

ベトナム社会主義共和国
ハノイ市交通局(DOT)
ハノイ鉄道一人有限責任会社(HMC)

ベトナム国
ハノイ市都市鉄道規制機関強化
及び運営組織設立支援プロジェクト

業務完了報告書
(第2編)

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1225168 [2]

平成 28 年 2 月
(2016 年)

独立行政法人
国際協力機構 (JICA)

東京地下鉄株式会社
日本コンサルタンツ株式会社

基盤

JR

16-026

Report on Clarifying Responsibilities for Governmental Management of Urban Railway in Hanoi

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
CHAPTER I: LEGAL BASIC AND NECESSITY FOR CLARIFICATION OF RESPONSIBILITIES FOR GOVERNMENTAL MANAGEMENT ABOUT URBAN RAILWAYS	7
I. General of governmental management:	7
1.1. Role of the Government:	7
1.2. Concept of governmental management:	7
1.3. Classification of governmental administrative agencies:	7
1.4. Basic function of governmental management (function of governmental administration)	8
1.4.1. Concept of governmental management function:	8
1.4.2. Classification of governmental administrative function:	9
1.4.3. Contents of basic functions of governmental administrative management:	9
2. Plan and implementation results of UR construction projects in Hanoi. The existing organizational model of governmental management of public transport in Hanoi	11
2.1. Plan and implementation results of UR construction projects in Hanoi:	11
2.1.1. <i>Hanoi UR network master plan</i>	11
2.1.2. <i>Current implementing results for UR planned lines in Hanoi:</i>	13
2.2. Organization and management model of public passenger transport in Hanoi:	14
3. Necessity of clarification of responsibilities for governmental management of UR	16
4. Object, scope and objective of the study	17
4.1. Objects of Study	17
4.2. Scope of study	17
4.3. Objective of the study:	17
CHAPTER 2: VIETNAM'S LEGAL DOCUMENT SYSTEM AND URBAN RAILWAY ORGANIZATIONAL MODELS IN THE WORLD	18
1. List of legal documents on transport, railways in general and urban railway in particular:	18
2. Functions and responsibilities of governmental management of the existing levels of transport and urban railways:	20
3.1 <i>Experience of France - Transport organizer in Ile – de – France (STIFF)</i>	42
3.2: <i>Japan experience – MLIT regulator (Ministry of Land, Infrastructure, Transport and Tourism)</i>	46
3.3 <i>Functions of several other public transport (urban railway) regulators:</i>	49
4. HPC's Responsibility for governmental management, roadmap for development of institutional model for urban railway system in Hanoi	51
4.1 <i>Legal basis, responsibilities of HPC in governmental management of UR</i>	51
4.2. Clarification and details about related legal documents, institutions, policies, coordinating & supervising mechanism among governmental agencies in Hanoi	66
CHAPTER 3. PROPOSAL FOR DESCRIPTION OF RESPONSIBILITIES AND ORGANIZATIONAL STRUCTURE OF HANOI URBAN RAILWAY REGULATOR -DOT	68
1. Specific description of responsibilities of UR regulator in of urban railway:	68
1.1. <i>Quality management for urban railway transport service</i>	68
1.2: <i>Proposal to advise on regulations and management of urban railway safety</i>	73
1.3. <i>Recommending incentive policies for using urban railways</i>	75
1.4. <i>Development and proposal for urban railway fare policy:</i>	79
1.5 <i>Advice on regulations on maintenance of urban railway infrastructure and equipment:</i>	83

<i>Proposal for responsibilities of DOT in advising regulations on management of urban railway infrastructure and equipment:</i>	83
<i>1.6. To provide advices and proposal to submit HPC for issuance of documents on allocation, decentralization of governmental management of urban railway sector.</i>	83
<i>1.7. To advise, submit HPC regarding development plan, long term plan, 5 year plan, annual plan and development program of urban railway consistent with socio-economic development master plan of the city, region plan and industrial plan.</i>	84
<i>1.8. To inspect, check and handle violation of laws on transport, transport safety in the city area as prescribed;</i>	84
<i>1.9. To propagandize and educate laws related to urban railways.</i>	84
<i>1.10. To perform international cooperation in urban railway in accordance with provisions of law and allocation or authorization of HPC</i>	84
2. Proposal for organizational structure of urban railway regulator – DOT	84
2.1 Existing organizational structure of DOT	84
2.2 Proposal for organizational structure of urban railway regulator – DOT.....	86
2.2.1. Stage 1: (Current stage).....	86
2.2.1.1. Establishment of UR Regulator under DOT (Option 1):.....	86
2.3.1.2. Model 2: Tramoc under DOT is UR Regulator in Hanoi City: (Option 2):	88
2.3.1.3. Model 3: MRB participates in UR management in Hanoi city - Option 3	89
2.3.2. Stage 2: (from 2022 onwards): a common public transport management model – Public Transport Authority (PTA):	90
2.3.2.1. Proposal for public transport regulator model -PTA:.....	90
2.3.2.2. Advantages of a common public transport management model (PTA) under HPC:	91
2.3.2.3. Functions, responsibilities and position of Hanoi PTA:.....	91
2.3.2.4. Organizational structure of Hanoi PTA:.....	92
CHAPTER 4. CONCLUSIONS, RECOMMENDATIONS	93
1. Conclusions.....	93
2. Proposals and recommendations.....	93

EXECUTIVE SUMMARY

Necessity of clarification of responsibility for governmental management of urban railway:

- In accordance with implementation schedule, by the end of 2016, Cat Linh – Ha Dong Urban Railway Line 2A will be the first line operating. The remaining projects like Line 3 estimated to operate by January 2018, and Line 1 by 2020. Hanoi Railway One Member LCC that was established in accordance with Decision No. 6266/QĐ-UBND dated 27 November 2014 of Hanoi City People Committee (HPC), is currently in operating, strengthening the capacity and preparing conditions for commissioning of Line 2A. Based on Law on Railway approved in 2005, Hanoi urban railway is managed by HPC (Article 55-2, Law on railway). Therefore, for the first urban railway line estimated to operate by 2016, it is necessary to clarify function and responsibility of governmental management about urban railways, clarifying the organizational model of the management agency in Hanoi City to coordinate and monitor Hanoi Railway One Member LCC preparing receiving conditions, carrying out commissioning and commercially operating to ensure quality and safety.

Hanoi Department of Transport (DOT) is the specialized agency of HPC to perform function “*advising and assisting HPC in governmental management of transportation, including roadways, waterways, urban railways, transportation, transport safety in Hanoi City*” (Decision No. 17/2008/QĐ-UBND dated 29 September 2008). However, in this decision, management function of urban railway is not implemented, clarified and concretized yet. DOT has not yet established department (board) or relevant organizational structure yet as well as lack of human resource with qualification and deep understanding of urban railway for implementation. Clarification of function, responsibility of governmental management about urban railways has important meaning, assisting HPC to develop and issue policy, regulations on management and monitoring urban railway activities to organizations and individuals participating in urban railway transport.

Objectives of this proposal:

The objective of this proposal is to define and develop UR institutional system, and based on that to stress on clarification of functions, responsibilities and preparing basic plans on operation and organization structure of regulator for UR.

Functions and responsibilities regarding UR management of several regulators in the world

The study, analysis and assessment of the management and operation of other regulators in the world shall be important basis for regulator of UR in Hanoi to refer to and learn experience and propose tasks and plans to ensure effective UR management (*More details are explained in part 1 of Chapter 3*)

Proposal on description of government functions on operation and maintenance of UR

Functions, responsibility of governmental management of urban railways are proposed to be applied for DOT (*find more details in part 1 of Chapter 4*):

- (1) To provide advices to develop regulations, and managing urban railway service quality
- (2) To provide advices to develop regulations, and managing urban railway safety
- (3) To provide advices to develop incentive policies for urban railway
- (4) To develop and proposing Fare policy and acquiring approval of HPC

- (5) To provide advices to develop regulations and managing urban railway infrastructures and equipment
- (6) To provide advices and proposal to submit HPC for issuance of documents on allocation, decentralization of governmental management of urban railway sector.
- (7) To advise, submit HPC regarding development plan, long term plan, and development program of urban railway consistent with socio-economic development master plan of the city, region plan and industrial plan.
- (8) To inspection, check and handle violation of laws on transportation in the city as prescribed;
- (9) To propagandize and educate laws related to urban railways.
- (10) To perform international cooperation in urban railway in accordance with provisions of law and allocation or authorization of HPC

Proposed organizational structure, operational system of UR regulator

In this report, UR regulator in Hanoi City is proposed in the following stages (*find more details in part 2 of Chapter3*):

- Stage 1:
 - + Option: MRB is UR regulator
 - + Option: an UR regulator is established under DOT (a center or an organization equivalent to a department)
 - + Option: Governmental management responsibility is added to TRAMOC
- Stage 2: An unique agency is established to manage public passenger transport in Hanoi City

Acronyms and Abbreviations

Abbreviations	Description
Government	Government of the Socialist Republic of Vietnam
TA Project	TA Project “to Strengthen the Capacity of Regulator and to Establish O&M Company for Metropolitan Railway Lines in Hanoi City”
UR	Urban railway
Plan of O&M	Plan of establishment of O&M Company for UR lines in Hanoi (2012)
Plan	Plan on Strengthening Hanoi UR regulator
GTCC	Public transport
GTVT	Transport
JICA	Japan International Cooperation Agency
HPC	Hanoi People’s Committee
MoT	Ministry of Transport
VNRA	Vietnam Railway Administration
DoT	Hanoi Department of Transport
DoF	Hanoi Department of Finance
MRB	Hanoi Metropolitan Railway management board
TRAMOC	Public transport management and controlling agency
O&M	Operation and Maintenance
QLDA	Project management
TP	City
TTg	Prime Minister
HKCC	Passengers
HMC	Hanoi Railway One Member LLC

CHAPTER I: LEGAL BASIC AND NECESSITY FOR CLARIFICATION OF RESPONSIBILITIES FOR GOVERNMENTAL MANAGEMENT ABOUT URBAN RAILWAYS

I. General of governmental management:

1.1. Role of the Government:

According to the Constitution of the Socialist Republic of Vietnam, 1992:

Article 3 The Government shall implement the targets of building a prosperous life for its people, a strong country and an equitable, democratic and civilized society, ensuring the well-being, freedom and happiness of all citizens as well as conditions for comprehensive development.

Article 52 In relation to economic development

The Government shall build up and perfect economic institution, regulate the economy on the basis of respecting market laws; implement assignment, decentralization of state management; promoting regional economic integration and ensuring the consistency of the national economy.

1.2. Concept of governmental management:

Governmental management is a form of special social management implemented by the agencies of the state system through the system of legal instrument and policy to adjust the behaviour of individuals and organizations to maintain stability and sustainable development of the whole society

1.3. Classification of governmental administrative agencies:

1.3.1. Governmental administrative agencies at central level:

Including: Government, ministries, ministerial-level agencies, agencies directly under the Government:

- Government is the executive body of the National Assembly, the highest administrative organ of the Socialist Republic of Vietnam. Responsibilities and powers of the Government are compliant with the constitution and Law on governmental organization.

The organizational structure of the Government includes ministries, ministerial-level agencies and agencies directly under the Government. Government members include Prime Minister, Deputy Prime Minister, Ministers, heads of ministerial-level agencies and the agencies directly under the Government. Ministries and ministerial-level agencies are the Government's bodies performing governmental regulatory functions for industries or sectors in the country, the governmental management of public services in the sectors and industries.

Ministries, ministerial-level agencies (commonly called the Ministry) are divided into industry ministries, general ministries, and sectorial ministries.

Organizational structure of the Ministry includes: Department, Inspection and Office of Ministry; Bureau, General Administration (not necessarily available in the ministries); organizations and business units.

The agency under the Government is an organization established by the Government to perform the functions, duties and powers stipulated by the Government.

Document issuance authority: the Government issues Resolution, Decree; The Prime Minister issues Decision and directives; Ministers, heads of ministerial-level agencies issue decisions, circulars and directives.

1.3.2. Classification of the governmental administrative agencies at local level: People committees of all levels and subordinate agencies:

People committees of all levels and subordinate agencies are elected by the same level People's Councils to be the executive organ of the People Council and the state administrative bodies at local level. People Committee shall be responsible for organizing and directing the implementation of the constitution, law; the text of the higher governmental organs and the resolutions of the People's Councils of the same level.

Members of the People's Committees at all levels include: Chairman, Vice Chairman, and Commissioner. People's Committees at all levels have specialized agencies to assist People's Committee in jointly performing the function of Governmental management in the locality and performing a number of tasks and powers under the authorization of the People Committee of the same level and under the provisions of law. Government shall regulate the organization of the specialized agencies of People's Committees and provide guidelines for organizing a number of professional agencies for the Provincial People's Council (PPC) to decide properly in accordance with the local features.

The professional agencies of PPCs are Department-level units, of District People Committees (DPC) are the departments and boards. People Committees at commune level do not have specialized agencies; advising and consulting in professions to assist Commune People Committee (CPC) are undertaken by commune officials.

Document issuance authority: PPCs, DPCs issued decisions and directives; CPCs issue a decision.

<i>Governmental level</i>	<i>Governmental administrative agencies having the common competence</i>	<i>Governmental administrative agencies having professional competence</i>
<i>Central</i>	<i>Government</i>	<i>Ministry, Ministerial level agency</i>
<i>Province</i>	<i>PPC</i>	<i>Department</i>
<i>District</i>	<i>DPC</i>	<i>Department</i>
<i>Commune</i>	<i>CPC</i>	<i>Board</i>

1.4. Basic function of governmental management (function of governmental administration)

1.4.1. Concept of governmental management function:

- The concept of function: Function is the aspect activity to perform the tasks.
- The function of governmental management (governmental administrative functions):

Governmental management functions are specific operational aspects of governmental administration, the product of the process of division and specialization of activities in the field of executive authority.

The governmental administrative functions are strictly regulated by normative documents and allocated to the governmental administrative agencies from the central to local:

+ *Governmental administrative function by prescribed by the Constitution, laws and other normative documents.*

+ *Clearly distinguishing the functions of general administration (common) from administrative functions of each specific administrative agency.*

1.4.2. Classification of governmental administrative function:

- Classification by the scope of implementation, internal functions and external functions.

