,257,265,060	28,257,265,060	28,257,265,060
Balance as at 1 January 2018	15,285,000,000	5,816,938,084	1,077,490,000	6,120,200,475	(42,363,499)	-	(42,363,499)	28,257,265,060	28,257,265,060	28,257,265,060
Profit for the year	-	-	-	3,107,430,253	-	-	-	3,107,430,253	3,107,430,253	3,107,430,253
Other comprehensive income for the year	-	-	-	10,711,355	24,916,559	2,981,386,840	3,006,303,399	3,017,014,754	3,017,014,754	3,017,014,754
Total comprehensive income for the year	-	-	-	3,118,141,608	24,916,559	2,981,386,840	3,006,303,399	6,124,445,007	6,124,445,007	6,124,445,007
Transferred to statutory reserve (Note 29)	-	-	155,400,000	(155,400,000)	-	-	-	-	-	-
Dividend paid (Note 37)	-	-	-	(1,987,050,000)	-	-	-	(1,987,050,000)	(1,987,050,000)	(1,987,050,000)
Balance as at 31 December 2018	15,285,000,000	5,816,938,084	1,232,890,000	7,095,892,083	(17,446,940)	2,981,386,840	2,963,939,900	32,394,660,067	32,394,660,067	32,394,660,067

The accompanying notes are an integral part of the financial statements.

Cash Flow Statement

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Cash flow statement

For the year ended 31 December 2018

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cash flows from operating activities				
Profit before tax	6,524,994,302	3,837,953,127	3,752,461,471	3,598,665,652
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Amortisation and depreciation	3,866,567,954	3,544,655,128	3,212,916,480	2,959,316,613
Allowance for doubtful debt (reversal)	(272,590)	272,590	-	-
Revenue recognition of unearned revenue from advertising management rights	-	-	(1,248,360)	(1,248,360)
Gains on sale of investments	(499,393,573)	(11,887,334)	(561,521,690)	(11,584,181)
Unrealised gain on change in value of investments	(10,442,237)	(29,720,956)	(10,427,852)	(29,711,197)
Gain on reclassification of investment	(2,496,266,396)	-	-	-
Loss (gain) on disposals/write-off of equipment, intangible asset under concession agreement of the MRT Blue Line Project and other intangible assets	(1,639,242)	6,028,232	(696,555)	6,384,610
Project remuneration expense	355,662,416	384,806,190	355,662,416	384,806,190
Compensation for site acquisition cost	464,364,839	495,800,643	464,364,839	495,800,643
Provision for long-term employee benefits	220,232,028	76,747,586	213,502,447	74,217,105
Share of profit from investments in associates	(432,797,238)	(405,916,311)	-	-
Unrealised loss (gain) on exchange rate	102,702	(105,460)	102,702	(105,460)
Interest income	(450,618,868)	(175,173,105)	(556,402,806)	(329,456,108)
Dividend income	-	-	(493,938,904)	(551,455,191)
Interest expenses	1,662,162,353	1,572,881,432	1,635,492,763	1,570,619,514
Financial fees	98,665,000	-	98,665,000	-
Profit from operating activities before changes in operating assets and liabilities	9,301,321,450	9,296,341,762	8,108,931,951	8,166,249,830
Operating assets (increase) decrease				
Bank account for unearned fare box revenue	(150,016,110)	-	(150,016,110)	-
Trade and other receivables	(43,104,677)	155,095,799	(61,941,675)	170,916,997
Receivable under the concession agreement	1,649,683,275	412,420,819	1,649,683,275	412,420,819
Other current assets	85,434,222	101,986,629	86,187,884	94,045,237
Other non-current assets	(3,438,527)	13,393,495	(869,124)	15,511,002
Cash paid for project remuneration	(1,350,459,625)	(1,252,089,706)	(1,350,459,625)	(1,252,089,706)
Operating liabilities increase (decrease)				
Trade payables and other payables	21,244,663	8,049,920	57,066,771	13,469,473
Unearned fare box revenue	24,855,415	26,290,336	24,855,415	26,290,336
Deposits on stored value ticket	10,897,739	11,053,550	10,897,739	11,053,550
Other current liabilities	27,513,762	(8,194,092)	42,792,229	(14,817,064)
Other non-current liabilities	(14,318,960)	2,229,724	(751,999)	(1,004,420)
Cash paid for long-term employee benefits	(10,325,738)	(7,740,208)	(9,692,030)	(7,174,500)
Cash paid for compensation for site acquisition cost	(1,600,000,000)	(1,500,000,000)	(1,600,000,000)	(1,500,000,000)
Net cash flows from operating activities	7,949,286,889	7,258,838,028	6,806,684,701	6,134,871,554
Cash received from interest income	452,272,207	139,602,025	451,680,807	139,325,027
Cash paid for income tax	(334,491,602)	(248,930,830)	(250,907,959)	(190,353,092)
Net cash flows from operating activities	8,067,067,494	7,149,509,223	7,007,457,549	6,083,843,489

The accompanying notes are an integral part of the financial statements.

Cash Flow Statement (Continued)

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Cash flow statement (continued)

For the year ended 31 December 2018

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cash flows from investing activities				
Cash received from sales of current investments	13,949,038,431	19,366,871,411	12,412,038,431	17,894,971,411
Cash paid for purchase of current investments	(13,767,671,038)	(14,833,370,394)	(12,228,710,197)	(13,359,461,719)
Cash paid for purchase of investments in subsidiary	(60,284,267)	-	(60,284,267)	-
Cash received from sales of investments in associates	540,351,710	-	540,351,710	-
Cash received from sales of other long-term investment	2,075,443,606	-	2,075,443,606	-
Cash received from sales of investment before amalgamation	-	769,741,462	-	769,741,462
Increase in other long-term investments	(107,436,375)	(417,012,300)	(107,436,375)	(417,012,300)
Cash received from long-term loans to related parties	-	-	1,644,016,650	1,085,531,900
Cash paid for long-term loans to related party	-	-	-	(10,000,000)
Cash received from sales of equipment and intangible asset under concession agreement of the MRT Blue Line Project	3,215,729	7,706,184	2,080,600	7,139,543
Purchase of equipment	(23,042,080)	(89,131,306)	(13,351,832)	(87,335,527)
Advance payment for purchase of equipment	-	(77,040)	-	-
Cash received from interest income	4,676,477	21,484,010	449,535,434	399,511,649
Cash received from dividend income	493,938,904	551,455,191	493,938,904	551,455,191
Cash paid for project cost of the MRT Chalong Ratchadham Line	(390,955)	(65,000,000)	(390,955)	(65,000,000)
Cash paid for intangible asset under concession agreement of the MRT Blue Line Project	(9,963,513,656)	(7,906,570,615)	(9,933,491,841)	(7,854,438,863)
Cash paid for expressway construction	(284,809,045)	(130,085,647)	(284,809,045)	(130,085,647)
Interest expenses capitalised as cost of projects	(181,764,061)	(48,805,714)	(181,764,061)	(48,805,714)
Increase in other intangible assets	(30,649,444)	(25,644,761)	(29,079,944)	(23,533,540)
Net cash flows used in investing activities	(7,352,896,064)	(2,798,439,519)	(5,221,913,182)	(1,287,322,154)
Cash flows from financing activities				
Cash received from short-term loan from financial institution	10,000,000,000	-	10,000,000,000	-
Repayment of short-term loans from financial institutions	(10,816,000,000)	(1,088,000,000)	(10,816,000,000)	(1,088,000,000)
Cash received from long-term loans from financial institutions	5,300,000,000	500,000,000	4,200,000,000	-
Repayment of long-term loans from financial institutions	(13,475,010,069)	(3,536,448,559)	(13,475,010,069)	(3,536,448,559)
Cash received from issuance of debentures	10,000,000,000	5,000,000,000	10,000,000,000	5,000,000,000
Cash paid for financial fees	(181,553,849)	(8,219,329)	(181,553,849)	(8,219,329)
Interest paid	(1,655,419,747)	(1,534,140,236)	(1,629,179,747)	(1,532,009,826)
Dividend paid	(1,987,050,000)	(1,834,200,000)	(1,987,050,000)	(1,834,200,000)
Net cash flows used in financing activities	(2,815,033,665)	(2,501,008,124)	(3,888,793,665)	(2,998,877,714)
Net increase (decrease) in cash and cash equivalents	(2,100,862,235)	1,850,061,580	(2,103,249,298)	1,797,643,621
Cash and cash equivalents at beginning of year	2,627,062,725	777,001,145	2,526,936,395	729,292,774
Cash and cash equivalents at end of year	526,200,490	2,627,062,725	423,687,097	2,526,936,395

Supplemental cash flows information

Non-cash items consist of:

Purchase of intangible asset under concession agreement of the MRT Blue Line Project, the MRT Chalong Ratchadham Line and increase in payable from expressway construction	13,607,477	1,228,818,865	13,607,477	1,228,818,865
Increase in receivable under the concession agreement from the Novation and Debt Repayment Agreement	-	13,618,880,612	-	13,618,880,612
Transfer other receivable - related party to receivable under the concession agreement	-	953,321,643	-	953,321,643
Increase in accrued interest expenses capitalised as cost of projects	48,098,650	-	48,098,650	-

The accompanying notes are an integral part of the financial statements.

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Notes to consolidated financial statements

For the year ended 31 December 2018

1. General information

Bangkok Expressway and Metro Public Company Limited (“the Company”) is a public company incorporated from an amalgamation on 30 December 2015 and domiciled in Thailand. The Company’s major shareholder is the CH. Karnchang Public Company Limited, which was incorporated in Thailand and its registered address is 587 Sutthisarn Road, Dindaeng Subdistrict, Dindaeng District, Bangkok. The Company has four branches.

The Company is principally engaged in the construction and management of expressways, the operation of metro services and commercial development. Details are as follows:

A. Construction and management of expressways

The Company has been granted concessions by the Expressway Authority of Thailand (“EXAT”) for the construction and management of expressways, as follows:

A.1 The Si Rat Expressway under the Second Stage Expressway agreement (Sector A, Sector B and Sector C) and the Extension of the Second Stage Expressway agreement (Sector D).

The Company, as a concessionaire, invested in the design, construction and management of expressways. These consists of 4 sectors: Sector A (Rama IX-Ratchadapisek), Sector B (Phayathai-Bangkhlo), Sector C (Ratchadapisek-Chaeng Watthana) and Sector D (Rama IX-Srinagarindra). The concession periods are 30 years commencing on 1 March 1990 for Sector A, Sector B and Sector C, and on 17 April 1997 for Sector D. The EXAT has the right to collect all toll revenues and is to compensate the Company in the form of toll revenue sharing at the rates specified in the concession agreement, throughout the concession period. The Company has the right to extend the concession for two further periods of 10 years each, depending upon terms and conditions that are to be agreed between the parties.

- A.2 The Si Rat - Outer Ring Road Expressway Project, under a concession agreement in respect of the investment, design, construction, management, operation and maintenance.

The Company, as concessionaire, invested in the design, construction, management, operation and maintenance of the Si Rat - Outer Ring Road Expressway Project, and is also responsible for expressway operation expenses throughout the concession period, which is for 30 years commencing on 15 December 2012. The Company has the right to collect all toll revenue and rights to all other related income, and is to compensate the EXAT in the form of toll revenue sharing at the rates specified in the concession agreement, throughout the concession period.

The Si Rat - Outer Ring Road Expressway started operation on 22 August 2016.

On 19 July 2017, the Company signed the additional amendment agreement for design and construction of the Connection between the Si Rat-Outer Ring Road Expressway and the north of Si Rat Expressway (heading to Chaeng Watthana Road) with the EXAT with a term of 18 months.

On 30 September 2018, the Company officially started operation the Connection between the Si Rat-Outer Ring Road Expressway and the north of Si Rat Expressway (heading to Chaeng Watthana Road).

- A.3 The Udon Rattaya Expressway Project (Bang Pa-In - Pak Kret Expressway) under a concession agreement in respect of the construction and management of the expressway project of a subsidiary.

The Subsidiary, as concessionaire, invested in the design, construction and management of the expressway, together with related business under a 30-year concession commencing on 27 September 1996. The EXAT has the right to collect all toll revenue and is to compensate the Subsidiary in the form of revenue sharing at the rates specified in the concession agreement, throughout the concession period. The Subsidiary has the right to extend the concession for two further periods of 10 years each, depending upon terms and conditions that are to be agreed between the parties.

B. Operation of metro services

The Company received concessions from the Mass Rapid Transit Authority of Thailand (“MRTA”) to operate metro services, as follows:

B.1 The MRT Blue Line Project.

The Company, as concessionaire of the MRTA Initial System Project - Chaloe Ratchamongkhon Line (The MRT Blue Line: Hua Lamphong Station - Bang Sue Station) under the MRTA Initial System Project - Chaloe Ratchamongkhon Line, invested in M&E Equipment and is to operate and maintain the MRTA Initial System for a concession period of 25 years, commencing on 2 July 2004.

Subsequently, the Company was selected as an operator of the MRT Blue Line Extension Project: Bang Sue station-Tao Poon station. On 16 February 2017, the Company signed an agreement for the supply of M&E Systems equipment, and operation and maintenance services with a term of 2 years, commencing from the official starting date of the operation of the MRT Blue Line Extension Project: Bang Sue station-Tao Poon station. In addition, if the Company signed the MRT Blue Line Concession Agreement, the requirements of the MRT Blue Line Concession Agreement were to be applied instead.

On 28 March 2017, the Company was selected as concessionaire of the MRT Blue Line Concession Agreement, in accordance with a cabinet resolution. On 31 March 2017, the Company signed the MRT Blue Line Concession Agreement for a concession period of approximately 33 years under the Build, Transfer and Operate basis, with the MRTA. Accordingly, the MRT Blue Line Extension Project: Bang Sue station-Tao Poon Station Agreement was canceled. The MRT Blue Line Project consists of the MRTA Initial System Project - Chaloe Ratchamongkhon Line: Hua Lamphong Station-Bang Sue Station and the MRT Blue Line Extension: Hua Lamphong Station-Lak Song Station and Bang Sue Station-Tha Phra Station.

Under the MRT Blue Line Concession Agreement, a concession agreement with the MRTA for the MRTA Initial System Project - Chaloe Ratchamongkhon Line is deemed to be part of the MRT Blue Line Concession Agreement, and only the clauses relating the rights, duties and provisions with respect to fares, fare rates and payment of remuneration to the MRTA will remain in effect until the end of the concession agreement with the MRTA for the MRTA Initial System Project - Chaloe Ratchamongkhon Line.

The Company, as concessionaire of the MRT Blue Line Concession Agreement is responsible for the supply, installation and testing of the M&E Systems of the MRT Blue Line Extension Project (Phase 1 of the concession, which has a terms of 36 months from the commencement date of work by the MRTA) and operation of the Through Operation systems of the MRT Blue Line Project (Phase 2 of the concession, which has a term of 30 years from the commencement date of the revenue-generating service on all sectors). The Company has rights, duties and obligations to claim, collect, and retain all fares, and to generate revenue from commercial development, and is responsible for all investment, payment of operating costs, and payment of remuneration to the MRTA in accordance with the Concession.

The Company is required to gradually commence operation of the MRT Blue Line Extension Project in 3 sectors.

Sector 1: Bang Sue Station-Tao Poon Station within 15 August 2017.

Sector 2: Hua Lamphong Station-Lak Song Station within 30 months.

Sector 3: Tao Poon Station-Tha Phra Station within 36 months.

On 11 August 2017, the Company officially commenced operation of the MRT Blue Line Extension Project: Bang Sue Station-Tao Poon Station.

- B.2 The MRT Chalong Ratchadham Line Project (Bang Yai-Rat Burana, Bang Yai-Bang Sue Section (Khlung Bang Phai Station-Tao Poon Station)) (the "MRT Purple Line Project") Contract 4: Concession for Supply of M&E Systems and O&M Services.

The Company, as concessionaire, invested in the M&E Systems and rolling stock. In addition, the Company provides operation and maintenance services. The MRTA has the right to collect fare box revenues and commercial revenues from the use of all civil infrastructure and the M&E Systems, and is to compensate the Company in the form of M&E Systems equipment costs (Phase I) and operation and maintenance service fees (Phase II). Details are as below:

Phase I: Design and Build

The Company is to design, supply, install and test the M&E Systems within 1,200 days after the agreement date (4 September 2013). In return the Company is to receive remuneration and interest totaling Baht 20,011 million from the MRTA in the form of monthly payments over a period of 10 years, beginning from the date of the Commissioning Certificate.

On 6 August 2016, the Company delivered the M&E Systems and Rolling Stocks under Phase 1 of the concession agreement to the MRTA. The Company has recorded amounts receivable from the MRTA under the account of receivable under the concession agreement, as described in Note 11 to the financial statements.

Phase II: O&M services

The Company is responsible for the operation of metro services, including repair, maintenance and improvement of all equipment and materials related to the civil infrastructure works and M&E Systems from the date specified in the Commissioning Certificate until the end of the concession period. In addition, the Company shall transfer rights of civil infrastructure and M&E Systems to the MRTA when the concession agreement ends. The compensation for Phase II under the agreement, amounting to approximately Baht 57,208 million (excluding escalations for inflation and adjustments to reflect electricity prices), will be paid to the Company on a monthly basis until the expiration of the concession agreement (3 September 2043).

On 6 August 2016, the Company is delivered the operating civil infrastructure and M&E Systems equipment of the MRT Chalong Ratchadham Line from the MRTA. On that day, the operation of the MRT Chalong Ratchadham Line Project officially started.

- C. Commercial development business, which consists of commercial developments related to the expressways and the operation of metro services.

On 1 October 2018, the Company and Bangkok Metro Network Limited (a subsidiary company) agreed to terminate and replace the amendment to the commercial development right agreement dated 11 March 2017, and terminate the contract granting commercial development rights to manage advertising services through the Passenger Information Display System (PIDs) dated 1 January 2010. Under the agreements, the Company transferred the commercial development rights to provide services relating to the MRTA Initial System Project - Chaloem Ratchamongkhon Line and to manage advertising services through PIDs in the MRTA Initial System Project - Chaloem Ratchamongkhon Line to the subsidiary. It also had the right to receive commercial development revenue and share the revenue with the Company at the rates specified in the agreement. On the same day, the Company and the subsidiary entered into a management agreement for commercial development of the MRT Blue Line Project (the MRTA Initial System Project - Chaloem Ratchamongkhon Line and the MRT Blue Line Extension Project). Under this agreement, the Company authorised the subsidiary to act on its behalf in managing commercial development and advertising services through the Passenger Information Display System (PIDs) for the MRT Blue Line Project. The contract will expire in July 2029, and the Company is to pay a management fee to the subsidiary based on the specified rate. Therefore, for the period from 1 October 2018, the Company has recorded revenue and expenses relating to commercial development of the MRT Blue Line Project in profit or loss of the Company.

2. Basis of preparation

- 2.1 The financial statements have been prepared in accordance with Thai Financial Reporting Standards enunciated under the Accounting Profession Act B.E. 2547 and their presentation has been made in compliance with the stipulations of the Notification of the Department of Business Development dated 11 October 2016, issued under the Accounting Act B.E. 2543.

The financial statements in Thai language are the official statutory financial statements of the Company. The financial statements in English language have been translated from the Thai language financial statements.

The financial statements have been prepared on a historical cost basis except where otherwise disclosed in the accounting policies.

2.2 Basis of consolidation

- a) The consolidated financial statements include the financial statements of Bangkok Expressway and Metro Public Company Limited ("the Company") and its subsidiaries ("the subsidiaries"). Details are as follows:

Company's name	Nature of business	Country of incorporation	Proportion of Shareholding	
			<u>2018</u> (Percent)	<u>2017</u> (Percent)
Northern Bangkok Expressway Company Limited	Operation and management of Bang Pa-In - Pak Kret Expressway project	Thailand	99.99	99.99
Bangkok Metro Networks Limited	Management on commercial development of the MRT project	Thailand	69.67	65.19

As described in Note 12 to the financial statements, the Company made an additional investment in 4.48 percent of the issued and fully paid up share capital of Bangkok Metro Network Limited in December 2018.

- b) The Company is deemed to have control over an investee or subsidiaries if it has rights, or is exposed, to variable returns from its involvement with the investee, and it has the ability to direct the activities that affect the amount of its returns.
- c) Subsidiaries are fully consolidated, being the date on which the Company obtains control, and continue to be consolidated until the date when such control ceases.
- d) The financial statements of the subsidiaries are prepared using the same significant accounting policies as the Company.

- e) Material balances and transactions between the Company and the subsidiaries have been eliminated from the consolidated financial statements.
- f) Non-controlling interests represent the portion of profit or loss and net assets of the subsidiaries that are not held by the Company and are presented separately in the consolidated profit or loss and within equity in the consolidated statement of financial position.

2.3 The separate financial statements, which present investment in subsidiaries and associates presented under the cost method.

3 New financial reporting standards

(a) Financial reporting standards that became effective in the current year

During the year, the Company and its subsidiaries have adopted the revised financial reporting standards and interpretations (revised 2017) which are effective for fiscal years beginning on or after 1 January 2018. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes and clarifications directed towards disclosures in the notes to financial statements. The adoption of these financial reporting standards does not have any significant impact on the Company and its subsidiaries' financial statements.

(b) Financial reporting standards that will become effective for fiscal years beginning on or after 1 January 2019

The Federation of Accounting Professions issued a number of revised and new financial reporting standards and interpretations (revised 2018) which are effective for fiscal years beginning on or after 1 January 2019. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes directed towards clarifying accounting treatment and providing accounting guidance for users of the standards.

The management of the Company and its subsidiaries believe that most of the revised financial reporting standards will not have any significant impact on the financial statements when they are initially applied. However, the new standard involves changes to key principles, as summarised below.

TFRS 15 Revenue from Contracts with Customers

TFRS 15 supersedes the following accounting standards together with related Interpretations.

TAS 11 (revised 2017)	Construction contracts
TAS 18 (revised 2017)	Revenue
TSIC 31 (revised 2017)	Revenue - Barter Transactions Involving Advertising Services
TFRIC 13 (revised 2017)	Customer Loyalty Programs
TFRIC 15 (revised 2017)	Agreements for the Construction of Real Estate
TFRIC 18 (revised 2017)	Transfers of Assets from Customers

Entities are to apply this standard to all contracts with customers unless those contracts fall within the scope of other standards. The standard establishes a five-step model to account for revenue arising from contracts with customers, with revenue being recognised at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. The standard requires entities to exercise judgement, taking into consideration all of the relevant facts and circumstances when applying each step of the model.

The management of the Company and its subsidiaries believe that this standard will not have any significant impact on the financial statements when it is initially applied.

(c) Financial reporting standards related to financial instruments that will become effective for fiscal years beginning on or after 1 January 2020

During the current year, the Federation of Accounting Professions issued a set of TFRSs related to financial instruments, which consists of five accounting standards and interpretations, as follows:

Financial reporting standards:

TFRS 7	Financial Instruments: Disclosures
TFRS 9	Financial Instruments

Accounting standard:

TAS 32	Financial Instruments: Presentation
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Financial Reporting Standard Interpretations:

TFRIC 16	Hedges of a Net Investment in a Foreign Operation
TFRIC 19	Extinguishing Financial Liabilities with Equity Instruments

These TFRSs related to financial instruments make stipulations relating to the classification of financial instruments and their measurement at fair value or amortised cost (taking into account the type of instrument, the characteristics of the contractual cash flows and the Company's business model), calculation of impairment using the expected credit loss method, and hedge accounting. These include stipulations regarding the presentation and disclosure of financial instruments. When the TFRSs related to financial instruments are effective, some accounting standards, interpretations and guidance which are currently effective will be cancelled.

The management of the Company and its subsidiaries is currently evaluating the impact of these standards to the financial statements in the year when they are adopted.

4. Significant accounting policies

4.1 Revenue and expense recognition

a) Toll revenue recognition

Toll revenue represent the invoiced value, excluding value added tax, of service rendered.

b) Toll revenue sharing recognition

Toll revenue sharing represent the invoiced value, excluding value added tax, on accrual basis.

c) Fare box revenue recognition

Smart card and smart token sales are recognised as revenue when the services are rendered. Prepaid value in stored value smart cards is recorded as unearned fare box revenue in current liabilities in the statement of financial position.

d) Revenue recognition from provision of operating services

Revenue from provision of operating services is recognised when services have been rendered taking into accounting the stage of completion, excluding value added tax. Service rate charged is in accordance with rates stipulated in the agreement.

e) Revenue recognition from commercial development revenue

Commercial development revenue is recognised as income when service has been rendered.

f) Financial revenue recognition

Financial revenue is revenue from receivable under the concession agreement and is realised over the installment period using the effective interest rate method. Revenue is recognised when installments come due, regardless of whether collection is made, and is presented under interest income in profit and loss.

g) Other revenues and expenses recognition

Interest income

Interest income is recognised on an accrual basis based on the effective interest rate.

Dividends

Dividends are recognised when the right to receive the dividends is established.

Other expenses

Expenses are recognised on accrual basis.

4.2 Cash and cash equivalents

Cash and cash equivalents consist of cash in hand and cash at banks, and all highly liquid investments with an original maturity of three months or less and not subject to withdrawal restrictions.

4.3 Trade and other receivables

Trade and other receivables are stated at the net realisable value. Allowance for doubtful accounts is provided for the estimated losses that may be incurred in collection of receivables. The allowance is generally based on collection experience and analysis of debt aging.

4.4 Receivable under the concession agreement

Receivable under the concession agreement is stated at the contract value net of unrealised financial revenue.

4.5 Investments

- a) Investments in securities held for trading are stated at fair value. Changes in the fair value of these securities are recorded in profit or loss.
- b) Investments in available-for-sale securities are stated at fair value. Changes in the fair value of these securities are recorded in other comprehensive income, and will be recorded in profit or loss when the securities are sold.
- c) Investments in debt securities, both due within one year and expected to be held to maturity, are recorded at amortised cost. The premium/discount on debt securities is amortised/accreted by the effective rate method with the amortised/accreted amount presented as an adjustment to the interest income.
- d) Investment in non-marketable equity securities, which the Company classifies as other investments, are stated at cost net of allowance for impairment loss (if any).
- e) Investment in associates are accounted for in the consolidated financial statements using the equity method.

- f) Investments in subsidiaries and associates are accounted for in the separate financial statements using the cost method.

The fair value of marketable securities is based on the latest bid price of the last working day of the year. The fair value of debt instruments is determined based on the required rate of return or the yield rates quoted by the Thai Bond Market Association. The fair value of unit trusts is determined from their net asset value.

The weighted average method is used for computation of the cost of investments.

In the event the Company reclassifies investments from one type to another, such investments will be readjusted to their fair value as at the reclassification date. The difference between the carrying amount of the investments and the fair value on the date of reclassification are recorded in profit or loss or recorded as other components of shareholders' equity, depending on the type of investment that is reclassified.

On disposal of an investment, the difference between net disposal proceeds and the carrying amount of the investment is recognised in profit or loss.

4.6 Investment properties

Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are stated at cost less accumulated depreciation and allowance for loss on impairment (if any).

No depreciation has been provided for land awaiting sales.

On disposal of investment properties, the difference between the net disposal proceeds and the carrying amount of the asset is recognised in profit or loss in the period when the asset is derecognised.

4.7 Building and equipment and depreciation

Building and equipment are stated at cost less accumulated depreciation and allowance for loss on impairment of assets (if any).

Depreciation of building and equipment is calculated by reference to their costs on the straight-line basis over the following estimated useful lives:

Building and construction improvement	5 years, 20 years
Furniture, fixture and equipment	3 - 5 years
Vehicles	5 - 16 years

Depreciation is included in determining income. No depreciation has been provided for assets under installations.

An item of building and equipment is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on disposal of an asset is included in profit or loss when the asset is derecognised.

4.8 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the respective assets. All other borrowing costs are expensed in the period they are incurred. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

4.9 Amortisation of rights to operate expressway sectors and amortisation

Rights to operate expressway sectors represent the cost of construction of the Second Stage Expressway System, the Si Rat - Outer Ring Road Expressway and the Bang Pa-In - Pak Kret Expressway. It is stated at cost less accumulated amortisation and allowance for loss on impairment (if any).

The rights to operate completed expressway sectors are amortised as expenses in income statements with the unit of throughput method over the concession period. The amortisation of rights to operate expressway sectors is charged to profit or loss and calculated as follows:

$$\begin{aligned} \text{Amortisation for the year} &= \text{Net rights to operate expressway sectors} \times \text{Percentage of} \\ &\quad \text{the number of vehicle volume for the year} \\ \\ \text{Percentage of the number of vehicle} &= \frac{\text{Current year's number of actual vehicle volume}}{\text{volume for the year} \quad (\text{Current year's number of actual vehicle volume} + \\ &\quad \text{Projected vehicle volume after current year to the} \\ &\quad \text{remaining years of the agreement})} \\ \\ \text{Net rights to operate expressway sectors} &= \text{Total actual cost of rights to operate expressway} \\ &\quad \text{sectors} - \text{Accumulated amortisation} \end{aligned}$$

No amortisation is provided for project costs under construction.

4.10 Rights to use sites for expressway and amortisation

The Company initially recorded the rights to use sites for expressway at cost, equal to the present value of future compensation for site acquisition cost to be paid to the EXAT under the Second Stage Expressway System agreement. Following initial recognition, the rights are carried at cost less accumulated amortisation and allowance for loss on impairment (if any).

The Company amortises the rights to use sites for expressway as an expense in the income statement is proportion to the number of actual vehicle volume. The Company reviews for impairment of the asset whenever there are indications of impairment and reviews the amortisation method at least once per year.

4.11 Intangible assets under concession agreement of the MRT Blue Line Project and amortisation

Intangible assets under concession agreement of the MRT Blue Line Project are stated at cost less accumulated amortisation and allowance for loss on impairment (if any).

The Company and its subsidiary capitalised as assets all expenditures related to the MRT Blue Line Project, which including management and consultant fees, design costs, electrical and mechanical works and rolling stock purchased during the concession period, interest and other financing expenses. These will be amortised to expenses over the concession period after the commencement of operations.

Equipment - Metro system

The Company has been adopting the unit of throughput method to amortise such intangible assets, which related to equipment of metro system, over concession period of the MRT Blue Line Project and based on the following methodology:

$$\text{Amortisation for the year} = \text{Net intangible assets under concession agreement of the MRT Blue Line Project} \\ \times \text{Percentage of passengers for the year}$$

$$\text{Percentage of Passengers for the year} = \frac{\text{Current year's actual passengers}}{(\text{Actual passengers for the current year} + \text{Projected passengers during the remaining concession year})}$$

Equipment - Other system

Amortisation of intangible assets under concession agreement of the MRT Blue Line Project Line is calculated by reference to its cost on the straight-line basis over the following estimated useful lives:

Equipment and rental area at station improvement	5 years and concession period
Telecommunication equipment	5 years and concession period
Advertising equipment	5 years

Net intangible assets under concession agreement of the MRT Blue Line Project = Total intangible assets under concession agreement of the MRT Blue Line Project - Accumulated amortisation

Amortisation of intangible assets under concession agreement of the MRT Blue Line Project is included in profit or loss.

No amortisation is provided on assets under installations.

4.12 Project cost of the MRT Chalong Ratchadham Line

Project cost of the MRT Chalong Ratchadham Line is stated at cost less accumulated amortisation and allowance for loss on impairment (if any). The amortisation is calculated on the straight-line basis over the concession period.

The amortisation is included in profit or loss.

4.13 Prepaid project remuneration

The Company records remuneration expense of the MRT Blue Line Project in profit or loss for each year based on the proportion of projected remuneration to projected revenue under the concession agreement over the concession period. Differences between the remuneration that the Company pays to the MRTA and the recognised remuneration expenses are recorded under “prepaid project remuneration” in the statement of financial position.

The proportion of projected remuneration to projected revenue under the concession agreement is reviewed at least once a year.

4.14 Other intangible assets and amortisation

The Company and its subsidiaries are initially recognised intangible assets at cost. Following the initial recognition, the intangible assets are carried at cost less any accumulated amortisation and allowance for loss on impairment (if any).

Intangible assets with finite useful lives are amortised on a systematic basis over the economic useful life and tested for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method of such intangible assets are reviewed at least at each financial year end. The amortisation is include in profit or loss.

The intangible assets with finite useful lives is computer software with 3 years, 5 years and 10 years useful lives.

4.15 Deferred financial fees

Financial expenses related to borrowings that are typically incurred on or before signing facility agreements and before the actual draw down of the loans are recorded as deferred financial fees. Deferred financial fees is presented as a deduction against the related loan account and amortised proportionately to the amount of the loan facility already drawn over the term of the loans.

The amortisation of deferred financial fees is capitalised as part of the cost of the respective assets until to get ready for their intended use.

4.16 Goodwill

Goodwill is initially recorded at cost, which equals to the excess of the cost of business combination over the fair value of the net assets acquired. If the fair value of the net assets acquired exceeds the cost to business combination, the excess is immediately recognised as gain in profit or loss.

Goodwill is carried at cost less any accumulated impairment losses. Goodwill is tested for impairment annually and when circumstances indicate that the carrying value may be impaired.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the Company's cash generating units that are expected to benefit from the synergies of the combination. The Company estimates the recoverable amount of each cash-generating unit to which the goodwill relates. Where the recoverable amount of the cash-generating unit is less than the carrying amount, an impairment loss is recognised in profit or loss. Impairment losses relating to goodwill cannot be reversed in future periods.

4.17 Related party transactions

Related parties comprise individuals or enterprises that control, or are controlled by, the Company and its subsidiaries, whether directly or indirectly, or which are under common control with the Company and its subsidiaries.

They also include associated companies, and individuals or enterprises which directly or indirectly own a voting interest in the Company that gives them significant influence over the Company and its subsidiaries, key management personnel, directors and officers with authority in the planning and direction of the Company and its subsidiaries' operations.

4.18 Long-term leases

Leases of equipment which transfer substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the lower of the fair value of the leased assets and the present value of the minimum lease payments. The outstanding rental obligations, net of finance charges, are included in long-term payables, while the interest element is charged to profit or loss over the lease period. The assets acquired under finance leases are depreciated over the useful life of the asset.

Leases of equipment which do not transfer substantially all the risks and rewards of ownership are classified as operating leases. Operating lease payments are recognised as an expense in profit or loss on a straight line basis over the lease term.