- Classification by the nature of activity: Regulatory function (legislative), administrative management functions.

- Classification by the field of activity: Political functions, economic functions, social functions, cultural functions, etc.

- Classification by the management level, governmental administrations are classified into central administrative functions (the Government, ministries and ministerial-level agencies) and local administrative functions (functions of provincial people's committees, agencies at all levels of People's Committee)

- Classification by the object of influence, governmental administration has groups of functions to maintain the existence and development of governmental administration itself and group of functions influencing on objects outside of the system and providing public services.

1.4.3. Contents of basic functions of governmental administrative management:

1.4.3.1. Functions to sustain the development of governmental administration: (internal function)

- a) Function of planning and scheduling
- b) Function of organization
- c) Function of human resource
- d) Function of making decision on governmental administration
- e) Function of leading and execution
- f) Function of coordination
- g) Function of budget (Financial function)
- h) Function of report
- i) Function of control

1.4.3.2 Function to influence on the outside of administration:

Governmental administrative functions for the sectors, industries represent the contents of the governmental administration for different industries, sectors of society such as science - technology; resources - environment; post and telecommunication; finance; currency; education; medicine; culture; labour and employment; social security; industry; agriculture - rural; construction; transport; commerce; tourism; security and defence; foreign affairs etc.

Governmental administrative function for the industry, sector is expressed through a number of following contents:

- Providing economic infrastructure: The Government provides basic institution, rules and principles necessary for economic entities to select and conduct business and production activities, including: to define and protect property rights, enforce to comply with contract, to provide standard currency, measurers and measurement units, company law, bankruptcy, patents, copyright, law enforcement, sustainment of law and order and tax system etc..

- Providing of public goods and services

There are a number of public goods and services important to the entire society. These goods and services having general use features without competitiveness in consumption and not excluded, so-called public goods.

These public goods include national security, roads and bridges, assistance to the marine industry, flood control, wastewater treatment, traffic control systems and other infrastructure.

- Function of orientation through planning strategies, planning and development plan:

+ Governmental administration is based on the orientation of governmental agency, of the superior to build up strategy, planning, development plans within the assigned management competence.

+ Planning is to identify future goals and appropriate way to achieve those goals in a period of 5 years, 10 years or longer. In a broader meaning, the planning function is to define development guidelines and to establish long-term plans, medium term plan for the development.

+ Making strategies for sectorial and industrial development:

Strategy of socio-economic development is a system of basic viewpoints, the long-term goals of socio-economic development and solutions that are selected primarily in scientific manner on the basic of mobilization and optimal use of resources and development advantages of the country and locality to achieve the objectives.

+ Making planning for sectorial and industrial development:

Planning of sectorial and industrial development is a form of orienting development of industry, long-term field. In which, the scope and limits are clearly defined for the development. It is a premise for preparation of plans, programs and projects.

The nature of planning is to make macro framework of spatial organization in order to provide scientific basis for the levels for macro instruction of sectors and industries through plans, programs and investment projects that ensure fast growing, sustainable and effective economy.

For example: land use plan, urban plan, public passenger plan etc.

- Function of adjustment through system of institution, policy, legal normative documents, management rules, standards, technical norms issued by the Government:

Based on the laws, policies and decisions of governmental agencies and the superior agencies, governmental administrative agencies at all levels shall develop and promulgate institutions to concretize laws, policies to be suitable with nature and characteristics of the object in a certain environment.

- Function of guidance and implementation:

In order for subjects to implement properly the provisions of the laws, policies and development plans, administrative agencies at all levels shall make guidelines for these

subjects to understand and implement. At the same time, administrative entities at all level shall organize to implement laws, policies and plans to achieve the defined goals

- Function of check, inspection and violation settlement:

Function of check, inspection and violation settlement is to assess the compliance of laws, policies and tasks, the technical regulations, the rules of industry management of individuals and organizations in society, thereby, proposing timely measures to correct errors, to prevent and handle violations of individuals and organizations as well as proposing measures to remedy the unreason of laws and policies.

2. Plan and implementation results of UR construction projects in Hanoi. The existing organizational model of governmental management of public transport in Hanoi

2.1. Plan and implementation results of UR construction projects in Hanoi:

2.1.1. Hanoi UR network master plan

Master plan of urban transport was officially approved in July 2008 by decision of PM (no. 90/2008/QĐ-TTg). Accordingly, for urban railways, till 2020, there will be 5 lines to be constructed, with total length of 196km:

Table : UR lines in City's Master Plan of Transport Development in 2008

Line	Length (km)	Alignment	Remarks
Line 1	38.7	Ngoc Hoi – Yen Vien – Nhu Quynh	From the South East and North of City to City center, utilizing existing track.
Line 2	35.2	Noi Bai – City center – Thuong Dinh	From Noi Bai Airport to new urban areas
Line 2A	14	Cat Linh – Hao Nam – La Thanh – Thai Ha – Lang – Nga Tu So – Highway 6 – Thuong Dinh (connected Line 2) – Ha Dong – Ba La	To be expanded to Xuan Mai till after 2020
Line 3	21	Nhon – Hanoi Station – Hoang Mai	Phase 1: 12.5km Nhon – Hanoi Station To expand to Son Tay, estimated length after 2020 is 48km.

Line 4	53.1	Dong Anh – Sai Dong – Vinh Tuy – Thanh Xuan – Tu Liem – Thuong Cat – Me Linh	To be constructed as BRT system at earliest timing, then, to be developed as completed urban railway line.
Line 5	34.5	South of Ho Tay – Ngoc Khanh – Lang – Hoa Lac	From city center to urban areas along Lang – Hoa Lac corridor

Source: Decision 90/2008/QĐ-TTg in July, 2008

In 2011, after National Assembly of Vietnam issued Resolution no. 15/2008/QH12 regarding the adjustment of administrative border of the city, PM made Decision no. 1259/QĐ-TTg dated 20/07/2011 regarding the approval for Master plan of Capital city development till 2030, vision to 2050. In which, there are 9 lines/sections as following:

Table : List of UR lines in the Master Plan

Line	Length (km)	Alignment
Line 1	38.7	Ngoc Hoi – Yen Vien – Nhu Quynh
Line 2	35.2	Noi Bai – City center – Thuong Dinh
Line 2A	14	Cat Linh – Hao Nam – La Thanh – Thai Ha – Lang – Nga Tu So - Highway 6 – Thuong Dinh (connecting Line 2) – Ha Dong – Ba La
Line 3	21	Nhon – Hanoi Station – Hoang Mai
Line 4	53.1	Dong Anh – Sai Dong – Vinh Tuy – Thanh Xuan – Tu Liem – Thuong Cat – Me Linh
Line 5	34.5	South of Ho Tay – Ngoc Khanh – Lang – Hoa Lac
Line 6	47	Noi Bai – Phu Dien – Ha Dong – Ngoc Hoi
Line 7	35	Me Linh – An Khanh – Duong Noi
Line 8	28	Co Nhue – Mai Dich – Yen So – Linh Nam – Duong Xa

Source: Decision 1259/2011/QĐ-TTg dated July 20, 2011

2.1.2. Current implementing results for UR planned lines in Hanoi:

According to Hanoi City Construction Master Plan till 2030 and vision to 2050 approved by Decision no. 1259/QĐ-TTg dated 26/7/2011, the implementation of construction plan for UR lines in Hanoi city was assigned to two main organizations, i.e. MOT and HPC, which has been compiled as in following table:

Table: Implementing results of planned urban railway lines in Hanoi City

Plan following Decision no. 1259/QĐ-TTg dated 26/7/2011				Implementation status				
No .	Line	Alignment	Length (km)	Project	Section (alignment)	Length (km)	Result of implementation	Expected schedule
1	Line 1 (elevated)	Ngoc Hoi – Hanoi Station HN-Yen Vien – Nhu Quynh	34.7	Phase 1	Ngoc Hoi – Yen Vien	15.3	Under planning and technical design	2008 -2021
				Phase 2	Yen Vien – Nhu Quynh	23		
2	Line 2	Thach Loi – Noi Bai – City center – Thuong Dinh	50	Phase 1	Nam Thang Long- Tran Hung Dao	11.5	EOI for civil packages: Submitting for approval of adjusted total investment	2009 – 2019
					Tran Hung Dao – Thuong Dinh	6	Under completion, and submit for approval for FS report	
	Line 2A (elevated)	Cat Linh – Nga Tu So - Ha Dong	13.03	Under construction for civil packages and implementation of equipment procurement, training packages.				2008 -2015
3	Line 3	Nhon –Hanoi Station – Hoang Mai	26	Phase 1	Nhon –Hanoi Station	12,5	Under construction for infra civil package and depot architecture package; prepare to construct for station civil package, viaducts, prepare for	2008 -2018

							biddings of underground package and equipment package	
				Phase 2	Hanoi station – Hoang Mai	8,5	Under completion of procedures for investment preparation	2012 -2021
4	Line 4	Me Linh – Dong Anh – Sai Dong – Vinh Tuy/Hoang Mai –Van Dien 2.5 – Co Nhue - Lien Ha	54	Not yet studied				
5	Line 5	Nam Ho Tay – Ngac Khanh – Lang – Hoa Lac	25.6	FS under making				2011 – 2030
6	Line 6 (elevated)	Noi Bai – Phu Dien – Ha Dong – Ngoc Hoi	43.2	During investment promotion, and prepare for study of project formation				2014 – 2025
7	Line 7	Me Linh –Nhon new urban – Van Canh – Duong Noi	35.7	Not yet studied				
8	Line 8	Mai Dich – Ring 3 – Linh Nam – Duong Xa	36.7	Not yet studied				

2.2. Organization and management model of public passenger transport in Hanoi:

- In addition to common organizational structure of governmental management about transport, in which, MOT is a representative of the Government to perform responsibility of governmental management. In Hanoi, DOT is a specialized agency of Hanoi to perform function “*advising and assisting HPC in governmental management of transportation, including roadways, waterways, urban railways, transportation, transport safety in Hanoi City*” (Decision No. 17/2008/QĐ-UBND dated 29 September 2008).
- For the public transport, currently bus system plays key role. Hanoi City established TRAMOC performing function “*to assist the Department of transport and public works (now DOT) in management and monitoring of public works in the City*” (Decision No. 2279/QĐ-UBND dated 31/5/2007). However, the major area of management of Tramoc is to manage public transport by bus (not including other public transport mode) with the following responsibilities:

- + To develop strategies of developing public transport types, structure types of vehicles to suit with each stage of urban development in order to meet the travel demand of the people and ensure the urban environment.
- + To make plan – planning of public transport network development plans in the city to submit to the competent authorities for approval.
- + To study and make policy on economic and technical indicators, benchmarks and valuation of flows and line of public transport to advise the Director of DOT to submit to the competent authorities for approval.
- + To organize bidding for development investment projects in public transport
- + To be authorized by DOT's Director to directly manage and coordinate the network
- + To manage infrastructure related to public transport; to coordinate, regulate the operation of the bus network.
- + To print and issue bus tickets
- + To manage resources of subsidy and revenue of public transport.
- + To sign contracts, monitor the implementation of economic contracts with the units that participate in public transport in the city, acceptance and settlement etc.
- Besides TRAMOC, DOT assists HPC in performing function of governmental management towards public transport system. As approved by the Prime Minister, HPC established Transerco (Decision No. 72/2004/QD-UBND dated 14/5/2004) to perform main businesses in *“providing public transport service by bus and inter-city transport service, contributing to effectively implement the plan of public transport development till 2010, vision to 2020 of Hanoi City”*
- MRB is an advising body of HPC, which is to *“assist HPC in studying, developing, operating, maintaining Hanoi UR system”* (Decision no. 925/2012/QD-UBND dated 22/02/2012)
- In order to meet the situation of UR lines in Hanoi prepared to put into operation, as approved by the Prime Minister, HPC established Hanoi Railway One Member LLC (Decision 6266/QD-UBND of HPC dated 27/11/2014) to carry out function of operation and business of public transport by urban railway system.

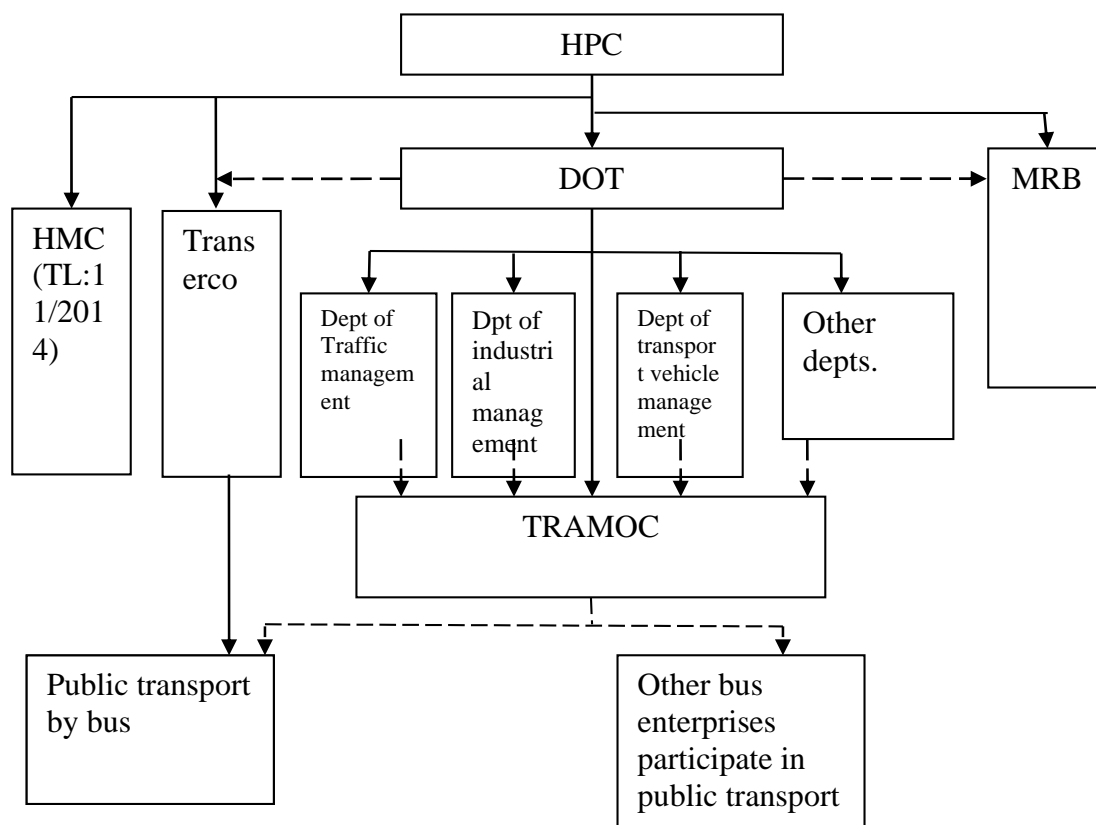


Figure : Management model of public transport in Hanoi

3. Necessity of clarification of responsibilities for governmental management of UR

Clarification of functions and responsibility of governmental management about urban railways is necessary based on the following factors:

- In accordance with implementation schedule, by the end of 2016, Cat Linh – Ha Dong Urban Railway Line 2A will be the first line operating. The remaining projects like Line 3 estimated to operate by January 2018, and Line 1 by 2020. Hanoi Railway One Member LCC that was established in accordance with Decision No. 6266/QĐ-UBND dated 27 November 2014 of Hanoi City People Committee (HPC), is currently in operating, strengthening the capacity and preparing conditions for commissioning of Line 2A. Based on Law on Railway approved in 2005, Hanoi urban railway is managed by HPC (Article 55-2, Law on railway). Therefore, for the first urban railway line estimated to operate by 2016, it is necessary to clarify function and responsibility of governmental management about urban railways, clarifying the organizational model of the management agency in Hanoi City to coordinate and monitor Hanoi Railway One Member LCC preparing receiving conditions, carrying out commissioning and commercially operating to ensure quality and safety.

- Hanoi Department of Transport (DOT) is the specialized agency of HPC to perform function “advising and assisting HPC in governmental management of transportation, including roadways, waterways, urban railways, transportation, transport safety in Hanoi City” (Decision No. 17/2008/QĐ-UBND dated 29 September 2008). However, in this decision, management function of urban railway is not implemented, clarified and concretized yet. DOT has not yet established department (board) or relevant organizational structure yet as well as lack of human resource with qualification and deep understanding of urban railway

for implementation. Clarification of function, responsibility of governmental management about urban railways has important meaning, assisting HPC to develop and issue policy, regulations on management and monitoring urban railway activities to organizations and individuals participating in urban railway transport.

4. Object, scope and objective of the study

4.1. Objects of Study

Object of this study is public transport institutional system, emphasizing on governmental management of urban railway.

4.2. Scope of study

Vietnamese administrative management system: policies, strategies on development relating to public transport and of Hanoi City, related experiences of developed countries.

4.3. Objective of the study:

The objective of this study is to define and develop UR institutional system, emphasizing on clarification of responsibilities, and preparing basic plans for operation and organization structure of government regulator for UR.

CHAPTER 2: VIETNAM'S LEGAL DOCUMENT SYSTEM AND URBAN RAILWAY ORGANIZATIONAL MODELS IN THE WORLD

1. List of legal documents on transport, railways in general and urban railway in particular:

1.1. Laws promulgated by the National Assembly:

- Law on Organization of the Government No. 32/2001/QH10 of the National Assembly dated December 25, 2001
- Law on Organization of People Council and People's Committees No. 11/2003/QH11 of the National Assembly dated 26/11/2003
- Law on Railway No. 35/2005/QH11 of the National Assembly dated 14/6/2005
- Law on Road traffic No. 23/2008/QH12 of the National Assembly dated 13/11/2008
- Law on Bidding No. 43/2013/QH13 of the National Assembly dated 26/11/2013
- Law on Investment No. 67/2014/QH13 of the National Assembly dated 26/11/2014
- Law on Environmental Protection No. 55/2014/QH13 dated 23/06/2014
- Law on Urban Planning No. 30/2009/QH12 of the National Assembly dated 17/6/2014
- (Law on Electricity)
- Law on State Budget No. 01/2002/QH11 of the National Assembly dated 16/12/2002;
- Law on State Budget (amended) No. 83/2015/QH13 of the National Assembly dated 25/6/2015.
- Law on Vocational Training No. 76/2006/QH11 dated 29/11/2006
- Law on professional education No. 74/2014/QH13 of the National Assembly dated 27/11/2014
- Law on Auction No. 11/2012/QH13 of the National Assembly dated 20/6/2012
- Law on Land No. 45/2013/QH13 dated 29/11/2013

1.2. Decrees issued by the Government

- Decree No. 14/2015/ND-CP of the Government dated 02/13/2015 providing detailed regulations and guidelines for implementation of some articles of the Law on Railways
- Decree No. 107/2012/ND-CP of the Government dated 20/12/2012 stipulating the functions, responsibilities, powers and organizational structure of the Ministry of Transport;
- Decree No. 24/2014/ND-CP of the Government regulating the organization of the professional agencies under the People's Committees of provinces and cities under central government;
- Decree No. 130/2013/ND-CP of the Government dated 10/16/2013 on production, supply of public products and services;
- Decree No. 79/2014/ND-CP dated 31/07/2014 detailing provisions of some articles of the Law on Fire Protection and Law on amending and supplementing some articles of the Law on Fire Protection;
- Decree No. 130/2006/ND-CP dated 11/08/2006 regulating regime of insurance of fire and explosion;

- Decree No. 78/2010/ND-CP of the Government dated 14/07/2010 on lending of foreign loans of the Government;
- Decree No. 38/2013/ND-CP dated 04/23/2013 on the management and use of resources of official development assistance (ODA) and preferential loans of donors;
- Decree No. 59/2015/ND-CP of the Government dated 06/18/2015 on management of construction investment projects;
- Decree No.46/2015/ND-CP of the Government dated 05/12/2015 on the management and maintenance of quality of construction works;

1.3. Circulars issued by Ministries and Ministerial-level agencies:

- Circular No. 77/2012/TT-BCA of Ministry of Public Security stipulating processes of investigation and solutions of railway traffic accident police of road and rail transport force;
- Circular No. 15/2009/TT-BGTVT of MOT providing regulations on handling railway traffic accidents, incidents;
- Circular No. 37/2014/TT-BGTVT providing provisions on the protection scope of works and corridor urban railway traffic safety;
- Circular No.20/2013/TT-BGTVT providing regulations on the management and maintenance of railway works;
- Circular No. 05/2015/TT-BGTVT providing regulations on standards of titles of the staffs who directly serve the urban railway train operation;
- Circular No. 21/2015/TT-BGTVT providing regulations on working time, rest time for workers having jobs with the special features of rail transport;
- Circular on regulations on passenger transport by urban railway (Draft)
- Joint Circular No. 42/2015/TTLT-BGTVT-BNV guiding functions, responsibilities, powers and organizational structures of specialized agencies transport of the people committees of provinces, cities directly under the central government;
- Circular No. 01/2013/TT-BGTVT providing regulations on registration of railway transport vehicles;
- Circular No.30/2014/TT-BGTVT providing regulations on Safety Certificate for railway enterprises;
- Circular No. 02/2009/BGTVT about quality control, technical safety and environmental protection of rail transport vehicles;
- Circular No.31/2015/TT-BGTVT dated 07/17/2015 providing provisions for the contents, examinations process for urban railway train driver license;

1.4. Decisions, directives issued by Ministries, HPC:

- Decision No. 1890/QĐ-BGTVT dated 07/03/2013 of MOT regulations on the functions, responsibilities, powers and organizational structure of the Viet Nam Railway Administration;
- Decision No. 862/QĐ-BGTVT dated 04/05/2013 of MOT regulations on the functions, responsibilities, powers and organizational structure of Vietnam Department of Registry;
- Decision No. 17/2008/QĐ-UBND of HPC providing regulations on functions, responsibilities, powers and organizational structure of the Hanoi Department of Transport;

- Decision No. 925/QD-UBND dated 22 Feb. 2012 of HPC, MRB is established based on re-consolidation of metropolitan railway project management board;
- Decision No. 2279/QD-UBND of HPC dated 31/5/2007 on the establishment of Tramoc under the DOT;
- Decision No. 5579/QD-UBND of HPC dated 13/09/2013 regarding "Approval for framework scheme for fare policy and e-ticket technology applicable to urban public passenger transport network in Hanoi city";
- Decision No. 3978/QD-UBND of HPC on management and application of technologies for e-ticket system of public passengers transport network in Hanoi City.

1.5. Technical codes and standards of ministerial level regarding railways and urban railways

- Vietnam Building Code No. QCVN 08:2009/BXD for urban underground works
- Vietnam Building Code No. QCVN 08-2015-BGTVT for railway operation
- Vietnam Building Code for urban railways (Draft)

2. Functions and responsibilities of governmental management of the existing levels of transport and urban railways:

Within the scope of this study, the report reviews the system of the related legal documents such as the Laws of the National Assembly, the Resolution issued by the Government, the circular, directives issued by ministries related to transport, railways and urban railways. Details are shown in the below table:

TABLE : RESPONSIBILITIES OF GOVERNMENTAL MANAGEMENT AGENCIES TOWARDS ACTIVITIES OF TRANSPORT, RAILWAYS AND URBAN RAILWAYS

Laws, decrees, circulars and regulations, other documents	Description of Laws, decrees, circulars and regulations, other documents	Responsibilities of the relevant agencies		
		MOT	HPC	Other ministries
LAWS ISSUED BY THE NATIONAL ASSEMBLY				
LAW ON RAILWAYS	Article 6. Overall planning on railway development	Minister of Transport made a master plan for development of the railway to submit to the Prime Minister for approval		
LAW ON RAILWAYS	Article 7. The state management responsibilities of the Government, ministries, ministerial-level agencies with regard to railway activities Article 8. Provincial-level People's Committees' responsibilities for state management of railway activities	The Ministry of Transport is responsible before the Government for performing governmental management of rail operations.	HPC: + To organize and direct the implementation of law on railway; measures to protect rail infrastructure; protect the safety corridor of rail traffic; rescue accident and deal with the consequences of railway accidents occurred in local area. + To make and implement development planning on urban railway infrastructure of the locality. + To ensure order, railway transport safety; inspect and handle violations of the legislation on railways in local area.	+ Ministry of Public Security chairs and coordinates with the MOT, Ministry of Defence and the People's Committees of provinces and cities directly under the central government and related ministries to implement measures to protect social order and safety in railway activities; organizes forces to examine and handle violations of law on railways for people and vehicles involved railway transport as prescribed by law; carries out statistics and data of railway accidents. + the Ministry of Natural Resources and Environment chairs and coordinates with MOT in management and exploitation of resources under the land for railways, the area adjacent to the protection area of railway work that affects the safety of railway works and railway transport safety. + The Ministry of Industry has a responsibility to ensure stable power supply priority for railway electrification and, railway signalling telecommunication systems.
LAW ON RAILWAYS	Article 9. Railway inspectorate.	Railway Inspectorate of MOT's inspectors performs the function of specialized inspection of railway activities		
LAW ON	Article 10. Propagation and dissemination,		Local authorities at all levels (People's Committee of city, district and commune)	+ Ministry of Education and Training has responsibility to direct the education of law on rail in the educational

RAILWAYS		education about law on railway		take responsibility to propagate, disseminate and educate law on railways for local people	institutions. + Vietnam Fatherland Front and its member organizations have responsibility to coordinate with concerned agencies and local government to propaganda, mobilize people to implement the law on railway
LAW RAILWAYS	ON	Article 11. Responsibilities of organizations and individuals upon occurrence of railway traffic accidents		People's Committees at all levels where railway traffic accident happens have to coordinate with the police agency, railway business enterprises to help victims, protect the property of the State and of the victims.	+ Ministry of Public Security and concerned organizations and individuals have responsibilities to come to the scene for handling immediately upon receiving information about railway accidents.
LAW RAILWAYS	ON	Article 15. Formulating, approving and publicizing planning on railway infrastructure development	The Minister of Transport organizes to make planning for railway infrastructure development in the country to submit the Prime Minister for approval; make and approve for detailed planning for railway infrastructure development in each region, railway transportation hub consistent with the approved railway infrastructure development plan for national railways.	City People's Committee organizes to make planning for urban railway infrastructure development to submit to People's Councils of the same level for approval before submission to the Minister of Transport for approval.	The Ministry of Finance chairs and coordinates with the MOT, the Ministry of Construction to issue expense norms for the formulation, evaluation and publication of planning, landmark setting for area of planned land and adjust of national railway and urban rail infrastructure development plan.
LAW RAILWAYS	ON	Article 20. Railway gauges and railway technical standards	The Minister of Transport stipulates technical grade and railway technical grade standard.		
LAW RAILWAYS	ON	Article 21. Railway Station	The Minister of Transport issues regulations on technical code of operation, technical standards of railway station; decides and announces the closure or opening railway stations		
LAW RAILWAYS	ON	Article 36. Responsibilities to protect railway infrastructures	MOT chairs and coordinates with Ministry of Public Security, Ministry of National Defence to protect particularly important railway works (e.g. international station, station class I)	People's Committees at all levels where the railway is passing through is responsible in disseminating and educating people to protect railway infrastructure; to prevent and timely handling infringements of railway infrastructure and railway transport safety	

LAW RAILWAYS	ON	Article 39. Registration of railway traffic vehicles Article 40. Registry of railway traffic vehicles	MOT make regulations on registration of railway vehicles; regulations on standards of quality, technical safety and environmental protection of the vehicles; regulations on standards, condition of facilities and technique of the registry agency and implement the unification of registry of railway transport vehicles.	in the area.	
LAW RAILWAYS	ON	Article 46. Conditions on railway personnel in direct service of train operation	Minister of Transport defines the contents, programs of training, conditions for training bases of titles; standards of titles in direct train service; content and process of examination and organizes to grant, renew, and revoke train driver license		
LAW RAILWAYS	ON	Article 55. Types of urban railways		Provincial People's Committee proposes guideline for investment, construction, management and business of urban railway	
LAW RAILWAYS	ON	Article 56. Urban railway development policies		Provincial People's Committee proposes guideline for construction investment, preferential policies to attract the resources to invest in construction and operation of urban railway.	
LAW RAILWAYS	ON	Article 60. Scope of urban railway work protection and traffic safety corridors	Scope of urban railway work protection and traffic safety corridors is stipulated by the Minister of Transport for each type of urban railway transport.		
LAW RAILWAYS	ON	Article 61. Management and maintenance of urban railway infrastructures		Provincial People's Committees provide regulations on management and maintenance of urban railway infrastructure of organizations and individuals investing in urban railway business in accordance with law.	
LAW RAILWAYS	ON	Article 62. Urban railway transport business		Fare of urban railway transport is stipulated by the Provincial People's Committee regulations. Subsidy of urban railway transport is performed under a	

			contract between the Provincial People's Committee and the urban railway transport operation enterprises.	
LAW ON RAILWAYS	Article 75. Safety certificate	MOT prescribes in detail for conditions and contents, certification procedures for safety and type of railway business enterprises that must have safety certificate.		
LAW ON ROAD TRAFFIC	Article 85. State management responsibilities for road traffic	<p>MOT is responsible before the Government for the State management of road traffic:</p> <ul style="list-style-type: none"> + To make planning, plans and policies for development of road traffic; develop and direct the implementation of the national program on road traffic safety. + To promulgate and organize the implementation of legal documents on road traffic; regulations and standards on road traffic. + To propagate, disseminate and educate law on road traffic. + To organization manage, maintain and protect roadway infrastructure. + To perform registration, issuance and withdrawal of number plates of road vehicles; issuance and withdrawal of certificates of quality, technical safety and environmental protection of road transport vehicles. + To manage the training and examination of drivers; to grant, renew and withdraw driving licenses, certificate of legal knowledge training on road + To manage transport activities and transport support services; to organize roadway rescue. + To research and apply science and 	People's Committees at all levels within their duties and powers performs governmental management of road traffic in accordance with this Law and other provisions of the relevant laws within the local area.	Ministry of Public Security performs the task of governmental managing of road traffic in accordance with this Law and other provisions of the relevant laws; implements measures to ensure traffic order and safety; coordinates with the MOT to protect road traffic infrastructure.