4.19 Foreign currencies

The consolidated and separate financial statements are presented in Baht, which is also the Company's functional currency. Items of each entity included in the consolidated financial statements are measured using the functional currency or that entity.

Transactions in foreign currencies are translated into Baht at the exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into Baht at the exchange rate ruling at the end of reporting period.

Gains and losses on exchange are included in determining income.

4.20 Impairment of assets

At the end of each reporting period, the Company and its subsidiaries performs impairment reviews in respect of their assets whenever events or changes in circumstances indicate that an asset may be impaired. An impairment loss is recognised when the recoverable amount of an asset, which is the higher of the asset's fair value less costs to sell and its value in use, is less than the carrying amount. In determining value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, an appropriate valuation model is used. These calculations are corroborated by a valuation model that, based on information available, reflects the amount that the Company could obtain from the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the costs of disposal.

The Company and its subsidiaries recognise an impairment loss in profit or loss.

4.21 Employee benefits

Short-term employee benefits

The Company and its subsidiaries will recognise salaries, wages, bonuses and contributions to the social security fund as expenses when incurred.

Post-employment benefits

Defined contribution plans

The Company, its subsidiaries and its employees have jointly established a provident fund. The fund is monthly contributed by employees and by the Company and its subsidiaries. The fund's assets are held in a separate trust fund and the contributions of the Company and its subsidiaries are recognised as expenses when incurred.

Defined benefit plans

The Company and its subsidiaries have obligations in respect of the severance payments they must make to employees upon retirement under labor law. The Company and its subsidiaries treat these severance payment obligations as a defined benefit plan.

The obligation under the defined benefit plan is determined by a professionally qualified independent actuary based on actuarial techniques, using the projected unit credit method.

Actuarial gains and losses arising from post-employment benefits are recognised immediately in other comprehensive income.

4.22 Provisions

Provisions are recognised when the Company and its subsidiaries have a present obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

Provision for compensation for site acquisition cost

The Company records provision for compensation for site acquisition cost based on the present value of future payments to be paid to the EXAT to compensate the site acquisition cost as stated in the Second Stage Expressway System.

4.23 Periodic maintenance on the expressway and rail systems

All annual maintenance costs are charged directly to the income statement in the year on which they are incurred. The independent specialists have stated that if annual repairs are carried out in accordance with the specified standard, there will be no requirement for major maintenance. As a result, no further amounts are set aside as provision for maintenance.

4.24 Income tax

Income tax expense represents the sum of corporate income tax currently payable and deferred tax.

Current tax

Current income tax is provided in the accounts at the amount expected to be paid to the taxation authorities, based on taxable profits determined in accordance with tax legislation.

Deferred tax

Deferred income tax is provided on temporary differences between the tax bases of assets and liabilities and their carrying amounts at the end of each reporting period, using the tax rates enacted at the end of the reporting period.

The Company and its subsidiaries recognise deferred tax liabilities for all taxable temporary differences while they recognise deferred tax assets for all deductible temporary differences and tax losses carried forward to the extent that it is probable that future taxable profit will be available against which such deductible temporary differences and tax losses carried forward can be utilised.

At each reporting date, the Company and its subsidiaries review and reduce the carrying amount of deferred tax assets to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised.

The Company and its subsidiaries record deferred tax directly to shareholders' equity if the tax relates to items that are recorded directly to shareholders' equity.

4.25 Derivative financial instruments and hedging

Derivative financial instruments

The Company and associated companies use derivative financial instruments to manage its risks associated with exchange rate and interest rate, such as interest rate swap agreements.

Such derivatives are initially recognised and measured at fair value on the date on which the derivative contract is entered into and are subsequently remeasured at fair value, which has been calculated using the quoted market rates, at the end of reporting period. Gains or losses resulting from changes in the fair value of the derivative financial instruments are recognised as financial assets or financial liabilities when the gain or loss occurs. However, where derivatives qualify for hedge accounting, recognition of any resultant gain or loss from changes in the fair value depends on the nature of the item being hedged.

Hedge accounting - Cash flow hedges

The Company and associated companies apply hedge accounting when the risk that has been hedged can be clearly identified and the effectiveness of the hedge can be measured. Gains or losses arising from changes in the fair value of hedging instruments or derivatives that effectively hedge exposure to fluctuations in cash flows that are either attributable to a particular risk associated with a recognised financial asset or financial liability, or to a highly probable forecast transaction, are recognised directly in other comprehensive income and transferred to be recognised in profit or loss when the hedged cash flow transaction occurs. However, if the hedge instrument is not effective, any gain or loss from a change in the fair value of the derivative financial instrument is recognised immediately to profit or loss.

4.26 Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between buyer and seller (market participants) at the measurement date. The Company and its subsidiaries apply a quoted market price in an active market to measure their assets and liabilities that are required to be measured at fair value by relevant financial reporting standards. Except in case of no active market of an identical asset or liability or when a quoted market price is not available, the Company and its subsidiaries measure fair value using valuation technique that are appropriate in the circumstances and maximises the use of relevant observable inputs related to assets and liabilities that are required to be measured at fair value.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy into three levels based on categorise of input to be used in fair value measurement as follows:

Level 1 - Use of quoted market prices in an observable active market for such assets or liabilities

Level 2 - Use of other observable inputs for such assets or liabilities, whether directly or indirectly

Level 3 - Use of unobservable inputs such as estimates of future cash flows

At the end of each reporting period, the Company and its subsidiaries determine whether transfers have occurred between levels within the fair value hierarchy for assets and liabilities held at the end of the reporting period that are measured at fair value on a recurring basis.

5. Significant accounting judgements and estimates

The preparation of financial statements in conformity with financial reporting standards at times requires management to make subjective judgements and estimates regarding matters that are inherently uncertain. These judgements and estimates affect reported amounts and disclosures; and actual results could differ from these estimates. Significant judgements and estimates are as follows:

Fair value of financial instruments

In determining the fair value of financial instruments that are not actively traded and for which quoted market prices are not readily available, the management exercise judgement, using a variety of valuation techniques and models. The input to these models is taken from observable markets, and includes credit risks for both bank and counter parties consideration of liquidity, correlation and longer-term volatility of financial instruments. Change in assumption which is related to calculating input, could affect fair value in financial statement and the disclosure of fair value hierarchy.

Impairment of investment in subsidiaries

The Company reviews impairment of investment in subsidiaries, which requires management to prepare projection of the cash flow expected to be generated by the investment in the future, and to choose a suitable discount rate in order to calculate the present value of those cash flows.

Building improvement and equipment/Depreciation

In determining depreciation of building improvement and equipment, the management is required to make estimates of the useful lives and residual values of the Company's building improvement and equipment and to review estimate useful lives and residual values when there are any changes.

In addition, the management is required to review building improvement and equipment for impairment on a periodical basis and record impairment losses in the period when it is determined that their recoverable amount is lower than the carrying amount. This requires judgements regarding forecast of future revenues and expenses relating to the assets subject to the review.

Amortisation of rights to operate completed expressway sectors and rights to use sites for expressway construction

In determining amortisation of rights to operate completed expressway sectors and rights to use sites for expressway construction, the management has to project vehicle volume after current year for the remaining years of the agreement. Vehicle volume is projected based on the number of vehicles as assessed by an independent appraiser, and adjusted by comparison to actual vehicle volume. However, the actual vehicle volume in the future could differ from the estimate depending upon changes in external factors that may affect toll rates and vehicle volume.

Amortisation of intangible asset under concession agreement of the MRT Blue Line Project

In determining amortisation of intangible asset under concession agreement of the MRT Blue Line Project, the management has to project the number of passengers after current year for the remaining year of the agreement. Various assumptions needed to project by an accredited independent valuer, such as traffic model, network rail, average cost of fuel, and fare structure.

Deferred tax assets

Deferred tax assets are recognised for deductible temporary differences and unused tax losses to the extent that it is probable that taxable profit will be available against which the temporary differences and losses can be utilised. Significant management judgement is required to determine the amount of deferred tax assets that can be recognised, based upon the likely timing and level of estimate future taxable profits.

Post-employment benefits under defined benefit plans

The obligation under the defined benefit plan is determined based on actuarial techniques. Such determination is made based on various assumptions, including discount rate, future salary increase rate, mortality rate and staff turnover rate.

Disputes

The Company and its subsidiary have contingent liabilities as a result of litigation. The Company's management has used judgment to assess of the results of the litigation and believes that no loss will result. Therefore no contingent liabilities are recorded as at the end of reporting period.

6. Related party transactions

During the year, the Company and its subsidiaries had significant business transactions with related parties. Such transactions arose in the ordinary course of business and were concluded on commercial terms and bases agreed upon between the Company and its subsidiaries and those related parties.

The relationship between the Company and its subsidiaries and the related parties which have transactions with during the year summarised below.

Name of related parties	Relationship with the Company
CH. Kamchang Public Company Limited	Major shareholders
Mass Rapid Transit Authority of Thailand	Shareholders
Northern Bangkok Expressway Company Limited	Subsidiary
Bangkok Metro Networks Limited	Subsidiary
TTW Public Company Limited	Associated company
CK Power Public Company Limited	Related company through common directors of the Company
Krungthai Bank Public Company Limited	Related company through a director of the company's authority in the bank
Bangkok Bank Public Company Limited	Related company through a director of the company's authority in the bank
Xayaburi Power Company Limited	Related company through common directors of the Company
Bangpa-in Land Development Company Limited	Related company through common directors of the Company
Plan B Public Company Limited	Related company through having common directors with a subsidiary company since 9 February 2018

Such significant transaction for the year ended 31 December 2018 and 2017 are summarised below.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements		Pricing policy
	2018	2017	2018	2017	
<u>Transactions with major shareholder</u>					
Interest income	-	13	-	13	Fixed rate per annum
Cost of rail projects	8,184	8,854	8,184	8,854	Based on contracts
Cost of expressway construction	217	69	217	69	Based on contracts
Expressway and civil works maintenance expenses	383	335	383	335	Based on contracts
Office rental and service expenses	8	8	-	-	Based on contracts
<u>Transactions with subsidiary companies</u>					
(eliminated from the consolidated financial statements)					
Commercial development revenue	-	-	240	327	Based on contracts
Interest income from long-term loans	-	-	106	154	Based on contracts
Project management income	-	-	150	144	Based on contract
Commercial development management fee	-	-	90	-	Based on contract
<u>Transactions with associated companies</u>					
Dividend income	-	-	494	551	As declared
Sale of other long-term investment	2,065	-	2,065	-	Based on contract
<u>Transactions with related companies</u>					
Commercial development revenue	94	9	41	9	Based on contracts
Interest income from M&E Systems	435	118	435	118	FDR plus stipulated margin per annum
Cost of commercial development	11	-	-	-	Agreed between the parties
Remuneration from fare box (Inclusive of VAT)	345	361	345	361	Concession agreement
Remuneration from commercial development	11	24	11	24	Concession agreement
Property tax	1	4	1	4	At the rates charged by Bangkok Metropolitan Administration
Utility expenses	2	-	2	-	Based on contract
Financial fee	73	23	71	20	Based on contracts
Interest expenses on long-term loans	267	369	267	369	At the interest rate of MLR minus stipulated margins, 6M FDR plus stipulated margin, FDR plus stipulated margin and 6M THBFIX plus stipulated margin per annum (2017: At the fixed rate and interest rate of MLR minus stipulated margins, FDR plus stipulated margin and 6M FDR plus stipulated margin per annum)

As at 31 December 2018 and 2017, the balances of the accounts between the Company and its subsidiaries and related parties are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<u>Trade and other receivables (Note 10)</u>				
<u>Trade receivables</u>				
Bangkok Metro Networks Limited	-	-	28,893	77,820
Mass Rapid Transit Authority of Thailand	374,324	326,236	374,324	326,236
Plan B Media Public Company Limited ⁽¹⁾	14,681	-	14,681	-
Krungthai Bank Public Company Limited	288	-	288	-
Bangkok Bank Public Company Limited	396	-	396	-
Total	<u>389,689</u>	<u>326,236</u>	<u>418,582</u>	<u>404,056</u>
<u>Other receivables</u>				
Northern Bangkok Expressway Company Limited	-	-	13,375	12,840
CH. Karnchang Public Company Limited	119	-	119	-
Total	<u>119</u>	<u>-</u>	<u>13,494</u>	<u>12,840</u>
<u>Prepaid expenses</u>				
Krungthai Bank Public Company Limited	31,096	6,467	28,791	4,162
Bangkok Bank Public Company Limited	22,208	-	22,208	-
Total	<u>53,304</u>	<u>6,467</u>	<u>50,999</u>	<u>4,162</u>
<u>Advance payment under service contract</u>				
CH. Karnchang Public Company Limited	<u>4,009</u>	<u>24,969</u>	<u>4,009</u>	<u>24,969</u>
<u>Long-term loans to and interest receivable from related parties</u>				
Northern Bangkok Expressway Company Limited	-	-	2,858,996	4,823,496
Bangkok Metro Networks Limited	-	-	145,000	163,000
Total	-	-	3,003,996	4,986,496
Less: current portion	-	-	(18,000)	(18,000)
Long-term loans to and interest receivable from related parties, net of current portion	<u>-</u>	<u>-</u>	<u>2,985,996</u>	<u>4,968,496</u>
<u>Receivable under the concession agreement (Note 11)</u>				
Mass Rapid Transit Authority of Thailand	<u>12,510,098</u>	<u>14,159,781</u>	<u>12,510,098</u>	<u>14,159,781</u>
<u>Prepaid project remuneration</u>				
Mass Rapid Transit Authority of Thailand	<u>3,495,195</u>	<u>2,487,433</u>	<u>3,495,195</u>	<u>2,487,433</u>

⁽¹⁾ This company is a related company since 9 February 2018.

(Unit: Thousand Baht)

	Consolidated		Separate	
	financial statements		financial statements	
	2018	2017	2018	2017
<u>Trade and other payables (Note 23)</u>				
Bangkok Metro Networks Limited	-	-	32,279	-
CH. Karnchang Public Company Limited	725,067	1,291,085	724,987	1,291,075
Mass Rapid Transit Authority of Thailand	125,148	111,928	125,146	111,928
Krungthai Bank Public Company Limited	1,221	1,545	1,095	1,476
Bangkok Bank Public Company Limited	656	1,254	656	1,254
Others	517	1,840	320	-
Total	852,609	1,407,652	884,483	1,405,733
<u>Unearned revenue</u>				
Plan B Media Public Company Limited ⁽¹⁾	1,752	-	1,752	-
<u>Retention guarantees</u>				
CH. Karnchang Public Company Limited	16,781	4,153	16,781	2,874
<u>Unearned revenue from advertising management rights (Note 27)</u>				
Bangkok Metro Networks Limited	-	-	13,114	14,362

⁽¹⁾ This company is a related company since 9 February 2018.

As at 31 December 2018 and 2017, the balance of long-term loans to and interest receivables between the Company and its subsidiaries and the movement in the separate financial statement are as follows:

	(Unit: Thousand Baht)			
	Balance as at	Increase	Decrease	Balance as at
	31 December 2017	during the year	during the year	31 December 2018
Northern Bangkok Expressway Company Limited				
Long-term loan	3,992,709	-	(1,626,017)	2,366,692
Interest receivable	830,787	100,963	(439,446)	492,304
Total	4,823,496	100,963	(2,065,463)	2,858,996
Bangkok Metro Networks Limited				
Long-term loan	163,000	-	(18,000)	145,000
Interest receivable	-	5,412	(5,412)	-
Total	163,000	5,412	(23,412)	145,000
Grand total	4,986,496	106,375	(2,088,875)	3,003,996

The assets of Northern Bangkok Expressway Company Limited such as deposits at banks, current investments, rights in the Bang Pa-In - Pak Kret Expressway System, rights in toll revenues and beneficiary rights under insurance policies are secured against the loans from the Company. However, the subsidiary is able to make withdrawals from deposit at banks and trading of current investments for use as regular operating expenses.

As at 31 December 2018 and 2017, the balance of long-term loans from financial institution (only principal) between the Company and those related companies and the movement are as follows:

(Unit: Thousand Baht)

	Consolidated and Separate financial statements			
	Balance as at	Increase	Decrease	Balance as at
	31 December 2017	during the year	during the year	31 December 2018
Krungthai Bank Public Company Limited	9,394,584	1,400,000	(4,824,306)	5,970,278
Bangkok Bank Public Company Limited	4,221,631	1,400,000	(4,221,631)	1,400,000
Total	13,616,215	2,800,000	(9,045,937)	7,370,278

Directors and management's remuneration

For the year ended 31 December 2018 and 2017, the Company and its subsidiaries had employee benefit expenses payable to their directors and management as below.

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Short-term employee benefits	154,460	135,953	134,534	119,834
Post-employment benefits	16,865	8,760	15,305	8,102
Total	171,325	144,713	149,839	127,936

7. Cash and cash equivalents

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Cash	34,934	31,734	32,484	29,954
Bank deposits	491,266	2,595,329	391,203	2,496,982
Total	526,200	2,627,063	423,687	2,526,936

The Company has pledged the bank accounts used to deposit moneys received for work on the MRT Chalong Ratchadham Line Project, and transferred rights to debit or withdraw from the deposit accounts used to make payment of loans and related financial fees to a group of lenders to secure the Company's loan, as described in Note 24 to the financial statements.