		<p>technology on the road; to train officials and technical workers of road traffic.</p> <p>+ To check, inspect and handle complaints and denunciations; to handle violations of the law on road traffic.</p> <p>+ To perform international cooperation on roadway</p>		
LAW ON ROAD TRAFFIC	Article 6. Road traffic and transportation planning	MOT make planning for road transportation in the whole country, inter-region, region; national highway planning, highways to submit to the Prime Minister for approval after obtaining opinions of the concerned ministries, ministerial-level agencies and Provincial People's Committees.	Provincial People's Committees formulates and submits to People's Council of the same level for decision on road transportation planning managed by local authority	
LAW ON ROAD TRAFFIC	Article 7. Road traffic law propagation, dissemination and education		People's Committees at all levels within the duties and powers are responsible to organize propagation, dissemination, education about law on road traffic locally.	Ministry of Education and Training is responsible for putting the law on road traffic on the curriculum in schools and other educational establishments to suit each learning major and grade
LAW ON ROAD TRAFFIC	Article 10. Road signal system	Minister of Transport prescribes in details for road signal		
LAW ON ROAD TRAFFIC	Article 12. Speed and distance between vehicles	Minister of Transport regulates vehicle speed and location of speed information signs; implements setting of speed instruction signs on the national highway.	Chairman of the Provincial People's Committee organizes installation of setting speed instruction signs on the roads managed by local authorities.	
LAW ON ROAD TRAFFIC	Article 28. Load-bearing capacity and size limits of roads	Minister of Transport regulates load bearing, size limits of road and announces load bearing, size limits of road of national highways; regulates on granting circulation permit for vehicles overloaded and oversized limit of road, caterpillar vehicles that might damage the road surface.	Chairman of the Provincial People's Committee announces load bearing, size limits of roads managed by local authorities.	
LAW ON ROAD	Article 37.	Minister of Transport is responsible	Chairman of the Provincial People's	Ministry of Public Security instructs organization of

TRAFFIC	Organization of traffic and direction of traffic	for organization of transport in national highway system;	Committee is responsible for organization of traffic on the road system under its management area/	traffic control by traffic police: + Command, control road traffic; guide and order traffic participants to abide traffic rules; + When traffic jam happens or other requirements is required for security and order, it is allowed to temporarily suspense traveling in a certain number of road sections, to distribute flows and routines and temporary stops or parking for vehicles.
LAW ON ROAD TRAFFIC	Article 38. Responsibilities of individuals, agencies and organizations when traffic accidents occur		Organize to handle traffic accidents happened in the locality	Ministry of Public Security is responsible for doing statistical work, gathering and developing a database of information on road traffic accidents, providing agencies, organizations and individuals as prescribed by law.
LAW ON ROAD TRAFFIC	Article 39. Road classification	National highway system is decided by MOT	The system of provincial road, urban road decided by the chairman of provincial People's Committee after agreement with the MOT (for the provincial road) and an agreement with the MOT and the Ministry of Construction (for urban roads);	
LAW ON ROAD TRAFFIC	Article 41. Road technical standards	MOT develops and guides implementation of technical standards of road grades;		Ministry of Science and Technology issues national technical standards of road levels.
LAW ON ROAD TRAFFIC	Article 42. Land funds reserved for road infrastructure facilities		Identify and manage land for construction projects of road infrastructure in accordance with approved infrastructure planning in road traffic.	
LAW ON ROAD TRAFFIC	Article 46. Investment in construction and exploitation of road infrastructure facilities		City People's Committee directs the People's Committees of the competent authorities to be in charge of organizing land acquisition in accordance the decision on land acquisition of governmental competent agencies and to facilitate organizations and individuals investing in construction, operation and exploitation of road traffic infrastructure.	
LAW ON ROAD TRAFFIC	Article 48. Road administration and maintenance	+ Minister of Transport provides regulations on management and maintenance of roads + National Highway System managed	HPC is responsible for the system of provincial roads and urban roads.	

		by MOT		
LAW ON ROAD TRAFFIC	Article 50. Building of level crossings between roads and railroad tracks	MOT stipulates construction of the intersection at grade between the road and the railways, having design to ensure technical standards and traffic safety conditions		
LAW ON ROAD TRAFFIC	Article 51. Car terminals, parking lots, roadside service stations, vehicle mass inspection stations and road toll stations	MOT stipulates technical standards of bus stations, parking lots, bus stops, toll stations, vehicle load examination stations; regulations on organization and operation of toll stations and vehicle load examination stations		
LAW ON ROAD TRAFFIC	Article 52. Protection of road infrastructure facilities	MOT organizes and guides the implementation of protection of infrastructure of road traffic; examines and inspects the implementation of the provisions of law on management and protection of road transport infrastructure	People's Committees at all levels protects the infrastructure of road traffic in the locality; protects the road safety corridor as prescribed by law	Ministry of Public Security instructs and guides police forces to check and handle violations of law on protection of infrastructure road under its competence
LAW ON ROAD TRAFFIC	Article 53. Conditions for motor vehicles to join in road traffic	Minister of Transport regulates on technical quality, safety and environmental protection of motor vehicles allowed in traffic, except motor vehicles of military and police using for purposes of national defense and security		
LAW ON ROAD TRAFFIC	Article 55. Assurance of quality, technical safety and environmental protection standards of motor vehicles joining in road traffic	Minister of Transport regulates conditions, standards and granting license for the facility of registry of motor vehicles; regulates and implement motor vehicle verification		Minister of Defence, Minister of Public Security stipulates and organizes verification of military and police motor vehicles that are used for purposes of national defence and security
LAW ON ROAD TRAFFIC	Article 61. Driver training, examination to grant driver licenses	Minister of Transport stipulates the conditions, standards and licensing for educational institutions; prescribes form, contents and curriculums; examination and granting, renewal and withdrawal of driving licenses		

LAW ON ROAD TRAFFIC	Article 68. Passenger transportation by car	Minister of Transport stipulates organization and management of passenger transport by car.		
	Article 72. Cargo transportation by car	Minister of Transport stipulates organization and management of cargo transport by car.		
LAW ON ROAD TRAFFIC	Article 79. . Road transportation in urban areas	Provincial People's Committees specifies the activities of road transport in urban areas and the proportion of passenger vehicles to meet the travel demands of the disables.		
LAW ON ROAD TRAFFIC	Article 82. . Road transportation support services	Minister of Transport stipulates in detail on road transportation support services.		
LAW ON ENVIRONMENTAL PROTECTION	Article 142. State management responsibilities of Ministers, heads of ministerial level bodies on environmental protection Article 143. State management responsibilities of the people' committees of all levels on environmental protection	The Minister of Transport presides over and coordinates with the Minister of Natural Resources and Environment, Ministers, heads of ministerial-level agencies and chairman of the provincial People's Committee to organize the implementation of the law on environmental protection in the construction of traffic infrastructure, management of transportation vehicles and other activities in the field of management;	HPC is responsible to organize the implementation of environmental laws in building transport infrastructure in the city: - To develop, promulgate legal documents, programs and plans for environmental protection in transport infrastructures - To organize and implement laws, strategies, programs, plans and tasks on the environmental protection of transport; - To organize assessment and preparation of report on transport environment; To propagandize, disseminate and educate policies and laws on environmental protection of transport; - To organize evaluation and approval for planning of environmental protection, report on environmental impact assessment in construction of transport	

			<p>infrastructure;</p> <ul style="list-style-type: none"> - To grant, extend, withdraw licenses, certificates of environmental protection in construction of transport infrastructure; - To check, inspect and handle violations of the law on environmental protection 	
LAW ON URBAN PLANNING	Article 14. Responsibility for governmental management about urban planning		HPC is responsible to perform state management of urban planning in localities under the Government's decentralization	The Ministry of Construction is responsible before the Government for performing state management of urban planning; to preside over and coordinate with state agencies in implementing the state management of urban planning.
	Article 37. Contents of urban technical infrastructure planning		City People Committee makes planning of urban transport including determination of land for construction and development of transport, location and scale of hub works; organizes urban transport system in on-ground, elevation and underground; determines protection area and traffic safety corridor.	
LAW ON LAND	Article 23. Responsibility for governmental management about land		People's Committees at all levels have the responsibility to manage state land (for traffic, transport infrastructure) locally in accordance with authority.	<p>Ministry of Natural Resources and Environment is responsible before the Government in unification of state management of land (land for transport)</p> <ul style="list-style-type: none"> - To issue of normative acts - To identify administrative boundaries, to prepare and manage files of administrative boundary, and make administrative boundary map. - To conduct survey, measurement, and make cadastral maps, maps of land use current situation and map of land use planning, investigate and evaluate land resources; investigate and set up land prices. - To manage the planning and plan of land use. - To manage land allocation, land for lease, land acquisition, change of land use purpose. - To manage compensation, support and resettlement in case of land acquisition.

				<ul style="list-style-type: none"> - To register land, prepare and manage cadastral records, to grant certificate of land use rights, ownership of houses and other assets attached to the land. - To do statistics and inventory of land. - To build up land information system. - To carry out financial management of land and land prices. - To manage and supervise the implementation of the rights and obligations of land users. - To inspect, check, monitor, track and evaluate execution of regulations of the law on land and handle violations of law on land. - To disseminate and educate law on land. - To resolve land disputes; to handle complaints and denunciations in the management and use of land. - To manage services activities on land.
LAW ON ELECTRICITY	Article 38. Authority to issue, amend, supplement and withdraw licenses for electricity activities		Provincial People's Committees grants license for electricity activities to organizations and individuals having small-scale electricity activities in localities under the guidance of the Ministry of Industry and Trade	Ministry of Industry and Trade grants license of electricity activities for units of electricity generation, power transmission, power distribution with connection to the national electricity system, for units trading on wholesale and retail of electric and consulting of electrical sector
LAW ON PRICE	Article 8. State management competence in the field of price	MOT within its responsibilities and powers is responsible for performing the state management of prices in the fields prescribed by law	Provincial People's Committee within its duties and powers, is responsible for performing the function of state management in the field of price (UR transport fares) locally prescribed by law	The Ministry of Finance is responsible before the Government for performing state management functions in relation to prices
LAW ON CONSTRUCTION	Article 162. Responsibilities of the Ministry of Construction Article 163. Responsibilities of ministries, ministerial-level agencies Article 164. Responsibilities of	MOT: <ul style="list-style-type: none"> - To coordinate with the MOC performs governmental management of investment and construction activities and is responsible for quality control of UR construction work; 	HPC: <ul style="list-style-type: none"> - To perform the state management on UR construction investment activities in the local area in accordance with decentralization of the Government; promulgate documents according to its competence; direct the implementation of construction planning and construction 	MOC: <ul style="list-style-type: none"> - To preside over formulating and submitting to the Government and the Prime Minister legal documents, strategies, schemes, master plans and plans on development of the construction market and capacity of the construction sector. - To promulgate, and organize the implementation of,

	<p>People's Committees at all levels</p> <ul style="list-style-type: none"> - To research, issue, guide and supervise the implementation of regulations, standards and economic-technical benchmark of UR sector after obtaining the consent of the MOC; - To monitor, inspection and summarize the implementation situation of construction investment evaluation of UR works under its management as prescribed by law; - To coordinate and support the ministries, agencies and other relevant organizations and People's Committees at all levels in the implementation of investment projects on UR construction regarding matters within its management area. 	<p>investment plans; organize the provision of guidance, examination and handling of violations in construction investment activities;</p> <ul style="list-style-type: none"> - To Coordinate with and support MOT and MOC for implementation of UR construction investment projects in the area under its management; To be responsible for quality management of UR construction works under the assigned area. - To make Send periodical and annual reports on the management of their UR construction investment activities to the MOC for summarization and monitoring; 	<p>legal documents on construction according to its competence; to promulgate national technical regulations on construction and documents on construction techniques according to its competence.</p> <ul style="list-style-type: none"> - To organize and manage construction planning, project management activities and appraisal of construction projects and designs; to promulgate and publicize construction norms and prices. - To direct, guide, examine and assess the quality management of construction works; - To grant, re-grant, adjust, extend and withdraw licenses and certificates in construction investment activities according to its competence. - To examine, inspect and settle complaints and denunciations and handle violations in construction investment activities. - To organize scientific and technological research and application in construction and dissemination of knowledge and law about construction. - To guide, examine and assess the management of safety, labor sanitation and environment in the construction of works. - To coordinate with related ministries, sectors and localities in examining and evaluating the implementation of projects. - To manage and provide information to serve construction investment activities. - To manage and archive construction work dossiers. - To carry out international cooperation in construction activities.
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DECREES OF THE GOVERNMENT				
Decree No. 14/2015/ND-CP on detailing and guiding implementation of Law on railways	Article 15. Detail regulation on transport railway transport Article 16. Development and announcement of mission orders on loading capacity, speed, and train operation diagram	<p>The Minister of Transport details and guides the implementation of transportation of freight, passengers, luggage, baggage on the railway.</p> <p>The Minister of Transport guides the implementation of development, promulgation and publication of mission orders on loading capacity, speed, and train operation diagram on national railway and urban railway.</p>		
	Article 39. Staffs directly serving train operation of urban railway	The Minister of Transport stipulates standards for staffs directly serving train operation of urban railway prescribed in Clause 1 of this Article.		
	Article 40. Certificate of safety for urban railway system	MOT issues regulations on the safety of urban railway systems and conditions, order and procedures for safety certification system for urban railway		
	Responsibilities of ministries and provincial people committees regarding guarantee of safety and order in railway transport	Article 41. Responsibilities of MOT: <ul style="list-style-type: none"> - To develop standards, regulations, economic and technical norms in the field of rail sector to issue in accordance with its authority or submit to the governmental agencies for announcement. - To provide regulations for bases in charge of design, new production, repair, and registry of railway equipment and vehicles; regulations and organization of the registration and registry of railway vehicles. - To provide regulations on contents, training programs and conditions for establishments undertaking training of staff titles directly serving train operation; to manage training and grant train driver 	Responsibilities of City People Committee: <ul style="list-style-type: none"> - To direct and organize the propagation and dissemination of law order and safety of railway traffic; take all necessary measures to establish order and discipline, railway traffic safety; to assign to the District People's Committee, Commune People's Committee where have railway projects that are under their responsibility for protection of railway works at locality. - To make plan and direct the clearance of illegal construction works on the land areas reserved for railway. - To steering the lower-level People Committee where its location has damaged tracked cause by accidents or disasters in 	Ministry of Public Security: <ol style="list-style-type: none"> 1. To organize and direct the work to ensure security, order and safety of railway traffic. 2. To check and penalize violations of security, order and safety of railway traffic. 3. To preside over investigating and penalizing railway accidents rail; to do statistic, monitoring, analysis work and conclude causes of railway accidents; to provide data on railway traffic accidents. 4. To preside over and coordinate with the MOT to make regulations and make recommendations to ministries, provincial People's Committees to implement preventive measures and overcome the causes of railway traffic accidents. Ministry of Finance

		<p>licenses.</p> <ul style="list-style-type: none"> - To inspect, examine and handle violations of law in railway operations as prescribed by law. - To coordinate with the local People's Committees and related ministries to carry out propaganda, popularization and guide about railway law and ensure order and safety of railway transport; to resolve and overcome the consequences of the incident or accident in railway transport. - To coordinate with the Ministry of Public Security to monitor and analyse the causes of serious and particularly serious accidents to propose effective measures to limit railway traffic accidents. 	<p>collaboration with the railway sector to promptly deal with the consequences and restore railway traffic.</p>	<ol style="list-style-type: none"> 1. To ensure funding for management and maintenance of railway infrastructure in the country invested by the Government. 2. To ensure funding to ensure order and safety of railway traffic at the rate approved by the Prime Minister on the proposal of the MOT and the Ministry of Public Security. <p>Ministry of Information and Communications</p> <ol style="list-style-type: none"> 1. To develop plan of communication and popularization about law on railway regularly and widely to the entire population. 2. To direct the Central and Local press agencies to regularly propagate and disseminate the law on railways, encouraging the people to strictly abide by law on order and safety of railway traffic. 3. To guide permission for advertising without affecting the order and safety of railway traffic. <p>Ministry of Education and Training</p> <p>To preside over and coordinate with the MOT and Ministry of Public Security to select contents necessary to ensure order and safety of railway transport for disseminating and educating pupils and students suitable with learning major and grade.</p>
Decree No. 177/2013/NĐ-CP detailing and guiding implementation of Law on Price	Competence of governmental management in the field of prices	<p>Competence of governmental management in the field of prices of MOT</p> <ol style="list-style-type: none"> 1. To submit to the Government the policies, management methods and management of prices of goods and services in the fields of governmental management of the MOT 2. To promulgate of normative legal documents on transport service prices under its competence. 3. To implement and direct the 	<p>Competence of governmental management in the field of prices of Provincial People Committee</p> <ul style="list-style-type: none"> - To promulgate legal documents on prices within its jurisdiction. - To organize and direct the implementation of policies, measures, decisions on prices of goods and services of the Government, Prime Minister, the MOF and the in-line management ministries of. - To set prices of goods and services 	<p>Competence of governmental management in the field of prices of MOF</p> <ul style="list-style-type: none"> - To study and develop to submit to the Government for promulgation or issue pricing policy and price control measures within its jurisdiction. - To issue or submit to the competence agencies to issue legal documents on pricing field. - To guide and direct the implementation of policies, measures, and decisions on prices of goods and services of the Government, the Prime Minister. - To set prices of goods and services within its

		<p>implementation of policies, measures and decisions on prices of goods and services of the Government, Prime Minister, the MOF under the management field of MOT.</p> <p>4. To issued economic-technical norms; to determine the prices of transport goods and services under its competence.</p> <p>5. To inspect, check the compliance with the provisions of the law on price and other provisions of relevant laws under the management area of the ministry; to handle violations of law on prices within its competence.</p>	<p>within its jurisdiction.</p> <p>- To check and inspect the observance of the provisions of the law on price and other provisions of relevant law in the locality; to settle complaints and denunciations and handle violations of the law on prices according to its competence.</p>	<p>jurisdiction.</p> <p>- To perform the function of specialized inspection on prices.</p>
	Article 23. Price inspectorate	.	Inspectorate of Department of Finance performs the function of inspection on prices within the provinces.	Inspectorate of the MOF and the Price Management Department under the MOF to perform the function of inspection on prices in the whole country
Decree No. 130/ND-CP of the Government on the production of public-utility products and services	Article 5. Selection of method of provision of public-utility products services	<p>Line ministry (MOT) is responsible for formulation and promulgation of regulations on management of public utility services and products within the functions and assigned tasks, in which it must be defined in terms of quality and specifications and levels of implementation, price, unit price stipulated by the Government to mainly implement in compliance with procurement and order methods.</p> <p>For example: maintenance services for railway infrastructure, maritime services, flight control</p>	<p>The City People Committee is responsible for formulation and promulgation of regulations on management of public utility services and products within the functions and assigned tasks, in which it must be defined in terms of quality and specifications and levels of implementation, price, unit price stipulated by the Government to mainly implement in compliance with procurement and order methods.</p> <p>For example: public passenger transport, lighting and water supply and drainage</p>	
	Article 6. Competence agencies and organization to decide method of provision	MOT decides method of providing public-utility products and services for the public-utility products and services under the expenditure estimates of the central budget and allocates to the subordinate	The City People Committee decides method of providing public-utility products and services for the public-utility products and services under the	

	of public-utility products and services	units for implementation as prescribed.	expenditure estimates of the local budget and allocates to the subordinate units for implementation as prescribed.	
	Article 7. Competence to decide level of subsidy for production and provision of public-utility products and services	For public-utility products and services under management of the line-governing ministry, then that ministry coordinates with MOF to decide the level of specific subsidy.	For public-utility products and services under management of Provincial People Committee, then the specialized departments set up subsidy scheme to send to DOF for appraisal and submission to Provincial People Committee for decision on specific subsidy.	For nationally important public products, services, MOF chairs and coordinates with the concerned agencies to decide or propose the Prime Minister to decide on the level of specific subsidy as prescribed.
Decree No. 24/2014/ND-CP of the Government on regulations on specialized agencies directly under People Committees of provinces and city directly under the Central government;	Article 8. Department in locality		<p>7. DOT</p> <p>To advise and assist the Provincial People Committee in governmental management in roadways, inland waterways, urban railways; transportation; traffic safety; management; exploitation, maintenance of urban transport infrastructure including roads, bridges, fly-overs, sidewalks, streets, separators, road signboard systems, traffic control signals, underpasses, tunnels for motors, pedestrian bridges, bus stations, parking yards</p> <p>8. Ministry of Construction:</p> <p>To advise and assist the Provincial People Committee in governmental management in construction planning and architecture; activities of urban construction and development; urban infrastructure and industrial parks, economic zones, hi-tech parks (including water supply, drainage in urban area and industrial parks, economic zones, hi-tech parks; management of</p>	

			normal solid waste in urban areas, industrial zones and economic zones, hi-tech parks, production facilities construction materials, urban lighting, parks, urban green trees; management of cemetery, except martyrs cemetery; urban transport infrastructure excluding management of the exploitation, use and maintenance of urban transport infrastructure; management of urban underground construction; management of common use infrastructure urban engineering); House; office; real estate market; construction materials.	
Decree No. No.46/2015/ND-CP of the Government dated 05/12/2015 on the management and maintenance of quality of construction works	Article 51. Responsibilities of governmental management for quality of construction works	MOT manages the quality of construction works except the construction works that are managed by MOC	City People's Committee performs governmental management over the quality of construction work in its area. Department of Construction and Department of specialized construction management assist the City People's Committees in managing quality of specialized works in its localities as follows: a) Department of Construction manages the quality of civil works; industrial works of construction materials, light industrial works; public utility works; urban transport works except railway works, bridges over the river and the highway; b) Department of Transport manages the quality of transport work except transport works managed by the Department of Construction. c) Department of Agriculture and Rural Development manages the quality of agricultural and rural development work; Department of Industry and Trade manages industrial works except industrial	<ul style="list-style-type: none"> - Ministry of Construction unifies governmental management of the quality of construction works in the country and manages the quality of specialized construction works, including: Civil works; industrial works of construction materials; light industrial works; public utility works; urban transport works except railway works, bridges over the river and the highway. - Ministry of Agriculture and Rural Development manages the quality of agricultural and rural development work; - Ministry of Department of Industry and Trade manages industrial works except industrial works managed by the Ministry of Construction - Ministry of Defense, Ministry of Public Security Quality manages the quality of defense and security works.

			works managed by the Department of Construction.	
CIRCULAR				
- Circular No. 02/2009/BGTVT about quality control, technical safety and environmental protection of rail transport vehicles	Article 13. Responsibilities of Vietnam Register Department	<p>MOT assigns Vietnam Register Department (under the Ministry of Transport):</p> <ul style="list-style-type: none"> - To implement registration for railway vehicle in the whole country. - To comply with the provisions of the existing regulations, standards and technical regulations when performing inspection of quality and technical safety of products. - To develop and issue guidance documents related to registration work within its jurisdiction. - To perform inspection and certification in objective and lawful manner. The Heads of registry agencies and the person directly examining are responsible for the inspection results. - To unify management regarding issuance and granting certificate for the inspected objects. - To review, evaluate and authorize testing department and to perform registration in abroad. - To collection and use charges and fees for registration under current regulations. - To annually report to the MOT on its performance of quality inspection, technical safety and environmental protection of railway vehicles 		
- Circular No. 01/2013/TT-BGTVT providing regulations on registration of	Article 14. Responsibilities of the agency for vehicle registration (Vietnam register	<p>The Ministry of Transport is responsible to assigns Vietnam Register Department as follows:</p> <p>1. To implement the registration of railway vehicles under the provisions of</p>		

railway transport vehicles	department)	<p>this Circular, to guide vehicle owners to prepare registration dossiers of vehicles.</p> <p>2. To develop database for management railway vehicles nationwide; to store and manage vehicle registration records.</p> <p>3. To monitor and report to the Ministry of Transport every 12 months on the registration of vehicles.</p> <p>4. To management, print and use printing serving for registration of vehicles.</p> <p>5. To collect and use the fees of vehicle registration as prescribed by law.</p>		
Circular No.30/2014/TT-BGTVT providing regulations on Safety Certificate for railway enterprises;	Article 20. Responsibility of Vietnam Railway Administration	<p>The Ministry of Transport takes responsibility to assign Vietnam Railway Administration to implement as follows:</p> <ul style="list-style-type: none"> + To inform the businesses subject to requirement of Security Certificate, to guide the implementation of the procedures for granting, re-granting of safety certificates. + To appraise and report on conditions for granting Certificate of Safety, records for proving safety condition of the enterprise when implementing procedures for newly granting, re-granting of safety certificates and to grant safety certificate as prescribed. + To chair and coordinate with concerned agencies in conducting the annual inspection of implementation of the contents in the statement report for conditions for granting Certificate of Safety as prescribed in this Circular and to handle violations as prescribed by law. + To withdraw the Safety Certificate as prescribed. + To gather happened problems and report to MOT for solutions. + To take responsibility before law and 		

		MOT to grant, renew, and with draw certificate of safety.		
Circular No. 05/2015/TT-BGTVT providing regulations on standards of titles of the staffs who directly serve the urban railway train operation	Article 6. Responsibility of Vietnam Railway Administration	<p>The Ministry of Transport takes responsibility to assign Vietnam Railway Administration to implement as follows:</p> <ol style="list-style-type: none"> 1. To guide, disseminate and check the implementation of this Circular. During the implementation process, to gather recommendations, proposals, studies submitted to the MOT to amend and supplement regulations to suit the actual situation. 2. To preside over and coordinate with the concerned agencies and units to regularly or non-regularly implement standards for railway employees directly serving the urban railway train operation under the provisions of law. 		
Circular No.31/2015/TT-BGTVT dated 07/17/2015 providing provisions for the contents, examinations process for urban railway train driver license	Article 23. Responsibility of Vietnam Railway Administration	<p>The Ministry of Transport takes responsibility to assign Vietnam Railway Administration to implement as follows:</p> <ol style="list-style-type: none"> 1. To implement regulations on content, process of examination for urban railway driving license 2. To chair and coordinate with the enterprises which manage and operate urban railway to develop and approve for examination content appropriate for each line, each type of urban railway train; to develop and approve the rules on examination. 3. To chair and coordinate with relevant agencies to make examination questions; to approve and implement. 4. To evaluate and summarize the examinations for granting driving license, reporting to MOT. 		
Circular No.	Article 15.		- Provincial People's Committee stipulates	