As at 31 December 2018, the balance of the pledged bank account amounted to Baht 1,022 (2017: Baht 1,018)

8. Current investments

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Investments in trading securities				
Unit trusts	1,235,602	895,985	1,221,781	884,415
Add: Unrealised gain on changes in value of investments	46,873	43,472	46,867	43,468
Unit trusts - Fair value	1,282,475	939,457	1,268,648	927,883
Investments in held-to-maturity debt security				
Bills of exchange	-	510,000	-	510,000
Total current investments	1,282,475	1,449,457	1,268,648	1,437,883

9. Bank deposit for unearned fare box revenue

In order to comply with the Notification of the Bank of Thailand applicable to electronic card businesses, the Company has to deposit cash received in advance from cardholders with financial institutions in amount not less than the outstanding balance of the advance receipts at the end of each day. These funds cannot be used for any purposes other than making payment to service providers on behalf of the cardholder.

10. Trade and other receivables

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<u>Trade receivables</u>				
Trade receivables				
- Related parties (Note 6)	389,689	326,236	418,582	404,056
- Unrelated parties	116,002	101,923	80,785	-
Less: Allowance for doubtful debts	(4,910)	(5,182)	-	-
Total trade receivables - net	<u>500,781</u>	<u>422,977</u>	<u>499,367</u>	<u>404,056</u>
<u>Other receivables</u>				
Other receivables				
- Related parties (Note 6)	119	-	13,494	12,840
- Unrelated parties	2,631	1,585	1,966	1,544
Advances	-	1,177	-	30
Accrued income	<u>10,525</u>	<u>547</u>	<u>10,525</u>	<u>547</u>
Total other receivables	<u>13,275</u>	<u>3,309</u>	<u>25,985</u>	<u>14,961</u>
Trade and other receivables - net	<u>514,056</u>	<u>426,286</u>	<u>525,352</u>	<u>419,017</u>

Most of the trade receivables of the Company and its subsidiaries were within their credit terms or past due up to 3 months. As at 31 December 2018, the outstanding balances of trade receivables in the consolidated financial statements that are one year past due amounted to approximately Baht 7 million (2017: Baht 6 million) (Separate financial statements: Nil). The Company and its subsidiaries assessed the net realisable value of the receivables that were past due and recorded an allowance for doubtful accounts amounting to Baht 5 million in the consolidated financial statements (2017: Baht 5 million) (Separate financial statements: Nil).

11. Receivable under the concession agreement

(Unit: Thousand Baht)

Consolidated and
Separate financial statements

Net book value as at 1 January 2018	14,159,781
Collection	(1,649,683)
Net book value as at 31 December 2018	12,510,098
Current	1,649,683
Non-current	10,860,415
Total receivable under the concession agreement	12,510,098

Receivable under the concession agreement is a receivable for M&E Systems (Inclusive of VAT) of Phase 1 of the MRT Chalong Ratchadham Line Project as described in Note 1 B.2 to the financial statements. The MRTA will pay the remuneration and interest in the form of monthly installments until 2026. The Company transferred rights to receive cash from receivable under the concession agreement to the group of lenders, in settlement of long-term loans from financial institutions, as described in Notes 24.4 and 24.5 to the financial statement.

Amounts receivable under the concession agreement that are due in over 5 years amount to approximately Baht 4,262 million and carry interest rate of FDR plus stipulated margin.

Interest income for M&E Systems for the year end 31 December 2018 amounted to Baht 435 million (31 December 2017: Baht 118 million).

12. Investments in subsidiaries

Details of investments in subsidiaries as presented in separate financial statements are as follows:

(Unit: Million Baht)

Company's name	Registered capital		Paid-up capital		Proportion of investment		Cost		Allowance for impairment		Net book value	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
					(percent)							
Northern Bangkok Expressway Company Limited	6,000	6,000	5,250	5,250	99.99	99.99	2,604	2,604	(2,450)	(2,450)	154	154
Bangkok Metro Networks Limited	254	254	254	254	69.67	65.19	226	166	(16)	(16)	210	150
Total							2,830	2,770	(2,466)	(2,466)	364	304

In December 2018, the Company purchased 1,137,439 ordinary shares of Bangkok Metro Networks Limited (subsidiary company) (equal to 4.48 percent of its issued and paid-up share capital) from its existing shareholders, for a total of Baht 60 million. As a result of this transaction, its shareholding in the subsidiary changed from 65.19 percent to 69.67 percent.

The purchase transaction of investment in the subsidiary was detailed below.

(Unit: Thousand Baht)

	Consolidated financial statements
Purchase price of investment in subsidiary	60,284
Less: Non-controlling interests of subsidiary adjusted	(16,662)
Capital deficit from change in shareholding interest in subsidiary	43,622

13. Investments in associates

13.1 Details of investment in associates

(Unit: Million Baht)

Consolidated financial statements								
Company's name	Nature of business	Incorporated country	Shareholding		Cost		Carrying amounts based on equity method	
			percentage					
			<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
			(percent)					
CK Power Public Company Limited ⁽¹⁾	Investment in electricity generation and distribution business	Thailand	-	19.40	-	3,223	-	3,121
TTW Public Company Limited	Production and sales of treated water	Thailand	19.29	19.45	6,919	6,976	6,369	6,471
Total					<u>6,919</u>	<u>10,199</u>	<u>6,369</u>	<u>9,592</u>

(Unit: Million Baht)

Separate financial statements								
Company's name	Nature of business	Incorporated country	Shareholding		Cost			
			percentage					
			<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>		
			(Percent)					
CK Power Public Company Limited ⁽¹⁾	Investment in electricity generation and distribution business	Thailand	-	19.40	-	3,223		
TTW Public Company Limited	Production and sales of treated water	Thailand	19.29	19.45	4,242	4,277		
Total					<u>4,242</u>	<u>7,500</u>		

⁽¹⁾ Effective on 16 July 2018, the Company reclassified the investment from investment in associated company to investment in available-for-sale securities.

13.2 Share of comprehensive income and dividend received

During the year, the Company has recognised its share of profit/loss from investments in associates in the consolidated financial statements and dividend income in the separate financial statements as follows:

(Unit: Million Baht)

Company's name	Consolidated financial statements				Separate financial statements	
	Share of profit from investments in associates		Share of other comprehensive income from investments in associates		Dividend received	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
CK Power Public Company Limited ⁽¹⁾	28	31	26	56	32	85
TTW Public Company Limited	405	375	7	14	462	466
Total	433	406	33	70	494	551

13.3 Fair value investments in listed associates

In respect of investments in associates that are listed companies on the Stock Exchange of Thailand, their fair values are as follows:

(Unit: Million Baht)

Company's name	Fair values as at 31 December	
	<u>2018</u>	<u>2017</u>
CK Power Public Company Limited ⁽¹⁾	-	5,777 ⁽²⁾
TTW Public Company Limited	9,468	9,701
Total	9,468	15,478

⁽¹⁾ Effective on 16 July 2018, the Company reclassified the investment from investment in associated company to investment in available-for-sale securities.

⁽²⁾ Excluding the fair value of warrants as at 31 December 2017 amounting to Baht 189 million.

13.4 Summarised financial information about material associates

Summarised information about financial position

	(Unit: Million Baht)			
	CK Power Public		TTW Public	
	Company Limited ⁽¹⁾		Company Limited	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Current assets	-	6,294	4,216	3,279
Non-current assets	-	54,167	19,114	19,997
Current liabilities	-	(2,669)	(2,544)	(2,046)
Non-current liabilities	-	(27,134)	(8,421)	(9,353)
Non-controlling interests of the subsidiaries	-	(12,911)	(43)	(42)
Net assets	-	17,747	12,322	11,835
Shareholding percentage (percent)	-	19.40	19.29	19.45
Share of net assets on equity method	-	3,442	2,377	2,302
Elimination entries	-	(321)	-	-
Sales of investment in associate	-	-	(14)	-
Rights to produce and sell treated water	-	-	1,630	1,773
Goodwill	-	-	2,376	2,396
Carrying amounts of associates based on equity method	-	3,121	6,369	6,471

Summarised information about comprehensive income

	(Unit: Million Baht)			
	For the year ended 31 December			
	CK Power Public Company Limited ⁽¹⁾		TTW Public Company Limited	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Revenue	-	6,930	5,949	5,747
Profit	-	159	2,842	2,663
Other comprehensive income	-	288	38	73
Total comprehensive income	-	447	2,880	2,736

⁽¹⁾Effective on 16 July 2018, the Company reclassified the investment from investment in associated company to investment in available-for-sale securities.

CK Power Public Company Limited

In February 2018, the Company sold 4.5 million ordinary shares of CK Power Public Company Limited (“CKP”) amounting to Baht 19 million, and recorded gains on sale of investment in this associated company of Baht 9 million in profit or loss in the consolidated financial statements (Separate financial statements: Baht 9 million). As a result, its interest in the equity of CK Power Public Company Limited decreased from 19.40 percent to 19.34 percent.

On 20 June 2018, a meeting of the Company’s Board of Directors passed a resolution to approve the sale of investment in 111.2 million ordinary shares of CKP to an unrelated company for a total of Baht 437 million. As a result, its interest in the equity of CKP decreased from 19.34 percent to 17.83 percent. In addition, a meeting of the Board of Directors passed a resolution to approve the reclassification of investment in CKP from investment in associated company to investment in available-for-sale securities, which was consistent with the approval of the change in the purpose of investing in CKP shares from holding for long-term investment in order to receive returns in the form of interest and dividends to holding to convert to cash when the business opportunity and timing are appropriate.

Subsequently, in July 2018, the Company sold 111.2 million ordinary shares of CKP and recorded a gain on the sale of this investment of Baht 212 million in profit or loss in the consolidated financial statements (Separate financial statements: Baht 199 million). Following this sale, the Company reclassified its remaining investment in CKP from investment in associated company to investment in available-for-sale securities in line with the resolution passed by the meeting of the Board of Directors, which is consistent with the reduction in its interest in that in company’s equity and the purpose of holding the investment. The Company recorded a gain of Baht 2,496 million as a result of the reclassification of the investment in profit or loss in the consolidated financial statements in the current period.

TTW Public Company Limited

In February 2018, the Company sold 6.3 million ordinary shares of TTW Public Company Limited amounting to Baht 85 million, and recorded gains on sale of investment in this associated company of Baht 32 million in profit or loss in the consolidated financial statements (Separate financial statements: Baht 50 million). As a result, its equity interest of TTW Public Company Limited decreased from 19.45 percent to 19.29 percent.

14. Other long-term investments

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<u>Investment in available-for-sale securities</u>				
CK Power Public Company Limited				
- Ordinary shares ⁽¹⁾	5,178,082	-	2,813,840	-
- Warrants ⁽¹⁾	120,032	-	148,073	-
Add: Unrealised gain on changes in value of investments	1,390,533	-	3,726,734	-
	<u>6,688,647</u>	<u>-</u>	<u>6,688,647</u>	<u>-</u>
<u>Other investment</u>				
Xayaburi Power Company Limited	-	1,654,862	-	1,654,862
Other long-term investment - net	<u>6,688,647</u>	<u>1,654,862</u>	<u>6,688,647</u>	<u>1,654,862</u>

⁽¹⁾ Effective on 16 July 2018, the Company reclassified the investment from investment in associated company to investment in available-for-sale securities.

Xayaburi Power Company Limited

During December 2017 to April 2018, Xayaburi Power Company Limited called up additional parts of the unpaid portion of its shares, totaling Baht 107 million, and the Company made payment for the shares in the current period.

Subsequently in June 2018, the Company sold all investment in Xayaburi Power Company Limited to CK Power Public Company Limited for a total of Baht 2,065 million, and recorded gains on sale of this investment of Baht 244 million in profit or loss in the consolidated financial statements (Separate financial statements: 303 million).

15. Investment properties

As at 31 December 2018, the Company has investment properties, consisting of land, which is presented in the consolidated and separate financial statements at its fair value of Baht 320 million (2017: Baht 315 million).

The fair value of above investment properties has been determined based on the valuation performance by an accredited independent valuer, using market approach.

16. Building and equipment

(Unit: Thousand Baht)

	Consolidated financial statements			
	Building and construction improvement	Furniture, fixture and Office equipment	Vehicles	Total
Cost:				
1 January 2017	39,390	264,942	440,955	745,287
Additions	18,954	15,064	55,113	89,131
Disposals/Write off	(106)	(43,389)	(36,620)	(80,115)
Transfer in (out)	26,836	(26,836)	-	-
31 December 2017	85,074	209,781	459,448	754,303
Additions	5,941	9,073	8,028	23,042
Disposals/Write off	(14,643)	(6,711)	(7,224)	(28,578)
Reclassification	-	(208)	-	(208)
31 December 2018	76,372	211,935	460,252	748,559
Accumulated depreciation:				
1 January 2017	32,597	170,414	201,543	404,554
Depreciation for the year	6,509	22,494	27,414	56,417
Accumulated depreciation on disposals/write off	(71)	(37,692)	(30,073)	(67,836)
Transfer in (out)	12,004	(12,004)	-	-
31 December 2017	51,039	143,212	198,884	393,135
Depreciation for the year	8,780	21,374	28,728	58,882
Accumulated depreciation on disposals/write off	(14,573)	(6,474)	(6,140)	(27,187)
Reclassification	-	(208)	-	(208)
31 December 2018	45,246	157,904	221,472	424,622
Net book value:				
31 December 2017	34,035	66,569	260,564	361,168
31 December 2018	31,126	54,031	238,780	323,937
Depreciation for the year				
2017 (Baht 29 million included in cost of services and the balance in selling and administrative expense)				56,417
2018 (Baht 30 million included in cost of services and the balance in selling and administrative expense)				58,882

(Unit: Thousand Baht)

	Separate financial statements			
	Building and construction improvement	Furniture, fixture and Office equipment	Vehicles	Total
Cost:				
1 January 2017	39,355	199,568	431,229	670,152
Additions	18,906	14,076	54,354	87,336
Disposals/Write off	(59)	(43,336)	(35,263)	(78,658)
Transfer in (out)	14,280	(14,280)	-	-
31 December 2017	72,482	156,028	450,320	678,830
Additions	3,497	6,410	3,444	13,351
Disposals/Write off	(14,643)	(6,346)	(4,871)	(25,860)
Reclassification	-	(208)	-	(208)
31 December 2018	61,336	155,884	448,893	666,113
Accumulated depreciation:				
1 January 2017	32,562	157,467	196,261	386,290
Depreciation for the year	3,998	12,868	26,267	43,133
Accumulated depreciation on disposals/write off	(52)	(37,640)	(28,714)	(66,406)
Transfer in (out)	10,832	(10,832)	-	-
31 December 2017	47,340	121,863	193,814	363,017
Depreciation for the year	6,223	11,546	27,470	45,239
Accumulated depreciation on disposals/write off	(14,573)	(6,116)	(3,787)	(24,476)
Reclassification	-	(208)	-	(208)
31 December 2018	38,990	127,085	217,497	383,572
Net book value:				
31 December 2017	25,142	34,165	256,506	315,813
31 December 2018	22,346	28,799	231,396	282,541
Depreciation for the year				
2017 (Baht 20 million included in cost of services and the balance in selling and administrative expense)				43,133
2018 (Baht 21 million included in cost of services and the balance in selling and administrative expense)				45,239

As at 31 December 2018, the Company and its subsidiaries had vehicles with net book value of Baht 6 million (2017: Baht 4 million) (The Company only: Baht 3 million, 2017: Baht 4 million) which were acquired under finance lease agreements.

As at 31 December 2018, the Company and its subsidiaries have certain items of building and equipment which were fully depreciated but are still in use. The gross carrying amount before deducting accumulated depreciation of those assets amounted to approximately Baht 267 million (2017: Baht 271 million) (The Company only: Baht 261 million, 2017: Baht 262 million).

17. Rights to operate expressway sectors

(Unit: Thousand Baht)

	Consolidated financial statements		
	Rights to operate		Total
	completed expressway sector	Project costs under construction	
Cost:			
1 January 2017	85,761,545	-	85,761,545
Additions	29,034	67,107	96,141
31 December 2017	85,790,579	67,107	85,857,686
Additions	39,956	229,649	269,605
Transfer in (out)	291,148	(291,148)	-
31 December 2018	86,121,683	5,608	86,127,291
Accumulated amortisation:			
1 January 2017	44,209,720	-	44,209,720
Amortisation for the year	3,199,092	-	3,199,092
31 December 2017	47,408,812	-	47,408,812
Amortisation for the year	3,572,459	-	3,572,459
31 December 2018	50,981,271	-	50,981,271
Net book value:			
31 December 2017	38,381,767	67,107	38,448,874
31 December 2018	35,140,412	5,608	35,146,020
Amortisation for the year			
2017			3,199,092
2018			3,572,459

Separate financial statements

	Rights to operate completed expressway sector	Project costs under construction	Total
Cost:			
1 January 2017	72,917,255	-	72,917,255
Additions	29,034	67,107	96,141
31 December 2017	72,946,289	67,107	73,013,396
Additions	39,956	229,649	269,605
Transfer in (out)	291,148	(291,148)	-
31 December 2018	73,277,393	5,608	73,283,001
Accumulated amortisation:			
1 January 2017	38,108,262	-	38,108,262
Amortisation for the year	2,660,553	-	2,660,553
31 December 2017	40,768,815	-	40,768,815
Amortisation for the year	2,971,997	-	2,971,997
31 December 2018	43,740,812	-	43,740,812
Net book value:			
31 December 2017	32,177,474	67,107	32,244,581
31 December 2018	29,536,581	5,608	29,542,189
Amortisation for the year			
2017			2,660,553
2018			2,971,997

18. Rights to use sites for expressway construction

The net book value of rights to use sites for expressway construction as at 31 December 2018 and 2017 are presented below.