37/2014/TT-BGTVT providing provisions on the protection scope of works and corridor urban railway traffic safety	Responsibility for management and protection		the management and maintenance of urban railway infrastructure of organizations and individuals investing in urban railway business in accordance with law. - People's Committees at all levels where the railways are crossing are responsible for disseminating and educating people to protect railway infrastructure; preventing and timely handling infringements to railway infrastructure and railway transport safety in their areas.	
Circular No.20/2013/TT-BGTVT providing regulations on the management and maintenance of railway works	Article 1. Scope of adjustment		Management and maintenance of urban railway works is implemented based on regulations Provincial People's Committee.	
Joint Circular No. 42/2015/TTLT-BGTVT-BNV guiding functions, responsibilities, powers and organizational structures of specialized agencies transport of the people committees of provinces, cities directly under the central government	Article 1. Position and functions		<p>1. DOT is a specialized agency of the People's Committees of provinces and cities under central government (hereinafter referred to as the Provincial People's Committee), performing the function to advise and assist the PPC in governmental management in roadways, inland waterways, urban railways; transportation; traffic safety; management; exploitation, maintenance of urban transport infrastructure including roads, bridges, fly-overs, sidewalks, streets, separators, road signboard systems, traffic control signals, underpasses, tunnels for motors, pedestrian bridges, bus stations, parking yards in the locality.</p> <p>2. DOT has its legal status, separate seal</p>	

			and account; is subject to the direction and management of the organization, staffing and activities of Provincial People Committee; and simultaneously under the direction, guidance, inspection, checking regarding expertise and profession of MOT	
DECISIONS ISSUED BY MINISTRIES AND HPC				
-Decision No. 17/2008/QĐ-UBND of HPC providing regulations on functions, responsibilities, powers and organizational structure of the Hanoi Department of Transport	Article 1. Provisions on position, functions, responsibilities, rights and organizational structure of DOT		DOT shall play function of advising and assisting HPC in governmental management of transportation, including roadways, waterways, urban railways, transportation, transport safety in Hanoi City;	
Decision No. 5579/QĐ-UBND of HPC dated 13/09/2013 regarding "Approval for framework scheme for fare policy and e-ticket technology applicable to urban public passenger transport network in Hanoi city"	Article 2: Allocation for implementation		DOT: To chair and coordinate with other concerned departments to implement the contents of the scheme after getting approval from City People's Committee. On behalf of the city, to perform governmental management of public passenger transport, including e-ticket system through establishment, management and control of e-ticketing system administration Centre, to advise the city in promulgate specify regulations on framework for fare policy and e-ticket technology. To coordinate and guide the project owner during implementation process of e-ticket item under public passenger transport projects in the Hanoi City.	

3. Experiences and functions of urban railway management models in the world

In this part, the report shall describe and analyse Functions and methods of managing UR systems in several countries which has developed Public transport system. Typical examples include 2 developed countries, i.e. France (in Europe) and Japan (in Asia), as two very experienced countries in UR management.

The regulator of Ile – de – France region (Paris capital city area) is STIFF, which manages the biggest public transport system in Europe, and having quite close relationship with HPC via assistances for public transport, especially supports in developing infrastructures and managing bus system.

MLIT – Japan has also many activities to support common development for transport system in Vietnam, especially for railway in general, and UR in particular, such as funding, supporting by sharing experiences for safe operation, etc. In addition, the institutional organization for railway has many similarities with Vietnam.

Those are important basis for Hanoi regulator to learn and refer to their experiences, in order to work out suitable management scheme for the real context of Vietnam.

3.1 *Experience of France - Transport organizer in Ile – de – France (STIFF)*

3.1.1 Features of Ile – de – France

Île-de-France has the population of 11.6 million and 6 million jobs. The area contributes 29% GDP and 22.5% of the whole country's labour force. It covers an area of 12,000 square km. The travel volume is around 41 million each day in the whole region. On average, each person travels around 3.9 times/day and the average length of each time is 4.4km. Of which, walking accounts for 39%, private vehicle is 38 %, and public transport is 20%. Nearly 8.3 million travelling times each day is by public transport, which is 1.5 million more than that of 2001, achieving growth rate of 21%. In general, total length of public transport travelling is huge: from 8.7km in 2001 to 9km in 2010.

The transport organizing agency of the area is STIFF.

3.1.2 Public transport agency (PTA) of Ile – de – France: STIFF

Established in 1959, STIFF was under the management of the Government until July 1st 2005. Until then, the Government had a clear majority in the Board of Directors and held the Chairman position. The Government only withdrew when the management of UR was decentralized to local authorities and 2 years after implementing the zoning plan of railway transport. Currently, the French government has no representative in STIFF, the Capital region Board has the majority in the Board of Directors and holds the Chairman position of the Company. There are two representative sides in the components of the Board of Directors: representatives from the Economic side and representatives from the authorities of villages and cities, as well as authorities between villages in Île-de-France. There are 29 members of STIFF Board of Directors, chaired by Île-de-France president. STIFF is considered to be the GTCC regulator of the region, under which is transportation companies, i.e. SNCP and RATP.

STIFF is a general transportation organizer, which is competent to all forms of vehicles, over the administrative boundary of Île-de-France. Currently, STIFF is responsible for managing one of the biggest transportation networks in Europe:

- RER (Réseau express régional) : is the public railway system connecting Paris with the suburbs (Regional express system), consisting of 5 lines, 1,525 km, 448 stations, 1,167 million passengers per year.
- Metro: 14 lines, 217 km, 300 stations, 1,524 million passengers per year.

- Tramway: 4 lines, 70 stations, 42 km, 114 million passengers per year.
- Bus: 1,449 lines, 24,660 km, 32,024 stations, 1,332 million passengers per year

3.1.3. Responsibilities of STIFF

Main responsibilities of STIFF are:

- To define the necessary public transport services, fare level, capacity of the system, service purpose and quality;
- To bind network operating companies contractually and manage the operation of those companies;
- Develop plans and transportation planning;
- Conduct researches, implement modernized investment portfolio and develop the network;
- Set forth plans to connect vehicles in the network;
- Ensure the sustainability of financial balance.

3.1.4 Fare policies

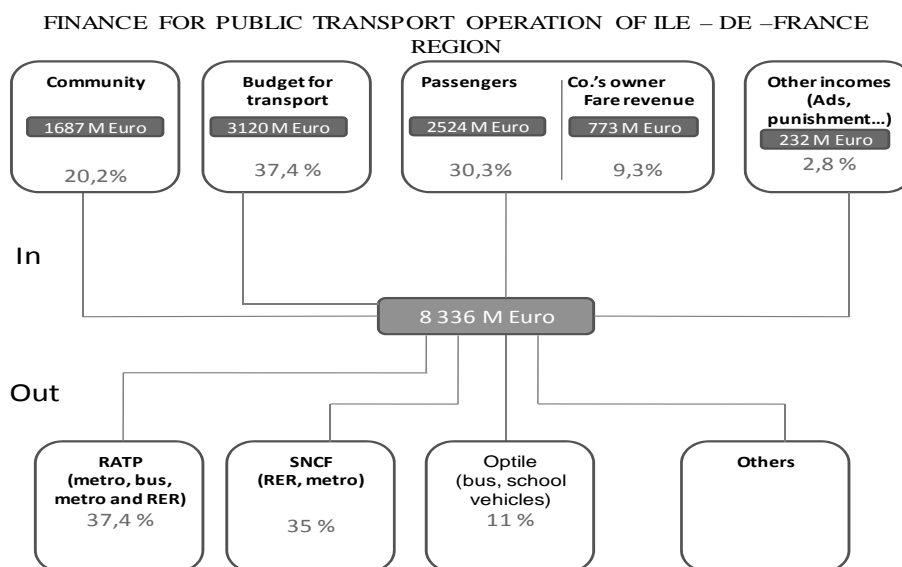
Public transport organizer discusses and decides on the fare level each year. The increase in fare level depends on CPI and operation cost (there is preferential price for certain groups). Additionally, fare level also depends on the policies of regional Board and the aim to restrict the use of small change when buying tickets.

Currently, the fare level in Ile – de – France is calculated based on the fare zones. Until July 1st 2011, the whole Ile – de – France area was divided into 5 zones. Zone 1 is the central area of Paris, cover all Paris Commune. Zone 2 covers all of zone 1. Zone 5 is the farthest area from the centre. The regional fare level was set when STIFF had decided on the fare structure. All types of tickets (daily, weekly, monthly) were valid in each area and were applied to all public transportation modes. For example, a passenger buying a ticket to travel from zone 2 to zone 4 is free to travel around in these areas. However he/she must buy another ticket to go beyond these areas, for instance to zone 1 or zone 5.

Public transportation organizers in Europe, including France usually set the regional fare level. The advantage of this fare structure is its simplicity for public transportation organizers to compute and manage.

3.1.5 Finance

In Ile – de – France, Public transportation organizer STIFFF is assigned by the regional Board to manage financial activities of public transportation operation. In which, one important goal is to balance the financial sources, ensure the rationality of income and expenses so that public transportation activities could be stable and sustainable

**Figure:***Source: STIFF, 2011*

Of STIFF's income source, passenger tickets only account for around 40%. So the rest must be covered by community financial assistance and transportation budget. Community financial assistance is comprised of capital and provincial donation and budget...Transportation budget is from urban transportation tax, accounting for 37.4%. Urban transportation tax is put on total salary budget of employers and enterprises with more than 9 employees, which is imposed all over France.

STIFF has contracts with transportation service supplier. Accordingly, after the annual budget has been approved, STIFF will transfer the operating fund for these companies. Besides, STIFF must have plans to invest in infrastructure, make major repairs and improve equipment.

3.1.6 Relations with operation companies

In Ile de France, UR network operation is assigned to state-owned companies: RATP, which was formerly a metro network operator in Paris, and French National Railway Company SNCF. Besides, there are 76 private companies and branches of different groups EOLIA TRANDEV, KEOLIS, RATP DEV...

There is no competition in the UR activities of Île-de- France. As a result, there is no bidding process. However, the activities in this area are managed under a contract signed between STIFF and each operating company. Accordingly, operating companies do not collect fare or conduct marketing campaigns. They are committed to providing services at rates predetermined by STIFF.

The strategic direction built by Stiff will be specified into goals, which will be committed to implement by companies. They are primarily related to ensuring the services

provided (quality and safety), price and costs. Contracts to ensure the implementation of the objectives generally last for 4 years. This will be the framework to ensure that the committed company would perform their duties and responsibilities in organizing and developing transportation network in Île - de - France.

To ensure the provision of services under the terms of the signed contract, STIFF, together with operating companies, prepares the efficiency evaluation index. These indicators will be combined with the specific objectives and financial stimulus measures. The new contract signed in 2012 placed incentives and priority on punctuality and information adequacy.

Since 2005, STIFF has had an ambitious policy, aiming at the modernization and development of the network. Under the management of the government, the public transportation network is not properly invested for a long time. Therefore, the target set for 2016 is to replace or overhaul the entire train system. The total amount invested in this policy reached 4 billion euros, 50% of the amount was undertaken by Stiff.

Stiff also signed contracts with various companies (RATP, SNCF, and members of the business association Optile) to assign them the role as investors. Specifically, during the 2008-2011 period, 7 billion euro investment was committed by RATP and SNCF, which is higher than the amount of 5 billion euros pledged in the previous contracts.

3.3.7 Incentive policy on use of public transport

A complete public transportation system will help improve traffic operation locally, protect the environmental and foster sustainable urban development. The investment and development of a complete and efficient Public transportation system, including different modes of transportation accounted for a big amount of the budget of the Ile - de - France. Failing to attract people to use Public transportation system is a waste, and the failure of Public transportation system may cause great damage to the region's economy. So STIFF proposed measures to encourage regional residents to use the public transportation system to the government.

One of the important policies proposed is to restrict people from using personal vehicles. Specifically, setting high parking fee for those who commute by personal vehicles or limiting the number and capacity of car parks in the city. Another measure is not to expand the area of road in which congestion often occurs, but to set priority to the construction of lanes for public transportation. It is important that transportation agencies should take measures and propaganda to convince people to change their lifestyles. The surveys show that people are aware of the benefits of these solutions and the majority accept them for better living quality.

In addition, the transportation organizer has policy to generate income to invest, develop and renovate Public transportation system. One solution has been applied not only in Ile - de France but all over France is levying urban transportation tax on firms with 09 employees or more. Tariffs in Paris ranging from 1.4 to 2.6 % of total salary fund of enterprises. On the other hand, there is a way for businesses to contribute to Public

transportation that is to support employees with Public transportation system usage fee. Since 2009, a policy that requires all employers to pay 50 % of monthly public transportation ticket of employees was applied all across France. This had very positive impact, on one hand to encourage people using Public transportation system, on the other hand to reduce pollution due to the impact of personal vehicles.

3.2: Japan experience – MLIT regulator (Ministry of Land, Infrastructure, Transport and Tourism)

3.2.1 Institutional model for management

Currently, institutional management systems in general and urban railways in particular in Japan are composed of 02 divisions: Administrative agency represented by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and enterprise division doing business in railways.

Ministry of Land, Infrastructure, Transport and Tourism - Railway Department is the railway administrative agency in Japan, in which Railway Department under MLIT is a specialized management agency on behalf of MLIT to manage railway operation:

- Develop a comprehensive policy for the railway sector: general planning for the railway system (UR)
- Granting licenses for railway companies; directing, supporting and supervising so that railway companies can operate and do business safely

The Japanese railway enterprises are licensed by competent governmental authorities to provide transportation services to people.

Besides private railway enterprises, there are businesses managed by local authorities and businesses invested by local authorities. In addition, there are enterprises investing in infrastructure and then transfer to operating companies for subcontractor (Railway company of class 3).

3.2.2 Current railway legal system in Japan.

Currently in Japan, there are 02 regulation codes for railway, including: Railway Operation Act and Railway Business Act.

- Railway Operation Act: regulates on the rights and obligations of railway businesses and railway users...