	(Unit: Thousand Baht)	
	Consolidated and Separate	
	financial statements	
	<u>2018</u>	<u>2017</u>
Cost	6,644,790	6,644,790
Less: Accumulated amortisation	(6,254,592)	(5,925,717)
Net book value	<u>390,198</u>	<u>719,073</u>

A reconciliation of the net book value of the rights to use sites for expressway construction for the years 2018 and 2017 are summarised below.

	(Unit: Thousand Baht)	
	Consolidated and Separate	
	financial statements	
	<u>2018</u>	<u>2017</u>
Net book value at the beginning of the year	719,073	1,020,624
Amortisation for the year	(328,875)	(301,551)
Net book value at the end of the year	<u>390,198</u>	<u>719,073</u>

The rights to use sites for expressway construction is a part of rights to operate expressway sectors.

19. Intangible asset under concession agreement of the MRT Blue Line Project

(Unit: Thousand Baht)

	Consolidated financial statements		
	Intangible asset under		Total
	concession agreement of the MRT Blue Line Project	Project costs under construction	
Cost:			
1 January 2017	20,245,303	535,861	20,781,164
Additions	1,164,228	7,939,445	9,103,673
Interest cost	-	48,806	48,806
Disposals/write-off	(339)	-	(339)
Transfer in (out)	535,861	(535,861)	-
31 December 2017	21,945,053	7,988,251	29,933,304
Additions	62,028	9,369,801	9,431,829
Interest cost	-	229,863	229,863
Disposals/write-off	(778)	-	(778)
Transfer in (out)	9,046	(9,046)	-
31 December 2018	22,015,349	17,578,869	39,594,218
Accumulated amortisation:			
1 January 2017	3,733,074	-	3,733,074
Amortisation for the year	246,290	-	246,290
Accumulated amortisation on disposals/write off	(156)	-	(156)
31 December 2017	3,979,208	-	3,979,208
Amortisation for the year	188,047	-	188,047
Accumulated amortisation on disposals/write off	(593)	-	(593)
31 December 2018	4,166,662	-	4,166,662
Net book value:			
31 December 2017	17,965,845	7,988,251	25,954,096
31 December 2018	17,848,687	17,578,869	35,427,556
Amortisation for the year			
2017			246,290
2018			188,047

Separate financial statements

	Intangible asset under concession agreement of the MRT Blue Line Project	Project costs under construction	Total
Cost:			
1 January 2017	19,716,056	533,819	20,249,875
Additions	1,112,013	7,939,445	9,051,458
Interest cost	-	48,806	48,806
Transfer in (out)	533,819	(533,819)	-
31 December 2017	21,361,888	7,988,251	29,350,139
Additions	48,629	9,353,178	9,401,807
Interest cost	-	229,863	229,863
Transfer in (out)	9,046	(9,046)	-
31 December 2018	21,419,563	17,562,246	38,981,809
Accumulated amortisation:			
1 January 2017	3,527,094	-	3,527,094
Amortisation for the year	214,656	-	214,656
31 December 2017	3,741,750	-	3,741,750
Amortisation for the year	150,553	-	150,553
31 December 2018	3,892,303	-	3,892,303
Net book value:			
31 December 2017	17,620,138	7,988,251	25,608,389
31 December 2018	17,527,260	17,562,246	35,089,506
Amortisation for the year			
2017			214,656
2018			150,553

According to the MRTA Initial System Project - Chaloem Ratchamongkhon Line agreement dated 1 August 2000, M&E Systems equipment, depot building and administration building under the MRTA Initial System Project - Chaloem Ratchamongkhon Line were to be transferred to the MRTA at the end of the concession period of 25 years (1 July 2029), on an Acquire, Operate and Transfer basis. Then, on 31 March 2017, the Company entered into the MRT Blue Line Concession Agreement, which included the MRTA Initial System Project - Chaloem Ratchamongkhon Line as a part of the concession, as described in Note 1 B.1 to the financial statements. Thus, on 31 March 2017, The Company transferred the M&E Systems equipment, depot building and administration building under the MRTA Initial System Project - Chaloem Ratchamongkhon Line to the MRTA, as a requirement of the Concession, and on the same date, the MRTA transferred the rights to use the M&E Systems equipment, depot building and administration building to the Company for it to utilise in the provision of operation and maintenance services in accordance with the MRT Blue Line Concession Agreement.

During the year, the Company has capitalised the borrowing cost as part of intangible asset under concession agreement of the MRT Blue Line Project. The weighted average rate used to determine the amount of borrowing cost eligible from capitalisation was 2.88 percent.

20. Project cost of the MRT Chalong Ratchadham Line

The net book value of project cost of the MRT Chalong Ratchadham Line as at 31 December 2018 and 2017 is presented below.

(Unit: Thousand Baht)		
Consolidated and Separate financial statements		
	<u>2018</u>	<u>2017</u>
Cost	715,460	701,462
Less: Accumulated amortisation	(60,769)	(34,719)
Net book value	<u>654,691</u>	<u>666,743</u>

A reconciliation of the net book value of project cost of the MRT Chalong Ratchadham Line for the years 2018 and 2017 are summarised below.

	(Unit: Thousand Baht)	
	Consolidated and Separate	
	financial statements	
	<u>2018</u>	<u>2017</u>
Net book value at the beginning of the year	666,743	627,256
Additions	13,998	65,000
Amortisation for the year	(26,050)	(25,513)
Net book value at the end of the year	<u>654,691</u>	<u>666,743</u>

21. Other intangible assets

The net book value of other intangible assets which are computer software as at 31 December 2018 and 2017 is presented below.

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Cost	195,933	165,075	185,297	156,009
Less: Accumulated amortisation	(111,155)	(89,817)	(104,996)	(85,712)
Net book value	<u>84,778</u>	<u>75,258</u>	<u>80,301</u>	<u>70,297</u>

A reconciliation of the net book value of other intangible assets for the years 2018 and 2017 is presented below.

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Net book value at the beginning of the year	75,258	68,229	70,297	63,497
Acquisition of computer software	30,650	25,645	29,080	23,534
Write-off	-	(1,273)	-	(1,273)
Amortisation for the year	(21,130)	(17,343)	(19,076)	(15,461)
Net book value at the end of the year	<u>84,778</u>	<u>75,258</u>	<u>80,301</u>	<u>70,297</u>

22. Short-term loans from financial institutions

(Unit: Thousand Baht)

	Interest rate (Percent per annum)	Consolidated and Separate financial statements	
		<u>2018</u>	<u>2017</u>
Short-term loans - promissory notes	At the fixed rate	2,816,000	3,632,000
Less: Deferred financial fees		(1,406)	(2,815)
Total		<u>2,814,594</u>	<u>3,629,185</u>

On 30 March 2018, the Company issued a Baht 10,000 million promissory note that matures on 27 April 2018 to a commercial bank, to make payment of the long-term loans described in Note 24.1 and 24.2 to the financial statements.

As described in Note 25 to the financial statements, the Company used the funds of Baht 10,000 million generated by the issue of debenture No. 1/2018 to redeem the promissory note in April 2018.

23. Trade and other payables

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Trade payables - related parties (Note 6)	779,566	1,334,514	811,497	1,334,366
Trade payables - unrelated parties	347,047	341,818	314,246	305,781
Accrued interest - related parties (Note 6)	1,132	2,416	1,132	2,416
Accrued interest - unrelated parties	188,799	134,374	188,238	134,242
Accrued expense - related parties (Note 6)	71,911	70,722	71,854	68,951
Accrued expense - unrelated parties	280,845	209,745	260,840	189,377
Other payables	14,173	14,296	10,993	1,830
Total trade and other payables	<u>1,683,473</u>	<u>2,107,885</u>	<u>1,658,800</u>	<u>2,036,963</u>

24. Long-term loans from financial institutions

					(Unit: Thousand Baht)				
Loans		Credit facility	Objective	Interest rate	Period of repayment	Consolidated financial statements		Separate financial statements	
		(Million Baht)		(percent)		2018	2017	2018	2017
24.1	Tranche Gor (Fully drew down)	5,750	For construction of the Si Rat - Outer Ring Road Expressway	Interest rate of MLR minus stipulated margins	Repayment in monthly installments commencing October 2017 to September 2027	-	5,711,619	-	5,711,619
24.2	Tranche Khor (Fully drew down)	4,250	For construction of the Si Rat - Outer Ring Road Expressway	Interest rate of 6M FDR plus stipulated margins	Repayment in monthly installments commencing October 2017 to September 2027	-	4,221,631	-	4,221,631
24.3	Long-term loan (Fully drew down)	8,000	Working capital	At the fixed rate	Repayment installments in every six months commencing May 2017 to May 2021	4,000,000	6,000,000	4,000,000	6,000,000
24.4	Tranche A (Fully drew down)	13,557	To invest in the MRT Chalong Ratchadham Line Project	Interest rate of FDR plus stipulated margins	Repayment in monthly installments commencing October 2017 to July 2026	11,638,526	13,173,277	11,638,526	13,173,277
24.5	Tranche B (Fully drew down)	62	To invest in the MRT Chalong Ratchadham Line Project	Interest rate of FDR plus stipulated margins	Repayment in monthly installments commencing October 2017 to July 2026	53,154	60,163	53,154	60,163
24.6	Long-term loan (Available credit facilities to be drawn down Baht 9,800 million)	14,000	To invest in the MRT Blue Line Extension Project	Interest rate of 6M THBFX plus stipulated margins	Repayment in quarterly installments commencing December 2021 to December 2035	4,200,000	-	4,200,000	-
24.7	Long-term loan (Available credit facilities to be drawn down Baht 3,160 million)	5,700	Repayment for loan obtained from the Company	Interest rate of 6M FDR plus stipulated margins	Repayment in quarterly installments within September 2024	1,600,000	500,000	-	-
Total		51,319				21,491,680	29,666,690	19,891,680	29,166,690
Less: Current portion of long-term loans						(3,041,760)	(3,808,760)	(3,041,760)	(3,808,760)
Less: Deferred financial fees						(76,140)	(56,818)	(76,140)	(56,818)
Long-term loans - net of current portion						18,373,780	25,801,112	16,773,780	25,301,112

Movements in the long-term loans account for the year ended 31 December 2018 and 2017 are as follows:

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Balance at the beginning of the year	29,666,690	19,084,259	29,166,690	19,084,259
Add: Drawdown during the year	5,300,000	500,000	4,200,000	-
Add: Debt novation during the year	-	13,618,880	-	13,618,880
Less: Repayment during the year	(13,475,010)	(3,536,449)	(13,475,010)	(3,536,449)
Balance at the end of the year	<u>21,491,680</u>	<u>29,666,690</u>	<u>19,891,680</u>	<u>29,166,690</u>

For the long-term loans number 24.1 to 24.2

The long-term loans are secured by assets of the Company such as rights under the Expressway Agreement, rights in toll revenues, and beneficiary rights under insurance policies.

Under the loan agreements, the Company must comply with normal financial covenants relating to various matters, such as the maintenance of debt service coverage ratio, debt to equity ratio, dividend payment and conditions for mandatory prepayment.

As described in Note 22 to the financial statements, on 30 March 2018, the Company issued a promissory note amounting to Baht 10,000 million, bearing interest at a fixed rate, to make full repayment of long-term loans number 24.1 and 24.2, together with prepayment fees of Baht 99 million. At present, the Company has already released the collateral.

For the long-term loans number 24.3

The Company entered into an interest rate swap contract to change the interest rate from a floating rate of 6M THBFIX plus stipulated margins to a fixed rate of per annum.

Under the loan agreements, the Company must comply with normal financial covenants relating to various matters, such as the maintenance of debt service coverage ratio and debt to equity ratio.

For the long-term loans number 24.4 to 24.5

On 29 September 2017, the Company entered into the Novation and Debt Repayment Agreement with the group of lenders under the concession agreement of Phase 1 of the MRT Chalong Ratchadham Line Project, as described in Note 1 B.2 to the financial statements.

The Company pledged bank accounts used to deposit moneys received for work on the M&E system of Phase 1 of the MRT Chalong Ratchadham Line (Note 7) and transferred rights to receive payments for such work to the group of lenders (Note 11) as collateral to secure these loans. The Company had interest expenses amounting to Baht 435 million on such loans for the year ended 31 December 2018, respectively (2017: Baht 118 million).

Under the Credit Facility Agreement, the Company must comply with normal financial covenants relating to various matters, such as maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and conditions for mandatory prepayment.

For Long-term loan number 24.6

On 26 January 2018, the Company signed a long-term loan agreement with a group of lenders, granting facility of Baht 14,000 million to invest in the procurement, installation and testing of the M&E Systems of the MRT Blue Line Extension Project.

Under the Credit Facility Agreement, the Company must comply with normal financial covenants relating to various matters, such as maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and conditions for mandatory prepayment.

For Long-term loan number 24.7

This is a loan of a subsidiary company. Under the loan agreement, the subsidiary must comply with normal financial covenants relating to various matters, such as the maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and conditions for mandatory prepayment.

25. Debentures

Debentures as at 31 December 2018 and 2017 have the following details:

(Unit: Thousand Baht)

Consolidated and Separate
financial statements

Type of debenture	Term	Issuance date	Maturity date	Interest rate	2018	2017
				(% per annum)		
No. 1/2016						
- Tranche 1	3 years	24 June 2016	24 June 2019	2.22	5,000,000	5,000,000
- Tranche 2	5 years	24 June 2016	24 June 2021	2.52	1,615,000	1,615,000
- Tranche 3	7 years	24 June 2016	24 June 2023	3.00	2,000,000	2,000,000
- Tranche 4	10 years	24 June 2016	24 June 2026	3.30	3,335,000	3,335,000
- Tranche 5	12 years	24 June 2016	24 June 2028	3.61	2,750,000	2,750,000
No. 2/2016	12 years	11 August 2016	24 June 2028	3.61	500,000	500,000
No. 3/2016						
- Tranche 1	4 years	21 October 2016	21 October 2020	2.62	2,500,000	2,500,000
- Tranche 2	9 years	21 October 2016	21 October 2025	3.78	2,500,000	2,500,000
- Tranche 3	11 years	21 October 2016	21 October 2027	3.95	3,000,000	3,000,000
No. 1/2017						
- Tranche 1	5 years	7 September 2017	7 September 2022	2.65	2,000,000	2,000,000
- Tranche 2	7 years	7 September 2017	7 September 2024	3.10	3,000,000	3,000,000
No. 1/2018						
- Tranche 1	3 years	5 April 2018	5 April 2021	2.05	3,000,000	-
- Tranche 2	5 years	5 April 2018	5 April 2023	2.46	3,500,000	-
- Tranche 3	7 years	5 April 2018	5 April 2025	3.01	3,500,000	-
Total					38,200,000	28,200,000
Less: Current portion of debenture					(5,000,000)	-
Less: Deferred debenture issuing cost					(30,178)	(29,377)
Debentures - net of current portion					33,169,822	28,170,623

Movements in the debentures account for the year ended 31 December 2018 and 2017 are summarised below.

	(Unit: Thousand Baht)	
	Consolidated and Separate	
	financial statements	
	<u>2018</u>	<u>2017</u>
Balance at the beginning of the year	28,200,000	23,200,000
Add: Issuance of debentures during the year	10,000,000	5,000,000
Balance at the end of the year	<u>38,200,000</u>	<u>28,200,000</u>

All of the Company's debentures are registered debentures, unsubordinated, and unsecured, without a debenture holders' representative, that pay interest semi-annually. The debentures contain covenants relating to maintenance of interest bearing debt to equity ratio.

26. Provision for compensation for site acquisition cost

	(Unit: Thousand Baht)	
	Consolidated and Separate	
	financial statements	
	<u>2018</u>	<u>2017</u>
Provision for compensation for site acquisition cost		
as at the beginning of the year	3,011,402	4,317,152
Payment during the year	(1,600,000)	(1,500,000)
Interest cost	135,490	194,250
Provision for compensation for site acquisition cost		
at the end of the year	1,546,892	3,011,402
Less: Current portion	(1,546,892)	(1,600,000)
Provision for compensation for site acquisition cost		
- net of current portion	<u>-</u>	<u>1,411,402</u>

The Company is committed to make payments totaling Baht 16,816 million to compensate the EXAT for site acquisition costs, from the 15th year to the 30th year of the agreement, or year 2004 to year 2019 as stipulated in the Second Stage Expressway Agreement.

As at 31 December 2018, the Company had already paid Baht 15,200 million of this compensation (2017: Baht 13,600 million).

27. Unearned revenue from advertising management rights

The Company received remuneration of Baht 35 million from the subsidiary for granting the right to manage advertising services through the Passenger Information Display System (PIDs), as described in Note 1 C. to the financial statements, on the execution date of the agreement (1 January 2010) and this right will expire in July 2029. The amount is presented under the caption of "Unearned revenue from advertising management rights" and is being amortised to revenue throughout the contract period.

Movements in unearned revenue from advertising management rights account in the separated financial statements are summarised below.

	(Unit: Thousand Baht)
Balance as at 1 January 2017	15,610
Less: Recognise to revenue during the year	(1,248)
Balance as at 31 December 2017	14,362
Less: Recognise to revenue during the year	(1,248)
Balance as at 31 December 2018	13,114
Less: Current portion	(1,249)
Unearned revenue from advertising management rights - net of current portion	11,865

28. Provision for long-term employee benefits

Provision for long-term employee benefits, which represents compensation payable to employees after they retire, are as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Provision for long-term employee benefits				
at beginning of the year	483,787	471,044	467,539	461,245
Included in profit or loss:				
Current service cost	75,870	67,236	72,898	65,036
Interest cost	18,667	11,656	18,152	11,326
Past service costs and losses on settlement	132,289	-	129,046	-
Included in other comprehensive income:				
Actuarial (gain) loss arising from				
- Demographic assumptions changes	18,883	18,230	18,883	15,730
- Financial assumptions changes	(22,904)	(146,877)	(22,904)	(145,472)
- Experience adjustments	(9,368)	70,238	(9,368)	66,848
Benefits paid during the year	(10,326)	(7,740)	(9,692)	(7,174)
Provision for long-term employee benefits				
at end of the year	686,898	483,787	664,554	467,539

The Company and its subsidiaries expect to pay Baht 3 million of long-term employee benefits during the next year (Separate financial statements: Baht 3 million) (2017: Baht 7 million, Separate financial statements: Baht 6 million).

As at 31 December 2018, the weighted average duration of the liabilities for long-term employee benefit is 12.62 - 17.13 years (Separate financial statements: 12.62 - 17.13 years) (2017: 12.65 - 17.47 years, Separate financial statements: 12.65 - 17.47 years).

Significant actuarial assumptions are summarised below.

	(Unit: Percent per annum)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Discount rate	2.6, 3.0, 3.3	2.6, 2.9	3.0, 3.3	2.6, 2.9
Future salary increase rate	5.5	5.5	5.5	5.5
Staff turnover rate (depending on age)	1.0 - 9.0	2.0 - 12.0	1.0 - 9.0	2.0 - 12.0

The result of sensitivity analysis for significant assumptions that affect the present value of the long-term employee benefit obligation as at 31 December 2018 and 2017 are summarised below:

	(Unit: Million Baht)			
	As at 31 December 2018			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(61)	73	(59)	70
Future salary increase rate	71	(62)	68	(59)
Staff turnover rate	(66)	46	(63)	45

	(Unit: Million Baht)			
	As at 31 December 2017			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(43)	50	(41)	48
Future salary increase rate	48	(42)	46	(40)
Staff turnover rate	(45)	32	(43)	31

On 13 December 2018, the National Legislative Assembly passed a resolution approving the draft of a new Labour Protection Act, which is in the process being published in the Royal Gazette. The new Labour Protection Act stipulates additional legal severance pay rates for employees who have worked for an uninterrupted period of twenty years or more. Such employees are entitled to receive not less than 400 days compensation at the latest wage rate. This change is considered a post-employment benefits plan amendment and the Company and its subsidiaries have additional liabilities for long-term employee benefits. The Company and its subsidiaries have recorded the effect of the change by recognising past service costs as expenses immediately in the current year income statement.

29. Statutory reserve

Pursuant to Section 116 of the Public Company Limited Act B.E. 2535, the Company is required to set aside to a statutory reserve at least 5 percent of its net profit, after deducting accumulated deficit brought forward (if any), until the reserve reaches 10 percent of the registered capital. The statutory reserve is not available for dividend distribution.

30. Toll revenues

30.1 Under the Construction and Management Contract of the Si Rat Expressway Project (the Second Stage Expressway System) and the Bang Pa-In - Pak Kret Expressway Project, the Company and its subsidiary and the EXAT agreed to share toll revenues receive as follows:

	The Company (Percent)	The EXAT (Percent)
<u>Urban Network (FES and SES Sector A and Sector B)</u>		
(a) First 9 years from the "Priority Component Opening Date" (PCOD) (already expired)	60	40
(b) Last 9 years ending 29 February 2020	40	60
(c) Period between (a) and (b) above (already expired)	50	50
<u>Suburban Network (SES Sector C)</u>		
(a) The earlier of the PCOD to the completion of SES Sector B or 19 October 1996 (already expired)	60	40
(b) Period after (a) above until end of contract period (29 February 2020)	100	Nil
<u>Suburban Network (SES Sector D)</u>		
From the construction completion date of relevant Sections until end of contract period (21 April 2027)	100	Nil
<u>Bang Pa-In - Pak Kret Expressway</u>		
From the construction completion date of relevant Sections until end of contract period (26 September 2026)	100	Nil

30.2 Under a concession agreement of the Si Rat - Outer Ring Road Expressway Project, the Company and the EXAT agreed to share toll revenues receive as follows:

	<u>The Company</u> (Percent)	<u>The EXAT</u> (Percent)
<u>The Si Rat - Outer Ring Road Expressway</u>		
From the construction completion date of relevant Sections		
until end of contract period (14 December 2042)	100	Nil

31. Revenue from commercial development business

Revenue from commercial development business derived from various sources of income, as presented in the separate financial statements for the year ended 31 December 2018, consisted of revenue from expressway system amounting to Baht 42 million (2017: Baht 50 million) and revenue from rail system amounting to Baht 438 million (2017: Baht 353 million). This included revenue from advertising management rights amounting to Baht 1 million (Note 27).

32. Revenue from telecommunications network services and income from provision of space and facilities for the installation of telecommunications equipment

On 1 October 2018, the Company received the transfer of the rights to be a telecommunication operator type 2 with its own telecommunication network from Bangkok Metro Network Limited (the subsidiary), and has already received the Telecommunication License from the Office of The National Broadcasting and Telecommunications Commission (NBTC).

The Company's revenue from telecommunications network services and income from provision of space and facilities for the installation of telecommunications equipment for the period ended as from 1 October 2018 to 31 December 2018 was as follows:

	(Unit: Thousand Baht)
Telecommunications Business License Type 2	
with its own telecommunication network	48,438
Income from provision of space and facilities for the	
installation of telecommunications equipment	375
	<u>48,813</u>

33. Remuneration from fare box revenue and commercial development revenue

33.1 The Concession agreement of the MRTA Initial System Project - Chaloem Ratchamongkhon Line

The Company agrees to apportion revenues derived under the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement to the MRTA. These consist of remuneration from fares, remuneration from commercial development, apportionment of profit in excess of stipulated Return on Equity (ROE) and any benefit derived from the interest rate on a loan being lower the rate specified in the Concession Agreement

As described in Note 1 B.1 to the financial statement, the Company signed the MRT Blue Line Project Concession Agreement on 31 March 2017. Under the MRT Blue Line Concession Agreement, the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement is deemed to be part of the MRT Blue Line Concession Agreement, and only the clauses relating the rights, duties and provisions with respect to fares, fare rates and payment of remuneration to the MRTA will remain in effect until the end of the concession agreement with the MRTA for the MRTA Initial System Project - Chaloem Ratchamongkhon Line.

Remuneration paid to the MRTA under the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement is summarised in Part I of Note 33.2 to the financial statement.

33.2 The MRT Blue Line Concession agreement

Under the MRT Blue Line Project concession agreement dated 31 March 2017, the Company agrees to apportion revenue under the concession agreement to the MRTA, which can be divided into two parts, as follows:

Part I: Remuneration from fares and commercial development revenues of the MRTA Initial System Project - Chaloem Ratchamongkhon Line earned under the related concession agreement until 1 July 2029, with detail as follow:

a) Remuneration from fare revenue

Annual remuneration

The Company has agreed to apportion fare revenue to the MRTA on an annual basis for the period from 2 July 2014 to 1 July 2029. The total amount payable is Baht 43,567 million (inclusive of VAT) divided into annual payments in amounts stipulated in the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement.

As at 31 December 2018, the Company recorded accumulated annual remuneration totaling Baht 4,990 million (2017: Baht 3,745 million).

Percentage remuneration

The Company has agreed to apportion to the MRTA 1 percent to 15 percent of the fare revenue of the MRTA Initial System Project - Chaloem Ratchamongkhon Line (inclusive of VAT) from 2 July 2004 to 1 July 2029, in the form of monthly payments.

b) Remuneration from commercial development revenues

Annual remuneration

The Company has agreed to apportion commercial development revenues to the MRTA on an annual basis for the period from 2 July 2004 to 1 July 2029. The total amount payable is Baht 930 million (inclusive of VAT) divided into annual payments in amounts stipulated in the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement.

As at 31 December 2018, the Company recorded accumulated annual remuneration totaling Baht 405 million (2017: Baht 355 million).

Percentage remuneration

The Company has agreed to apportion to the MRTA 7 percent of commercial development revenues of the MRTA Initial System Project - Chaloem Ratchamongkhon Line (inclusive of VAT) from 2 July 2004 to 1 July 2029, in the form of monthly payments.

Part II: Remuneration from fares and commercial development revenues of the MRT Blue Line Extension Project from 31 March 2017 until end of the MRT Blue Line concession period and remuneration from fares and commercial development revenues of the MRTA Initial System Project - Chaloem Ratchamongkhon Line from 2 July 2029 until end of the MRT Blue Line concession period.

The Company is to pay remuneration to MRTA when the Company earns a return on investment over the rate stipulated in the concession agreement, from its operation of the MRT Blue Line Extension Project, as from 31 March 2017, and from its operation of the MRTA Initial System Project - Chaloem Ratchamongkhon Line, as from 2 July 2029, until the end of the MRT Blue Line concession period. The compensation rates are as stipulated in the MRT Blue Line concession agreement

34. Expenses by nature

Significant expenses classified by nature are as follows:

	(Unit: Thousand Baht)	
	Consolidated	Separate
	financial statements	financial statements
	<u>2018</u>	<u>2017</u>
Amortisation and depreciation	3,866,568	3,544,655
Salaries, wages and other employee benefits		
for the Company's staff and its subsidiaries	2,344,428	2,121,784
Salary, wages and other benefits of the		
employees of the EXAT	844,046	795,616
Repair and maintenance expenses	1,656,583	1,497,590
Compensation for site acquisition cost	464,365	495,801
Utilities expenses	591,121	612,080
Project remuneration expenses	355,662	384,806
Expenses with respect to facilitation and		
safety on expressway and stations	475,834	467,864
Insurance expenses	103,722	114,112

35. Income tax

Income tax expenses for the years ended 31 December 2018 and 2017 are made up as follows:

	(Unit: Thousand Baht)	
	Consolidated financial statements	Separate financial statements
	<u>2018</u>	<u>2017</u>
Current income tax:		
Current income tax for the year	340,420	268,034
Adjustment in respect of current income tax		
of previous year	364	19,235
Deferred tax:		
Relating to origination and reversal of		
temporary differences	848,363	408,333
Income tax expense reported in the		
income statement	<u>1,189,147</u>	<u>695,602</u>

The amounts of income tax relating to each component of other comprehensive income for the years ended 31 December 2018 and 2017 are as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Deferred tax related to				
- Unrealised gain (loss) from cash flow hedges	6,229	(6,869)	6,229	(6,869)
- Unrealised gain on valuation of available-for-sale securities	278,106	-	745,347	-
- Actuarial gain	2,678	12,579	2,678	12,579
Total	<u>287,013</u>	<u>5,710</u>	<u>754,254</u>	<u>5,710</u>

The reconciliation between accounting profit and income tax expense is shown below.

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Accounting profit before tax	6,524,994	3,837,953	3,752,461	3,598,666
Applicable tax rate	20%	20%	20%	20%
Accounting profit before tax multiplied by applicable tax rate	1,304,999	767,591	750,492	719,733
Adjustment in respect of income tax of previous year	364	19,235	268	19,104
Effects of elimination entry on the consolidated financial statements	12,480	-	-	-
Effects of:				
Tax-exempt revenues	-	-	(98,788)	(110,291)
Share of profit from investment in associates	(86,559)	(81,183)	-	-
Gain on reclassification of investment	(32,013)	-	-	-
Non-deductible expenses	2,585	3,452	2,585	2,659
Additional expense deductions allowed	(10,812)	(10,544)	(6,914)	(6,626)
Others	(1,897)	(2,949)	(2,612)	(1,385)
Total	<u>(128,696)</u>	<u>(91,224)</u>	<u>(105,729)</u>	<u>(115,643)</u>
Income tax expenses reported in the income statement	<u>1,189,147</u>	<u>695,602</u>	<u>645,031</u>	<u>623,194</u>

The components of deferred tax assets and deferred tax liabilities as at 31 December 2018 and 2017 are as follows:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Deferred tax assets (liabilities)				
Allowance for doubtful accounts	325	380	-	-
Accrued bonus	7,589	9,938	6,551	8,858
Others accrued expense	2,554	4,080	2,074	3,792
Allowance for asset impairment	37	1,167	37	1,167
Provision for long-term employee benefits	137,380	96,757	132,911	93,508
Provision for compensation for site acquisition cost	309,378	602,280	309,378	602,280
Accumulated amortisation - Rights to operate expressway sectors	(465,759)	(475,770)	(465,759)	(475,770)
Rights to use sites for expressway construction	(78,040)	(143,815)	(78,040)	(143,815)
Prepaid project remuneration	(510,638)	(309,069)	(510,638)	(309,069)
Unrealised gain from revaluation of trading securities	(9,371)	(8,694)	(9,371)	(8,694)
Unrealised gain from revaluation in available-for-sale securities	(278,106)	-	(745,347)	-
Gain on reclassification of investment	(467,241)	-	-	-
Derivative financial liabilities	4,362	10,591	4,362	10,591
Deferred tax assets (liabilities) - net	<u>(1,347,530)</u>	<u>(212,155)</u>	<u>(1,353,842)</u>	<u>(217,152)</u>
Presentation in the financial statement				
Deferred tax assets	6,312	4,997	-	-
Deferred tax liabilities	<u>(1,353,842)</u>	<u>(217,152)</u>	<u>(1,353,842)</u>	<u>(217,152)</u>
	<u>(1,347,530)</u>	<u>(212,155)</u>	<u>(1,353,842)</u>	<u>(217,152)</u>

36. Earnings per share

Basic earnings per share is calculated by dividing profit for the year attributable to equity holders of the Company (excluding other comprehensive income) by the weighted average number of ordinary shares in issue during the year.

37. Dividends

Dividend declared for the year ended 31 December 2018 and 2017 in the consolidated and separate financial statements consisted of the following:

Dividend	Approved by	Total dividend (Million Baht)	Dividend per share (Baht)	Paid on
Dividend for the second half of the year 2017	Annual General Meeting of the shareholders on 20 April 2018	1,070	0.07	14 May 2018
Dividend for the first half of the year 2018	Meeting of the Board of Directors on 22 August 2018	917	0.06	19 September 2018
Total dividend for the year ended 31 December 2018		<u>1,987</u>	<u>0.13</u>	
Dividend for the second half of the year 2016	Annual General Meeting of the shareholders on 11 April 2017	917	0.06	4 May 2017
Dividend for the first half of the year 2017	Meeting of the Board of Directors on 23 August 2017	917	0.06	20 September 2017
Total dividend for the year ended 31 December 2017		<u>1,834</u>	<u>0.12</u>	

38. Promotional privileges

The Company has received promotional privileges from the Board of Investment for the investment of the MRT Blue Line Project, pursuant to the investment promotion certificate No. 60-1074-1-00-1-0 issued on 27 July 2017. Subject to certain imposed conditions, the privileges include an exemption from corporate income tax for a period of 8 years from the date the promoted operations begin generating revenues (11 August 2017).

The Company's operating revenues for the years ended 31 December 2018 and 2017, divided between promoted and non-promoted operations, are summarised below.

	(Unit: Thousand Baht)					
	Promoted operations		Non-promoted operations		Total	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Revenue from expressway business	-	-	8,717,818	8,573,398	8,717,818	8,573,398
Revenue from rail business	2,878,850	1,089,653	1,857,152	3,431,250	4,736,002	4,520,903
Revenue from commercial development business	-	-	480,468	403,064	480,468	403,064
Other income	2,495	313	1,781,056	1,077,580	1,783,551	1,077,893
Total revenue	<u>2,881,345</u>	<u>1,089,966</u>	<u>12,836,494</u>	<u>13,485,292</u>	<u>15,717,839</u>	<u>14,575,258</u>

39. Segment information

Operating segment information is reported in a manner consistent with the internal reports that are regularly reviewed by the chief operating decision maker in order to make decisions about the allocation of resources to the segment and assess its performance.

For management purposes, the Company and its subsidiaries are organised into business units based on its products and services and have four reportable segments as follows:

- 1) The expressway business segment includes the construction and operation of the expressway.
- 2) The rail business segment includes the operation of the rapid transit system.
- 3) The commercial development business segment includes the rental of retail space, and the provision of advertising media services and telecommunication services inside and outside underground train stations and on expressway.
- 4) Other segments are segments where the Company is employed to operate Bang Pa-In - Pak Kret Expressway of the subsidiary.