It was developed in 1900 as the basis of the basic legal regulations (Circulars and documents issued by MLIT), technical standards ...those railway enterprises must obey.

- Railway Business Act:

- + It is the only law provisions on railway business.
- + Regulates on the power of governmental authorities in granting licenses for new road construction, fares level, task completion, sites inspection... as well as obligations and procedures that railway businesses must perform.

3.2.3 Responsibilities and authorities on UR activities of MLIT regulator – Railway Bureau:

3.2.3.1 Train operation and safety:

In Japan, MLIT manages train operation and safety following Railway Business Act and Railway Operation Act of the government. This is the basis for MLIT to develop and issue circulars under their authority:

- Provisions to ensure safety.
- Railway technical standards system (Regulate the requirements and essential features related to techniques to ensure safety and proper operation).
- Infrastructure and rolling stock test method. (Articles 10, 11, 13 Railway Business Act)
- Report on railway problems and accidents. (Article 19 Railway Business Act)

Railway companies must follow and implement train operation and safety in accordance with the provisions and circulars of MLIT. In case the company does not guarantee business conditions, or risk the operational safety, MLIT has the right to require railway companies to improve the situation or may suspend and revoke business license (if necessary).

In addition, management agencies are responsible for approving the business plan of UR operating companies (Article 3,4,5 in Japanese Railway Business Act). Specifically, to consider the following conditions:

- + The suitability of the business plan on train operation.
- + The suitability of the business plan on train safety.
- + Whether the capacity of the company is guaranteed or not

One of the safety measures which MLIT attaches great importance to is the railway staff training program. Management agency will be in charge of examination and licensing for train drivers. Management agency will mandate and instruct big railway companies to develop professional trainings that follow general safety standards issued by MLIT.

During the operation of railway companies, MLIT organizes inspection teams and field inspection (Article 56 Railway Business Act). Purpose of the inspection is not only to detect, figure out and handle violations, but also to ensure safety and prevent unfortunate problems and accidents from happening. The inspection can be recurring or unannounced, consisting of experts from MLIT. Inspection often includes: safety inspections, inspection of rail operations.

- Safety Inspection:
- The condition is compliance with the laws, regulations and circulars as MLIT' stipulation about transport safety.
- The condition is compliance with regulations about facilities and equipment, train and operation
- Implementation is compliance with regulations of licenses, certifications or reports.
- Condition of dealing with incidents, disasters.
- Condition to implement a preventing method for incidents and disasters
- Strategies of repairing, repairing results for facilities, equipment and train.

- Condition to organize office staff to participate in exploiting activity related to secure and operational status.
- Condition of training and level of skills
- Inspection on railway business activity:
 - Condition is compliance with laws and regulations of operation
 - Fare and schedule of train

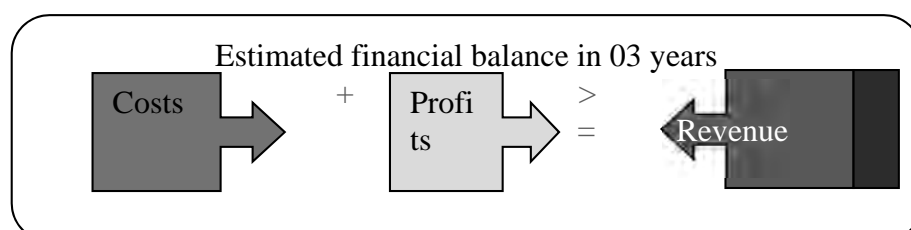
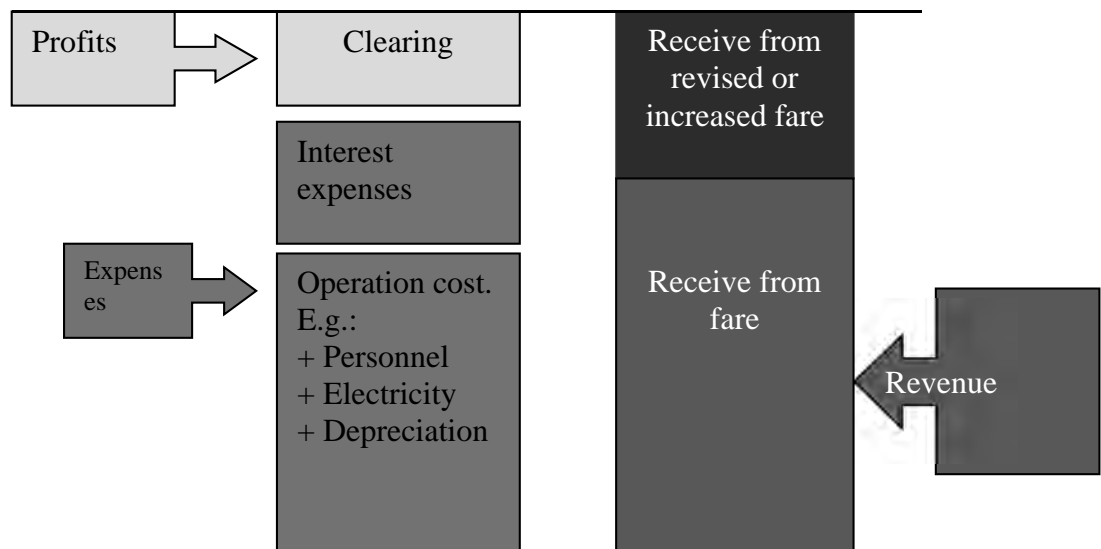
3.2.3.2 Approval on fare level:

According to Article 16 of Railway business Law: all railway transport business companies propose a ceiling price for passengers (passenger fare) as stipulated of the ordinance of Ministry of Land, Infrastructure, transport and tourism (MLIT) and submit to MLIT for approval. When there is a fare adjustment proposal from the company, the process of approval is repeated.

When MLIT Management Agency considers to approve for such proposal, MLIT experts are responsible for checking whether the ceiling price (passenger fare) exceeds the total of appropriate efficiency management plus a reasonable profit or not. Some kinds of approved fare including:

- Regular fare
- Discount fare (compared to regular fare): Example for the employee are discounted 30-50%, students and pupils are discounted 50-80%
- Fare for express train service

Table : Figure of finance balancing



3.2.3.3 Subsidy for urban railway system:

In Europe and America, It is popular for the State agency to support fare for public transport systems in general and urban railway in particular, in which the price support for the construction is 100%, for the operation is 20-80% of the cost.

The price support for Japanese urban railway system is implemented through a construction investment process. The price support of Central government is about 25%, local government is 25%, while the entire cost of construction depends on the capacity of urban railway business companies.

Before being supported from the MLIT Management Agency, urban railway enterprises are suffered an interest expense, high depreciation plus other operating expenses such as labour cost, power cost... Therefore, the enterprises should propose a high fare rate at the beginning of exploitation. Although lower fare rate will be considered, urban railway operating enterprises still get loss.

Thanks to the construction expense support from government, the interest expense and depreciation will be cut down due to the decreased construction expense, the urban railway operating enterprises will improve their balance sheets of finance. Thus, operating enterprises can decide to propose a more reasonable “considered price” because the losses will be improved.

In Japan, as the success of the privatization process of the railway sector, the private railway companies are currently unsupported costs during operation and exploitation. At the first operating phrase, companies will suffer a certain loss, the accumulated losses will be increased over time. Depending on the level of management capacity and the efforts of the railway companies, the financial status will be balanced, and about 30-40 years later, the railway businesses will be profitable.

The fact is that most of railway companies (metro) in Tokyo are profitable. This happens only in Taiwan.

Table : Operation features of several metro systems in the world (as of 2005)

	Tokyo		Seoul		Taipei	London	New York
	Tokyo Metro	Toei	Seoul Metro	SMRT			
Length (km)	183	109	135	152	67	408	37
Passengers (million/year)	2110	761	1440	819	361	971	1449
Passengers/km-day (000 persons)	32	19	29	15	15	7	11
Revenue/costs	1,29	1,07	0,74	0,55	1,07	0,59	0,51
Fare (US\$)	1,3 ~2,5	1,4 ~ 3,5	0,8~1,1		0,6 ~1,9	3,0 ~ 8,0	2,0~

(Source: Main issues of UR in Hanoi, Prof. Shigeru Morichi, GRIPS -08/2013)

3.3 Functions of several other public transport (urban railway) regulators:

1.3.1 CRTM - Consorcio Regional Transporte (Madrid region)

- Planning for public transport infrastructures: expand, newly develop metro lines, intersections, bus lines, etc.
- Planning and license the provision of public transport service: defining routes in the network, stops, schedule and controlling the quality of public transport service.
- Defining fare policy and fare level framework for public transport. Control monthly and annual pass, multi-modal ticket.
- Information of public transport, promotion and improving the image => encourage passengers to use public transport system

1.3.2 Land and transport authority (LTA) – Singapore

Main functions of LTA:

- Develop policies, regulations of road transport
- Plan for connection between transport and land use
- Plan, design and develop high speed transport system and infrastructures.
- Manage the transport and maintain related infrastructure system
- Policy to enforce public transport system
- Regulations on service quality of public transport
- Regulations on ownership of private transport modes
- Plan for bus network (since 2009)

Table : Compiling main functions of public transport authorities in the world

Functions / Responsibilities	Public transport regulator (Urban railway)					
	Grenoble/SMTC	STIFFF/Ile-de France	SYTRAL / Lyon-Rhone	CRTM/ Madrid	LTA/Singapore	Railway bureau MLIT (Japan)
Managing transport service quality	x	x	x	x	x	x
Fare regulations	x	x	x	x		x
Fare subsidy	x	x	x	x		
Policy to encourage passengers to use urban railway	x	x	x	x	x	x
Regulations on infrastructure maintenance					x	
Planning, investing to	x	x	x	x	x	x

develop public transport						
Monitoring and operate safely	x	x	x	x	x	x

4. HPC's Responsibility for governmental management, roadmap for development of institutional model for urban railway system in Hanoi

4.1 Legal basis, responsibilities of HPC in governmental management of UR

On 14/06/2005, National Assembly of Vietnam issued Railway Law to regulate on the planning, investing, constructing and protecting railway infrastructures, railway vehicles, obligations and authorities of organizations and individuals relating to railway activities, transport rules, signals, and the guarantee of transport order and safety for railway, railway business.

This Law is applicable for organizations, individuals in and outside the country relating to railway activities in the boundary of the Socialist Republic of Vietnam, a importance basis for determination and proposal for role and responsibility of regulator in Hanoi. In railway law, which is mainly applicable for national railway, UR is also regulated insufficiently and unclear in terms of management, operation and maintenance. Below is the table to explain the responsibilities of MOT, HPC and proposals for applicable mechanism for organizations, and individuals relating to the management, operation and maintenance of UR in Hanoi City, contributing to clarification of governmental management about UR.

Table: Responsibilities of institutional bodies in urban railway activities (proposed)

Article	Description	MOT –VNRA (Proposed)	HPC –Proposed	Proposed		
				DOT	O&M Company (HMC)	Remark
4	Basic principle in railway activities 2. To develop railways under plannings and plans toward modernity and synchronism; to combine railway communications and transport with other modes of communications and transport	2. MOT (VNRA) carries out urban rail development, prepares feasibility study report in accordance with the general capital construction plan of Prime Minister and according to Railway Law, urban railway line, urban railway share the same track with national railway will be delivered by MOT to line agency to be the employer for management and operation.	2. All urban railway lines in the general planning of the Prime Minister will be allocated by HPC – the line agency – to competent authorities to advise on investments, construction, of the construction, management and operation (except for Line 1 sharing with National railway). - HPC assigns the concerned bodies such as DOT, MRB to study, connect public transport modes such as construction of urban railway to the airport, in combination with bus, BRT	2.DOT helps HPC make F/S report, call for investment, be construction investor, manage urban railway lines in the general construction plan of Prime Minister in Deion No. 1259/QD-TTg.		

4	4. To clearly define the state management by state agencies from business management by enterprises; the infrastructure business from transport business on railways invested by the State	4. MOT is the highest professional governmental management organization in the field of transportation, the local authority shall manage urban railway. However, MOT is responsible for development of legal documents about urban railway governmental management and organization of inspectorate for implementation of urban railway law.	4. HPC issued Decision 17/2008/QĐ-UBND functions, responsibilities, power and organizational structure of DOT, including governmental management of urban railway - Hanoi Metropolitan Railway Operation and Maintenance is established before 1 st urban railway line is put into operation	4. It is clearly stipulated that DOT plays main advisory function to HPC for State management of urban railway activities.	4. O&M Co is state enterprise. In the initial stage, it will function as operation and maintenance of urban railway infrastructure	
5	The State encourages domestic and foreign organizations and individuals to invest in, do business with, railway infrastructures and railway transport; to participate in bidding for provision of railway public-utility products and/or services.		At initial stage of developing UR system, the receiving and mastering technology of O&M is especially important. However, it is impossible to specify the standards (or benchmarks). HPC assigns HPC and functional bodies to provide advices and study in order to submit HPC for promulgation of economic-	DOT is advising body for HPC to promulgate economic-technical benchmarks, unit price, charge and price of UR service	At initial stage, The Company (State-owned) will operate, maintain and provide UR transport service under the method of paying as real expenses. Gradually, this orients such methods as Plan	

			technical standards/benchmark unit price, cost of UR services.		assignment, orders, and in long term, it is possible to utilize tendering.	
7	2. The Ministry of Transport shall be responsible to the Government for performance of the state management of railway activities.	Urban railway projects will be assigned to the provincial People's Committee for management, but the MOT is responsible for directing the subordinate units as the project employer, preparation of specifications of urban railway, development of legal documents for the management of safety, safety certificate for UR system and standard certification of urban railway operational positions, execution of inspection of urban railway activities.				
8	Responsibilities of provincial people committee (1) To organize, direct the implementation of legislation on railways; measures to protect railway infrastructures; protect the railway traffic safety corridors; organize rescues and settle consequences of railway traffic accidents upon the occurrence thereof in their respective localities.		(1) HPC is the state management unit for implementation of aggregation, mobilization, linking their resources (human, relevant departments) to clearly define the functions and tasks of the resource, create the actions with purpose, coordination, planning etc. to implement the law on railways. (Law on Railway, Documents of The Government, the MOT) in accordance with conditions, economic development strategies of the city.	(1) DOT is administrative units under the HPC's direction of HPC for urban railway operations. DOT, in cooperation with functional organizations, is authorized by HPC to help HPC manage urban railways in the city.	1) As Urban Railway Transport Enterprise, O&M Co. is under direct management of HPC, and other functional organizations by laws and Law on Enterprise.	(1) Departments related to state management activities of railway such Dept. of Public security, DOT, DOF, HAPI etc.