The chief operating decision maker monitors the operating results of the business units separately for the purpose of making decisions about resource allocation and assessing performance. Segment performance is measured based on operating profit or loss and total assets and on a basis consistent with that used to measure operating profit or loss and total assets in the financial statements.

The basis of accounting for any transactions between reportable segments is consistent with that for third party transactions.

The following tables present revenue and profit and total assets/total liabilities information regarding the Company's and its subsidiaries' operating segments for the year ended 31 December 2018 and 2017.

(Unit: Million Baht)

	Expressway business segment		Rail business segment		Commercial development business segment		Other segments		Total segments		Elimination of inter-segment revenues		Consolidation	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Revenue from external customers	10,174	9,957	4,736	4,521	705	676	-	-	15,615	15,154	-	-	15,615	15,154
Inter-segment revenues	-	-	-	-	330	327	150	144	480	471	(480)	(471)	-	-
Total revenues	10,174	9,957	4,736	4,521	1,035	1,003	150	144	16,095	15,625	(480)	(471)	15,615	15,154
Segment profit	4,299	4,527	1,049	961	492	459	-	-	5,840	5,947	-	-	5,840	5,947
Unallocated income and expenses:														
Interest income													451	175
Gain on sale of investments													499	12
Gain on reclassification of investment													2,496	-
Other income													27	53
Share of profit from investments in associates													433	406
Selling expenses													(112)	(95)
Administrative expenses													(1,252)	(1,049)
Finance cost													(1,857)	(1,611)
Income tax expenses													(1,189)	(696)
Non-controlling interests of the subsidiaries													(19)	(19)
Profit for the year													5,317	3,123
Rights to operate expressway sectors	35,146	38,449	-	-	-	-	-	-	35,146	38,449	-	-	35,146	38,449
Intangible asset under concession agreement of the MRT Blue Line Project	-	-	34,584	25,105	844	849	-	-	35,428	25,954	-	-	35,428	25,954
Project cost of the MRT Chalong Ratchaham Line	-	-	655	667	-	-	-	-	655	667	-	-	655	667
Unallocated assets	-	-	-	-	-	-	33,925	37,114	33,925	37,114	(1,323)	(3,265)	32,602	33,849
Total assets													103,831	98,919

Transfer prices between business segments are as set out in Note 6 to the financial statements.

Geographic information

The Company and its subsidiaries operate in Thailand only. As a result, all the revenues and assets as reflected in these financial statements pertain exclusively to this geographical reportable segment.

Major customers

For the year ended 2018 and 2017, the Company and its subsidiaries have no major customer with revenue of 10 percent or more of an entity's revenues.

40. Provident fund

The Company, its subsidiaries and its employees have participated in TISCO Ruamtun 2 Registered Provident Fund as approved by Ministry of Finance in accordance with the Provident Fund Act B.E. 2530. Employees, the Company and its subsidiaries contributed to the fund monthly at the rates of 3 - 10 percent of basic salary. The fund, which is managed by TISCO Asset Management Company Limited, will be paid to employees upon termination in accordance with the fund rules. During the year 2018, the Company and its subsidiaries recognised the contribution of Baht 93 million in the consolidated financial statements (2017: Baht 89 million) as expenses and recognised the contribution of Baht 90 million in the separate financial statements (2017: Baht 87 million).

41. Commitments and contingent liabilities

41.1 Capital commitments

The Company and its subsidiaries have capital commitments as follows:

	As at 31 December	
	2018	2017
a) Performance improvement for farebox collection systems	Baht 26 million and USD 3 million	Baht 29 million and USD 3 million
b) Acquisition of equipment	-	Baht 19 million
c) Supply, installation and testing of the M&E Systems of the MRT Blue Line Project	Baht 8,026 million and EUR 5 million	Baht 12,827 million
d) Additional for design and construction of the Si Rat - Outer Ring Road Expressway Project	Baht 3 million	Baht 217 million
e) Improvement of computerised maintenance management system	Baht 28 million	Baht 75 million
f) Other capital commitments	Baht 16 million	Baht 3 million

41.2 Long-term service commitments

The Company and its subsidiaries have commitments in respect of the Procurement of M&E equipment contract, and the Maintenance of M&E equipment and trackwork and infrastructure and civil works contracts of the M&E Project which were signed in November 2013, November 2015, September 2017 and October 2017 with four companies. These contracts will expire during 2021 until 2029.

Future minimum service fees payable under these contracts, excluding escalation in accordance with the general consumer price index are as follows:

(Unit: Million)

	As at 31 December									
	2018					2017				
	<u>Baht</u>	<u>USD</u>	<u>EUR</u>	<u>SGD</u>	<u>YEN</u>	<u>Baht</u>	<u>EUR</u>	<u>SGD</u>	<u>YEN</u>	
Payable:										
In up to 1 year	961	-	3	1	380	994	2	1	379	
In over 1 year and up to 5 years	4,958	2	20	6	1,518	4,711	12	5	1,518	
In over 5 years	4,287	2	22	3	980	5,419	12	5	1,360	

41.3 Commitments under various service agreements

The Company and its subsidiaries have commitments under various service agreements as follows:

(Unit: Million Baht)

	As at 31 December	
	2018	2017
Payable:		
In up 1 year	372	360
In over 1 year and up to 5 years	269	55

41.4 Operating lease commitments

The Company and its subsidiaries had entered into several lease agreements in respect of the lease of office building space, equipment and motor vehicles. The terms of the agreements are generally between 2 and 5 years.

Future minimum lease payments required under these operating lease agreements were as follows:

	(Unit: Million Baht)	
	As at 31 December	
	2018	2017
Payable:		
In up to 1 year	17	19
In over 1 year and up to 5 years	18	21

41.5 Guarantees

There were the following outstanding performance bonds and bank guarantees issued by banks on behalf of the Company.

	(Unit: Million Baht)	
	As at 31 December	
	2018	2017
a) Issued to the EXAT in accordance with the operation of the Si Rat-Outer Ring Road Expressway Project agreement	6	6
b) Issued to the MRTA in accordance with the operation of the MRT Blue Line Concession agreement	210	210
c) Issued to MRTA in accordance with the Agreement for the MRT Chalong Ratchadham Project agreement	200	200
d) Issued to the Metropolitan Electricity Authority to guarantee electricity under rail projects	118	67
e) Other guarantees	14	15

41.6 Other commitments

	(Unit: Million Baht)	
	As at 31 December	
	2018	2017
a) Commitments in respect of the uncalled portion of investments		
Northern Bangkok Expressway Company Limited	750	750
Xayaburi Power Company Limited	-	359
b) Commitment in respect of Expressway inspection, replacement and improvement agreements (paid within one year)	22	18

42. The disputes with Expressway Authority of Thailand (EXAT)

The Company and the subsidiary had a total of 17 disputes with EXAT, which were referred to the Panel and the Arbitral Tribunal in accordance with the dispute settlement procedures under the Agreements and in the Administrative Court. The essence of each dispute was as follows:

42.1 Disputes submitted by the Company and the subsidiary claiming for damages in 11 disputes, with the total amount until the date of submission of the disputes of approximately Baht 54,503.7 million

42.1.1 Priority Component Opening Date under the Second Stage Expressway Agreement

On 9 July 2001, the Company submitted a statement of claim requiring EXAT to compensate for the deficient revenue with interest in the amount of Baht 3,831.4 million, due to different opinions as to which date was the Priority Component Opening Date, which affected the commencement of the toll revenue sharing with the Company under the Agreement, which the Arbitral Tribunal, on 15 December 2008, rendered its arbitral award on the dispute requiring EXAT to pay the toll revenue sharing including interest under the Agreement as required by the Company.

EXAT refused to comply with the arbitral award and submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award. Whereas the Company submitted a petition requesting a judgment from the Central Administrative Court to enforce compliance with the arbitral award and calculate the interest up to the date on which the Company submitted the petition to the Court, amounting to Baht 1,189.7 million, with the total disputed amount of Baht 5,021.1 million. On 13 September 2013, the Central Administrative Court then adjudged to dismiss EXAT's petition requesting the Court to revoke the arbitral award and adjudged to enforce the Company's petition.

On 11 October 2013, EXAT lodged an appeal against the Central Administrative Court's judgment with the Supreme Administrative Court.

At present, it is pending the Supreme Administration Court's consideration.

42.1.2 Issuance of variation orders by EXAT

On 9 December 2009, the Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by EXAT's issuance of additional variation orders for certain construction work of the Si Rat Expressway in the total amount of Baht 209.1 million (excluding interest), which the Arbitral Tribunal, on 20 December 2013, unanimously rendered its arbitral award requiring EXAT to pay the construction costs and expenses as per the Notice of Variation in the total amount of Baht 382.5 million, including interest under the Agreement.

EXAT refused to comply with such arbitral award and submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award. Whereas, the Company submitted a petition to the Central Administrative Court requesting a judgment to enforce compliance with the arbitral award.

At present, it is pending the Central Administrative Court's consideration.

42.1.3 Revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for the year 2003

On 14 May 2008, the Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for 2003, which was not in accordance with the Agreement, thereby causing the damages, including interest, in the total amount of Baht 4,368 million, which the Arbitral Tribunal, on 12 February 2016, by the majority of votes, rendered its arbitral award requiring EXAT to compensate the Company for damages in the amount of Baht 4,368 million, including interest under the Agreement.

EXAT refused to comply with such arbitral award and submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award.

On 12 February 2019, the Company submitted a petition to the Central Administrative Court requesting a judgment to enforce compliance with the arbitral award.

At present, it is pending the Central Administrative Court's consideration.

42.1.4 Revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for the year 2008

On 13 June 2013, the Company submitted a statement of claim to the Arbitral Tribunal requiring EXAT to compensate the Company for damages caused by the revision of toll rates (of the Chalerm Mahanakorn Expressway and the Si Rat Expressway) for the year 2008, which was not in accordance with the Agreement, in the total amount of Baht 9,091.8 million, together with interest under the Agreement.

On 24 October 2018, the Arbitral Tribunal rendered the unanimously judgment awarded requiring EXAT to compensate the Company for damages caused by the revision of toll rates (of the Chalerm Mahanakorn Expressway and the Si Rat Expressway) for the year 2008 which was not in accordance with the Agreement together with interest, in the total amount of Baht 9,091.8 million, and interest under the Agreement shall be calculated on the principle of the damages, in the amount of Baht 7,909.6 million from 1 June 2013 until EXAT will make such payment in full and compensation for damages from the difference of toll revenue sharing based on the toll rates under the Ministry of Transport's Announcement dated 15 August 2008 and the toll rates which the Company entitled to receive under the Agreement, by calculating based on the actual number of vehicles in each category using the expressways on a daily basis from 1 June 2013 onwards, including default interest under the Agreement from 1 June 2013 onwards until the EXAT will be paid such damage together interest in full to the Company.

At present, it is pending the results of dispute settlement with EXAT.

42.1.5 Revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for the year 2013

On 16 August 2018, the Company submitted a statement of claim to the Arbitral Tribunal requiring EXAT to compensate the Company for damages caused by the revision of toll rates (of the Chalerm Mahanakorn Expressway and the Si Rat Expressway) for the year 2013, which was not in accordance with the Agreement, in the total amount of Baht 14,662.7 million, together with interest under the Agreement.

At present, it is pending the proceedings of the Thai Arbitration Institute.

42.1.6 Revision of toll rates of Sector D of the Si Rat Expressway for the year 2003

On 24 July 2008, the Company submitted a statement of claim requiring EXAT to compensate the Company for damages caused by the revision of toll rates of Sector D of the Si Rat Expressway for the year 2003, which was not in accordance with the Agreement, in the total amount of Baht 1,048.2 million.

At present, the dispute is pending the Arbitral Tribunal's consideration.

42.1.7 Revision of toll rates of Sector D of the Si Rat Expressway for the year 2008

On 28 June 2013, the Company submitted a statement of claim to the Thai Arbitration Institute requiring EXAT to compensate the Company for damages caused by the revision of toll rates of Sector D of the Si Rat Expressway for the year 2008, which was not in accordance with the Agreement, in the total amount of Baht 4,062.8 million, including interest under the Agreement.

At present, it is pending the proceedings of the Thai Arbitration Institute.

42.1.8 Revision of toll rates of Sector D of the Si Rat Expressway for the year 2013

On 21 August 2018, the Company submitted a statement of claim to the Thai Arbitration Institute requiring EXAT to compensate the Company for damages caused by the revision of toll rates of Sector D of the Si Rat Expressway for the year 2013, which was not in accordance with the Agreement, in the total amount of Baht 6,936.4 million, including interest under the Agreement.

At present, it is pending the proceedings of the Thai Arbitration Institute.

42.1.9 Revision of toll rates of Udon Ratthaya Expressway for the year 2003

On 22 October 2013, the subsidiary submitted a statement of claim to the Thai Arbitration Institute requiring EXAT to compensate the subsidiary for damages, caused by the revision of toll rates of the Udon Ratthaya Expressway for the year 2003, which was not in accordance with the Agreement, in the amount of Baht 908.7 million, together with interest under the Agreement.

At present, it is pending the proceedings of the Thai Arbitration Institute.

42.1.10 Revision of toll rates of Udon Ratthaya Expressway for the year 2008 and 2013

On 21 August 2018, the subsidiary submitted a statement of claim to the Thai Arbitration Institute requiring EXAT to compensate the subsidiary for damages, caused by the revision of toll rates of the Udon Ratthaya Expressway for the year 2008 and 2013, which was not in accordance with the Agreement, in the amount of Baht 4,724.8 million, together with interest under the Agreement.

At present, it is pending the proceedings of the Thai Arbitration Institute.

42.1.11 Competing road with the Udon Rattaya Expressway

On 20 December 2004, the subsidiary submitted a statement of claim requiring EXAT to compensate for the deficient revenue, based on the ground that the Government granted permission for construction of the Extension of the Don Muang Tollway Project, from the National Memorial to Rangsit Section, which constituted a competing road under the Agreement, and affected the financial position of the subsidiary, thereby rendering such damages until the date of submission of the dispute (excluding interest) to Baht 1,790 million, which the Arbitral Tribunal, on 27 November 2008, rendered its arbitral award on the dispute requiring EXAT to compensate for the deficient revenue with interest as required by the subsidiary.

EXAT refused to comply with such arbitral award and submitted a petition to the Central Administrative Court requesting the Court to revoke the arbitral award. Whereas, the subsidiary submitted a petition to the Central Administrative Court requesting a judgment to enforce compliance with the arbitral award, with the disputed amount of Baht 3,296 million. On 3 May 2013, The Central Administrative Court subsequently adjudged to dismiss EXAT's petition requesting the Court to revoke the arbitral award and issued a judgment to enforce compliance with the arbitral award.

On 31 May 2013, EXAT lodged an appeal against the Central Administrative Court's judgment with the Supreme Administrative Court. On 21 September 2018, the Supreme Administrative Court ruled to affirm the Judgement of the Administrative Court to enforce the arbitral award of the arbitral tribunal to compensate for the deficient revenue from the projection to the subsidiary under the Bang Pa-In - Pak Kret Expressway Agreement in total of Baht 1,790 million which composed of the compensation for the year 1999 in the total of Baht 730.8 million with interest from 14 June 2000 until the payment is paid in full and the compensation for the year 2000 in the total of Baht 1,059.2 million with interest from 22 March 2001 until the payment is paid in full. EXAT shall be required to fully comply with the Judgement within 90 days from the date the Supreme Administrative Court has ruled the Judgement, which will be due on 20 December 2018.

On 2 October 2018, the Council of Ministers' Meeting resolved that in order to alleviate the loss and damage which would occur to the Government and to protect the utmost benefits of the Government sector in the case that the Government agency has the dispute under the Court of Arbitration or is filed a lawsuit with the Administrative Court as one or several cases in the same issue or as connected thereto, for instance, the case under the responsibility of the Ministry of Transport

(Expressway Authority of Thailand), on which the Arbitral Tribunal rendered its arbitral award, thereby giving rise to the case proceedings in the Supreme Administrative Court, in which case, the Arbitral Tribunal rendered its arbitral award requiring the Government agency to compensate for the damages or others; as a result, the resolution has been passed to require that such Government agency may conduct a negotiation with its disputing party to alleviate the damage of the Government and to ensure the justice to the people, provided that such negotiation shall be conducted transparently and legitimately by mainly taking into account the benefits of the nation.

Subsequently, EXAT issued a letter dated 31 October 2018 to the subsidiary, informing that the Board of EXAT has appointed a subcommittee to consider determining the guidelines for compliance with the judgment of the Supreme Administrative Court of the dispute in the case of the competing road between EXAT and the subsidiary, so as to consider determining the guidelines for compliance with such judgment of the Supreme Administrative Court, as well as conducting a negotiation with the subsidiary and inviting the subsidiary to attend the negotiation meeting to reach an agreement for such matter.

On 19 December 2019, EXAT and the subsidiary issued their letters to reply the letter of the Bureau of Administrative Case Execution dated 11 October 2018 regarding the compliance with the Supreme Administrative Court's judgement that it is pending on the negotiation process to conclude the Supreme Administrative Court's judgement.

During December 2018, the subcommittee attended the meetings for negotiation with the Company and the subsidiary several times for the dispute settlement of all cases between EXAT and the Company/ the subsidiary under the Second Stage Expressway Agreement (Sector A, B and C), the Agreement for the Extension of the Second Stage Expressway System (Sector D), and the Bang Pa-in - Pak Kret Expressway Agreement. On 21 December 2018, the Company / the subsidiary have reached the agreement with EXAT for the negotiation and dispute settlement for all disputes as mentioned on Note 42 to the financial statements. This includes the dispute regarding Competing road with the Udon Ratthaya Expressway, in which the Notice of claim has been issued to require EXAT to comply with the Agreement in an amount of Baht 74,590 million.

The agreement can be summarised as follows;

- A) EXAT and the Company/ the subsidiary have agreed to settle all disputes which already took place or would take place in the future in the same issues in relation with the Concession Agreements.
- B) EXAT and the Company /the subsidiary have mutually agreed to review and amend the Concession Agreements as follows;
 - B1. The respective periods of time of the Second Stage Expressway Agreement (Sector A, B and C), the Agreement for the Extension of the Second Stage Expressway System (Sector D), and the Bang Pa-in - Pak Kret Expressway Agreement, shall be extended from which would formerly end in 2020, 2027, and 2026 respectively, to end on April 2057;
 - B2. The Company shall provide the O&M Services of the Second Stage Expressway and the subsidiary shall provide the O&M Services of the Bang Pa-in - Pak Kret Expressway, provided that the Company/the subsidiary are entitled to receive toll revenue sharing throughout the respective agreement periods at the rates ranging from 40 to 100 percent according to the rates specified in the Agreements;
 - B3. The revision of toll rates shall be revised to constantly increase every 10 years;
 - B4. The Company shall have duty to invest, construct and improve the Second Stage Expressway in the total investment amount of approximately Baht 31,500 million to solve the traffic congestion problem.

At present, the results of the negotiation and disputes settlement are pending for the relevant government agency to propose to the Cabinet for an approval in conformity with the Private Investment in State Undertaking Act B.E. 2556, in which there might be the possibilities to be altered from which summarised in A) and B).

Since the agreement to settle the disputes from the negotiation process is pending for the relevant government agencies to propose for approval from the Cabinet. And, should there be an approval, it requires the process of signing the reviewed and amended concession agreements. Thus, there remains uncertainly as to the compensation to be derived by the subsidiary from EXAT, the subsidiary has not yet recorded revenue from compensation under the judgment of the Supreme Administrative Court in relation to the dispute regarding the competing road with the Udon Raththaya Expressway in the total amount of Baht 1,790 million, together with interest and related expenses to be incurred, in the financial statement for the year 31 December 2018.

42.2 Disputes submitted by EXAT claiming for damages in 3 disputes, with the total amount until the date of submission of the disputes of approximately Baht 1,589.2 million

42.2.1 Cost of arrangements of the entrance - exit and resolution of complaints

On 11 May 2007, EXAT submitted a statement of claim requiring the Company to be responsible for the cost of arrangements of the entrance - exit claimed by complainants, and the cost of free flow drains, in the total amount of Baht 0.4 million, which the Arbitral Tribunal rendered its arbitral award ruling that EXAT had no right to claim for such costs.

EXAT submitted a petition for revocation of the arbitral award to the Central Administrative Court. The Central Administrative Court subsequently issued the judgment, on 30 August 2017, to revoke the arbitral award only on the second ground part - the cost of free flow drains. The Court rules that the Arbitral Tribunal has illegally received the claim because EXAT submitted the case when the ground part was precluded by prescription.

On 29 September 2017, the Company appealed the Central Administrative Court's judgment to the Supreme Administrative Court.

At present, it is pending the Supreme Administration Court's consideration.

42.2.2 Construction of the Udon Rattaya Expressway, Phase 2

On 29 January 2016, EXAT submitted a statement of claim to the Thai Arbitration Institute requiring the subsidiary to construct the Udon Rattaya Expressway, Phase 2, in accordance with the conditions of the Bang Pa-In - Pak Kret Expressway Agreement, and compensate for the amount of Baht 1,587.7 million, together with interest under the Agreement. The Agreement states that although the conditions of the Agreement to commence the construction has been fulfilled, the subsidiary shall not yet be obliged to carry out the construction if EXAT breach of the Agreement causing the subsidiary to suffer financial set back materially. EXAT are in breach of the Agreement with the competing road and the revision of toll rates, as mentioned on Notes 42.1.9, 42.1.10 and 42.1.11 to the financial statements. Therefore, the subsidiary acquired its rights to not commence the construction and EXAT is not entitled to claim for indemnity.

At present, it is pending the proceedings of the Thai Arbitration Institute.

42.2.3 Cost of utilisation of the Control Center Building (Bang Phun)

On 27 February 2009, EXAT submitted a statement of claim to the Thai Arbitration Institute requiring the subsidiary to be responsible for the cost of utilisation of the Control Center Building (Bang Phun) in the amount of Baht 1.1 million, which the subsidiary was of the view that such cost claimed by EXAT was not within its scope of responsibility under the Agreement.

At present, it is pending the proceedings of the Thai Arbitration Institute.

Since the disputes are pending consideration, the Company and the subsidiary therefore did not record such entries in the financial statements.

42.3 Disputes submitted to the Panel where the Company/the subsidiary pending to submit to the Thai Arbitration Institute claiming for damages in 3 disputes, with the total amount to date of submission of the disputes of approximately Baht 907.1 million.

42.3.1 Revision of toll rates of the Chalerm Mahanakorn Expressway and the Si Rat Expressway for the year 2018

On 16 November 2018, the Company requested EXAT to compensate for the damages from 1 September 2018 to 31 October 2018, together with the interest, in an amount of Baht 592.9 million, and the interest of the principle damage in an amount of Baht 590.8 million on a daily basis from 1 November 2018 onwards, and compensate for the differences of toll revenue according to the Notification of the Ministry of Transport dated 2 August 2013 from 1 November 2018 onwards together with the default interest under the Agreement.

At present, the dispute is pending to submit to the Thai Arbitration Institute.

42.3.2 Revision of toll rates of the Si Rat Expressway Sector D for the year 2018

On 16 November 2018, the Company requested EXAT to compensate for the damages from 1 September 2018 to 31 October 2018, together with the interest, in an amount of Baht 289.3 million, and the interest of the principle damage in an amount of Baht 288.3 million on a daily basis from 1 November 2018 onwards, and compensate for the differences of toll revenue according to the Notification of the Ministry of Transport dated 2 August 2013 from 1 November 2018 onwards together with the default interest under the Agreement.

At present, the dispute is pending to submit to the Thai Arbitration Institute.

42.3.3 Revision of toll rates of Udon Rathhaya Expressway for the year 2018

On 16 November 2018, the subsidiary requested EXAT to compensate for the damages from 1 November 2018 to 11 November 2018, together with the interest, in an amount of Baht 24.92 million, and the interest of the principle damage in an amount of Baht 24.90 million on a daily basis from 12 November 2018 onwards, and compensate for the differences of toll revenue according to the Notification of the Ministry of Transport dated 2 August 2013 from 12 November 2018 onwards together with the default interest under the Agreement.

At present, the dispute is pending to submit to the Thai Arbitration Institute.

43. Fair value hierarchy

As at 31 December 2018 and 2017, the Company and its subsidiaries had the assets and liabilities that were measured or disclosed at fair value using different levels of inputs as follows:

(Unit: Million Baht)

	Consolidated financial statements							
	Level 1		Level 2		Level 3		Total	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Asset measured at fair value								
Current investment								
Unit trust	-	-	1,282	939	-	-	1,282	939
Investment in available-for- sale securities	6,689	-	-	-	-	-	6,689	-
Liabilities measured at fair value								
Derivative								
Interest rate swap	-	-	22	53	-	-	22	53
Asset for which fair value are disclosed								
Investment in associates	9,468	15,478	-	-	-	-	9,468	15,478
Investment properties	-	-	-	-	320	315	320	315

	Separated financial statements							
	Level 1		Level 2		Level 3		Total	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Asset measured at fair value								
Current investment								
Unit trust	-	-	1,269	928	-	-	1,269	928
Investment in available-for- sale securities	6,689	-	-	-	-	-	6,689	-
Liabilities measured at fair value								
Derivative								
Interest rate swap	-	-	22	53	-	-	22	53
Asset for which fair value are disclosed								
Investment in associates	9,468	15,478	-	-	-	-	9,468	15,478
Investment properties	-	-	-	-	320	315	320	315

44. Financial instruments

44.1 Financial risk management

The financial instruments of the Company and its subsidiaries, as defined under Thai Accounting Standard No. 107 “Financial Instruments: Disclosure and Presentations”, principally comprise cash and cash equivalents, current investments, bank deposit for unearned fare box revenue, trade and other receivables, long-term loans and interest receivables to related parties, receivable under the concession agreement, investment in available-for-sale securities, short-term loans from financial institution, trade and other payable, long-term loans, debentures and provision for compensation for site acquisition cost. The financial risks associated with these financial instruments and how they are managed is described below.

Credit risk

The Company and its subsidiaries are exposed to credit risk primarily with respect to trade and other accounts receivable. The Company and its subsidiaries manage the risk by adopting appropriate credit control policies and procedures and therefore do not expect to incur material financial losses. The maximum exposure to credit risk is limited to the carrying amounts of trade and other accounts receivable as stated in the statements of financial position.

Interest rate risk

The Company and its subsidiaries are exposed to interest rate risk relate primarily to their cash at financial institution, current investments, long-term loans and interest receivables to related parties, short-term loans, debentures and long-term loans. However, since most the financial assets and liabilities of the Company and its subsidiaries bear floating interest rates or fixed interest rates which are close to the market rate, the interest rate risk is expected to be minimal.

Significant financial assets and liabilities classified by type of interest rate are summarised in the table below, with those financial assets and liabilities that carry fixed interest rates further classified based on the maturity date, or the repricing date if this occurs before the maturity date.

(Unit: Million Baht)

	Consolidated financial statements						
	As at 31 December 2018						
	Fixed interest rates			Floating	Non-interest		Effective
	Within 1 year	1 - 5 years	Over 5 years	interest rate	bearing	Total	interest rate
							(% p.a.)
Financial assets							
Cash and cash equivalents	-	-	-	367	159	526	0.38 - 1.30
Current investments	-	-	-	-	1,282	1,282	-
Bank deposit for unearned fare box revenue	-	-	-	150	-	150	0.38
Trade and other receivables	-	-	-	-	514	514	-
Receivable under the concession agreement	-	-	-	12,510	-	12,510	Note 11
Investment in available-for-sale securities	-	-	-	-	6,689	6,689	-
	-	-	-	13,027	8,644	21,671	
Financial liabilities							
Short-term loans from financial institution	2,815	-	-	-	-	2,815	Note 22
Trade and other payables	-	-	-	-	1,683	1,683	-
Long-term loans	1,500	2,491	-	17,425	-	21,416	Note 24
Debentures	5,000	14,615	18,555	-	-	38,170	Note 25
Provision for compensation for							
site acquisition cost	1,547	-	-	-	-	1,547	4.50
	10,862	17,106	18,555	17,425	1,683	65,631	

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	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate (% p.a.)
	Within 1 year	1 - 5 years	Over 5 years				
Financial assets							
Cash and cash equivalents	-	-	-	2,263	364	2,627	0.38 - 1.60
Current investments	510	-	-	-	939	1,449	1.40
Trade and other receivables	-	-	-	-	426	426	-
Receivable under the concession agreement	-	-	-	14,160	-	14,160	Note 11
	510	-	-	16,423	1,729	18,662	
Financial liabilities							
Short-term loans from financial institution	3,629	-	-	-	-	3,629	Note 22
Trade and other payables	-	-	-	-	2,108	2,108	-
Long-term loans	2,000	3,986	-	23,624	-	29,610	Note 24
Debentures	-	11,115	17,056	-	-	28,171	Note 25
Provision for compensation for site acquisition cost	1,600	1,411	-	-	-	3,011	4.50
	7,229	16,512	17,056	23,624	2,108	66,529	

(Unit: Million Baht)

Separated financial statements

As at 31 December 2018

	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate (% p.a.)
	Within 1 year	1 - 5 years	Over 5 years				
Financial assets							
Cash and cash equivalents	-	-	-	281	143	424	0.38 - 1.30
Current investments	-	-	-	-	1,269	1,269	-
Bank deposit for unearned fare box revenue	-	-	-	150	-	150	0.38
Trade and other receivables	-	-	-	-	525	525	-
Long-term loans and interest receivable from related parties	-	-	-	2,512	492	3,004	Note 6
Receivable under the concession agreement	-	-	-	12,510	-	12,510	Note 11
Investment in available-for-sale securities	-	-	-	-	6,689	6,689	-
	-	-	-	15,453	9,118	24,571	
Financial liabilities							
Short-term loans from financial institution	2,815	-	-	-	-	2,815	Note 22
Trade and other payables	-	-	-	-	1,659	1,659	-
Long-term loans	1,500	2,491	-	15,825	-	19,816	Note 24
Debentures	5,000	14,615	18,555	-	-	38,170	Note 25
Provision for compensation for site acquisition cost	1,547	-	-	-	-	1,547	4.50
	10,862	17,106	18,555	15,825	1,659	64,007	

Separated financial statements

As at 31 December 2017

	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate (% p.a.)
	Within 1 year	1 - 5 years	Over 5 years				
Financial assets							
Cash and cash equivalents	-	-	-	2,209	318	2,527	0.48 - 1.59
Current investments	510	-	-	-	928	1,438	1.40
Trade and other receivables	-	-	-	-	419	419	-
Long-term loans and interest receivable from related parties	-	-	-	4,155	831	4,986	Note 6
Receivable under the concession agreement	-	-	-	14,160	-	14,160	Note 11
	510	-	-	20,524	2,496	23,530	
Financial liabilities							
Short-term loans from financial institution	3,629	-	-	-	-	3,629	Note 22
Trade and other payables	-	-	-	-	2,037	2,037	-
Long-term loans	2,000	3,986	-	23,124	-	29,110	Note 24
Debentures	-	11,115	17,056	-	-	28,171	Note 25
Provision for compensation for site acquisition cost	1,600	1,411	-	-	-	3,011	4.50
	7,229	16,512	17,056	23,124	2,037	65,958	

The Company entered into an interest rate swap contract with a local commercial bank to manage risk associated with some of its long-term loan, carrying interest at a floating rate. As at 31 December 2018, the Company has interest rate swap contract, granting facilities of long-term loan of Baht 6,000 million, to swap a floating interest rate of 6M THBFIX plus stipulated margins to a fixed rate. The interest rate swap contract terminates in May 2021.

Foreign currency risk

The Company has a significant foreign currency risk in respect of construction payable. As at 31 December 2018, the Company has outstanding financial liabilities denominated in foreign currency amounting to JPY 101 million, SGD 0.4 million and EUR 0.1 million (2017: JPY 97 million, SGD 0.3 million and USD 0.2 million) which have not yet been hedged against foreign exchange risk (the majority of these liabilities are repayable within 1 year).

44.2 Fair values of financial instruments

Since the majority of the financial instruments of the Company and its subsidiaries are short-term in nature or carrying interest at rates close to the market interest rates, their fair value is not expected to be materially different from the amounts presented in the statements of financial position. However, the Company has long-term liabilities in the form of debentures of which carrying value is different from the fair value. As at 31 December 2018, the book value of the Company's debentures was Baht 38,170 million, whereas the fair value was Baht 37,998 million (2017: book value was Baht 28,171 million, whereas the fair value was Baht 28,279 million).

The fair value of debentures is determined using the yield curve announced by the Thai Bond Market Association.

During the current year, there were no transfer within the hierarchy of the fair value.

45. Capital management

The primary objective of the Company's capital management is to ensure that it has an appropriate financial structure to preserve the ability to continue its business as a going concern and maximise shareholder value.

The Company manages its capital position with reference to its debt-to-equity ratio in order to comply with a condition in a long-term loan agreements, which requires the Company to maintain a debt-to-equity ratio of not more than 2.5:1

46. Events after the reporting period

46.1 Dividend payment

On 27 February 2019, a meeting of the Board of Directors passed a resolution to propose a dividend payment from the 2018 earnings at a rate of Baht 0.15 per share to the Annual General Meeting of the shareholders for approval. The Company paid an interim dividend at the rate of Baht 0.06 per share on 19 September 2018 and the final dividend payment at the rate of at the rate Baht 0.09 per share will be paid within May 2019. This dividend payment is subject to the approval of the Annual General Meeting of the shareholders.

46.2 The settlement of disputes with the EXAT

On 6 February 2019, a meeting of the Board of Directors of the Company passed a resolution to propose the settlement of the disputes with the EXAT by means of review and amendment of the Second Stage Expressway System agreement, the Extension of the Second Stage Expressway System (Sector D) agreement, and the Bang Pa-in - Pak Kret Expressway agreement to an Extraordinary General Meeting of the shareholders for approval, as described in Note 42.1.11 to the financial statements. Settlement of the disputes by means of review and amendment of the agreements is subject to approval by the Extraordinary General Meeting of the shareholders to be held on 18 March 2019.

47. Approval of financial statements

These financial statements were authorised for issue by the Company's Board of Directors on 27 February 2019.



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