8	Responsibilities of provincial people committee (2) To formulate and organize the implementation of their localities' planning on development of urban railway infrastructures.		(2) Development railway infrastructure planning must be compatible with transportation development plan and Capital planning of the Prime Minister, in accordance with the conditions and policies of socio-economic development of the city	(2) DOT is advisory unit , in coordination with functional organizations, to help HPC in planning infrastructure development of urban railway		.
8	Responsibilities of provincial people committee (3). To ensure railway communications and transport order and safety ; to inspect and handle violations of railway legislation in their respective localities.	(3) MOT is responsible for issuing of UR system safety certificate, developing railway technical codes, legal documents for safety of urban railway; to perform inspection function for implementation of urban railway laws in local area where urban railway passes through.	(3) Railway system is stretching from north to south, passing through many provinces and cities, with more permanent factors impeding daily train operation safety at central level cannot be controlled completely. Therefore, local authorities, particularly HPC must also have the responsibility to ensure orderly, safe railway transportation, communication and assign public security organs subordinate Committee to handle violations in railway legislation to ensure local rail systems are operated safely and sustainably. For urban railway, in addition to directing the implementation of the legislation on urban railway safety, HPC directs the compliance with safety regulations for urban railways, developing and promulgating specific regulations on safety in operation and maintenance of UR in the city, on the basis of compliance and consensus from MOT.	(3) DOT takes initiative in giving advices, and be responsible in front of HPC for developing regulations about safety, system safety supervising for UR at locality	(3) O&M Co is an unit directly operating urban railway daily, with great frequency of train operation and short headway. Ensuring orderly urban railway safety is a top priority in the operation plan of O & M Co.	(3) People Committees, polices at all levels where urban railway runs through are responsible for coordination to ensure orderly, safe rail transport, dealing with accidents, incidents, disorderly incidents related to railway safety.

9	1. The railway inspectors, under inspection department of MOT, perform the function of specialized inspection of railway activities.	MOT instructs inspectorate unit of MOT or inspectors of VNRA, VR in conducting inspection resources for urban railway, inspection of transportation business, urban railway structure units and other units or organizations relating to implementation of urban railway law in locality.	HPC instructs Hanoi Metro Co., organization and units relating to implementation of urban railway activities in accordance with standard, procedure, and code of the Government and MOT.	DOT plays functions of inspection and speeding up O&M Co. to properly implement laws on urban railways.	O&M Co. implements adequately in accordance with law on railway and comply with inspection of appropriate authorities.	
Article 11	Responsibilities of organizations, individuals upon railway accident occurrence: 4. People's Committees of the localities where the railway traffic accidents have occurred shall have the responsibility to coordinate with the police offices, railway enterprises in rescuing the victims and protecting the property of the State and the victims. In cases where victims die without identification, without relatives or with relatives who are, however, incapable of carrying out the burial, People's Committees of the localities where the railway traffic accidents have occurred shall have the responsibility to bury the	Serious accident shall be reported to MOT. MOT requests units under MOT in coordination with O&M Co., MRB, and other appropriate authorities to settle railway trouble and accident. If necessary, "Accident Analysis and Investigation council" shall be established including urban railway expert of MOT and other agencies to conduct urban railway accident investigation.	When a railway accident occurs, HPC will assign MRB to chair, in coordination with functional organizations, to rescue, restore the tracks back to original condition and investigate the causes of the accident. Minor accidents (e.g., no deaths, no major property damages) shall be aggregated and reported to HPC, serious accidents shall be reported to the Ministry of Transport.	For urban railway, DOT coordinates with other departments, people committees at levels and O & M Company to resolve accidents, implement accident reporting mechanism and investigate causes of the accident. - To advise the Committee to issue guidelines, assign responsibility for the accident rescue, and urban railway accident report in locality	When urban railway accident occurs, O & M employees and train driver rescue victims, keep the site untouched and immediately notify OCC. UR Company establishes Accident rescue committee, and simultaneously, reporting local people committee, police to settle accident. Propose specific methods for accident rescue. Provide the necessary information to conduct accident investigations, and draw lessons.	The local People Committee and police coordinate with O & M staff and other units solve railway traffic accidents, save lives and property, and conduct accident investigations.

	dead persons.					
Article 15	<p>Formulating, approving and publicizing planning on railway infrastructure development:</p> <p>2. Provincial-level People's Committees shall organize the formulation of urban railway infrastructure development planning and submit them to the People's Councils of the same level for approval before submission thereof to the Minister of Transport for approval.</p> <p>4. The Minister of Transport, provincial-level People's Committee Chairperson shall, within the ambit of their respective tasks and powers, have the responsibility to publicize the approved planning; organize the implanting of boundary markers for planned railway land.</p>		<p>(2) HPC directly manages urban railways locally. With fast economic growth on average 10% per year, rapid mechanic population growth, speed of urbanization, HPC is responsible for developing public transport systems in general and railway infrastructure in particular, contributing to sustainable urban development. The first task is prepare planning to develop urban railway infrastructure to fit with the general construction planning of the capital, integrate with the existing public transport system and in line with the future development orientation of the city.</p>			

Article 17	<p>Land reserved for railways:</p> <p>3. People's Committees of all levels shall have the following responsibilities:</p> <p>a) To assume the prime responsibility for, and coordinate with investors in, ground clearance and resettlement of displaced people;</p> <p>b) To manage the land planned for railways.</p>		<p>a) Chair, coordinate with the employer in land acquisition and settlement for residents:</p> <p>HPC assigns and authorizes Land Acquisition Steering Committee of the city, district level people committee, ward level people committee to work with the employer to measure and enumerate land and property of local people and prepare compensation, support and resettlement plan for affected people .</p> <p>b) Based on Article 29 of Law on Land, provincial, city-under-state, district, ward, city-under-province people committees shall direct implementation of local planning and land use plan; direct inspection of implementation of planning and land use plan of the lower level locality.</p> <p>HPC directs people committee at all level to strictly prohibit all illegal manners to construct and invest in real estate in the land area planning for railway.</p>			<p>-HPC authorizes district people committee to establish land acquisition, compensation, support and resettlement council to prepare land acquisition, compensation, support, resettlement and occupation shifting plan for people.</p> <p>-Commune/ward people committees coordinate with the employer to popularize measuring and inventory plan, compensation, and support and resettlement policy.</p>
Article 18.	<p>Investment in construction of railway infrastructures</p> <p>3. Investors in construction of national railway infrastructures, urban railway infrastructures shall enjoy the following preferences:</p> <p>a) To be allocated land without the collection of land use levies</p>		<p>Urban railway is an optimal transportation means contributing to reduction of local traffic congestion and accident, environmental protection, and convenience for people, creating sustainable modern and development for the city.</p>			

	<p>for land used for construction of rail routes; to rent with the most preferential terms land for construction of other railway infrastructure works;</p> <p>b) To be provided with full support in ground clearance fund for land used for construction of rail routes;</p> <p>c) To be entitled to exemption or reduction of import tax on supplies, technologies, technical equipment, which cannot be manufactured at home yet under the provisions of tax legislation;</p> <p>d) Other preferences as provided for by law.</p>		Therefore, HPC shall create most favourable condition, mobilize sources to support the employer of urban railway infrastructure construction in order to put the work into operation as scheduled.			
Article 35	<p>Railway traffic safety corridor:</p> <p>4. The Minister of Transport shall specify the railway traffic safety corridors in crossroad, urban railway areas.</p>	MOT shall issue specific regulations and standards for railway traffic safety corridor to ensure that urban railway works are not invaded; urban train operation safety within urban railway traffic safety corridor.		DOT coordinates with people committees of all level where urban railway passes through, O&M company to protect urban railway safety corridor as prescribed by law.		
Article 36.	<p>Responsibilities to protect railway infrastructures</p> <p>3. People's Committees at all levels in the localities where railways run through shall have the responsibility to organize the propagation for and educate in railway infrastructure protection among people; prevent, stop and handle in time acts of infringing upon railway infrastructures and railway communications and transport safety in their respective</p>		HPC directs local authorities at all levels where urban railways run through to cooperate with Traffic Safety Committee, O & M Co. to organize measures to protect urban railway infrastructure such as propaganda and education for people not to encroach, throw obstacles in the urban railway safety clearance, check against encroachment, illegal usage of urban railway activity area like	DOT advises to help HPC build up rules and guidelines to protect urban railway infrastructures.	O&M Co. is responsible for execution and coordination with local authorities where urban railways run through to propagandize and educate people to protect railway infrastructure such as regulations and voice notice in the station and fence to protect urban railway right of way etc.	

	localities.		viaducts, piers, stairs up to the station, signal telecommunication system etc.			
Article 38	Conditions for circulation of railway traffic means Railway traffic means, when being circulated, must be adequately accompanied with registration certificates; valid registry certificates of quality, technical safety and environmental protection standards.	Stage management bodies like Vietnam Register (VR), VNRA cooperate with one another to appraise technical design, quality standards, technical safety and environmental protection etc. urban railway transport vehicle and issue certificates of licence and register for urban railway vehicles. MOT is organization to verify, evaluate and issue certificate of UR system safety, which also includes UR vehicles.			O&M Co. must obtain licence and register certification for urban railway vehicles by state management bodies before putting them into operation.	
Article 44	Railway traffic means suspended from participation in railway traffic 1. Railway traffic means shall be suspended from participation in railway traffic in the following cases: a) The means registry certificate has expired; b) The means are detected as failing to meet the technical safety standards while operating.	Inspectorate of MOT and Vietnam Register shall conduct inspection of urban railway vehicles. If certificate of register is found invalid or urban railway vehicles is not technical safety standards ensured, urban railway vehicles shall be suspended till new certificate of register is obtained.		When certificate of register of urban railway vehicles is expiry, O&M Co. must prepare documents to ask for re-issuance of register certificate for vehicles.		

Article 55, sub-clause 02	Urban railway investment, construction, management and business shall be organized by provincial-level People's Committees.		<p>HPC organizes and mobilizes its sources to prepare and develop urban railway infrastructure planning and call for donors to invest fund and technique in urban railway projects.</p> <ul style="list-style-type: none"> - Prepare condition for construction of the projects such as execution of land planning, land hand over, connection of urban technical infrastructure, issuance of construction licence etc. - Manage construction quality in accordance with Decree. 209/2004/ND-CP, Decree No. 12/2009/ND-CP. Carry out acceptance for construction works and urban railway facilities and equipment. - Assign tasks to MRB and concerned departments to organize management, operation of urban railway => Establishment of O&M Co. - Carry out management, operation and maintenance of urban railway lines such as approval of train operation schedule, fare and subsidies, issuance of regulations on urban railway infrastructure maintenance etc. 	<ul style="list-style-type: none"> - DOT advises HPC in studying, building up and developing, managing and operating Hanoi urban railway system. - Help HPC establish, organize, manage, operate urban railway lines including both state management unit and urban railway operation unit. - Perform functions of state management in operation and management of urban railway lines such as appraisal of business plan of the company, safety supervising plan, fare and subsidies alternatives, advice on prepare of urban railway infrastructure maintenance and safety plan of O&M Co. 	To be unit directly under HPC to perform functions of management, operation and maintenance of urban railway.	Departments help HPC execute investment, construction, management and operation of urban railway such as HAPI, DOC, DOT, DOF, HAUPA, DOHA, DOJ, DONRE, etc.
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Article 56	<p>Urban railway development policies</p> <p>2. Provincial-level People's Committees shall propose undertakings on construction investment, incentive policies to attract resources for investment in construction and exploitation of urban railways.</p>		<p>HPC implements investment encourage and preference policies for early and effective construction and operation of urban railway to meet travel demand of the people and for the sustainable urban development:</p> <ul style="list-style-type: none"> - Assist the employer in investment and construction of urban railway works (as explained in Article 18) - Policies to encourage people to use urban railways - Proper subsidy policy for urban operation companies. 	<p>DOT is the regulator of Hanoi urban railway to advise in policies to encourage use of urban railway, project program, urban railway development policy to submit the city for approval:</p> <ul style="list-style-type: none"> - 	<p>O&M Co. as urban railway operation unit shall be annually subsidized with proper expenditure from HPC in order to ensure continuous, safe and sustainable operation to meet travel demand of the people.</p>	
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61	<p>1. Urban railway business enterprises shall have the responsibility to maintain urban railway infrastructures invested by the State through bidding or public-utility product and/or service orders placed by provincial-level People's Committees.</p> <p>2. Provincial-level People's Committees shall stipulate the management and maintenance of urban railway infrastructures by organizations or individuals investing in urban railway business according to the provisions of law.</p>		<p>1. Urban railway infrastructure shall be directly operated and maintained by O&M Co. Every year, O&M Co. proposes railway maintenance plan to HPC, HPC shall assign state management bodies to appraise and sign contract with O&M Co. in forms of assigning plan or order, tendering.</p>	<p>1. DOT is assigned and authorized by HPC to appraise and inspect maintenance plan of O&M Co, DOT will sign a contract with O&M thru bidding or ordering. During implementation of the contract, DOT will check and accept to pay in advance and settle payment for O&M Co.</p>	<p>O&M Co. proposes maintenance plan for urban railway infrastructure (For example, safety, expenditure, cost, maintenance staff, implementation method, effectiveness)</p>	<p>At the beginning stage, (State owned) company will conduct maintenance of urban railway structure (and provide urban railway transportation service) in accordance with method of payment based on real expenses. Gradually, plan assignment, order form will be applied. In the long run, bidding form will be possibly applied.</p>
Article 62	<p>The ticket prices of urban railway transportation shall be stipulated by provincial-level People's Committees. The urban railway transport freight subsidy shall be implemented under contracts between provincial-level People's Committees and urban railway transport enterprises.</p>		<p>HPC assigns functional departments/organizations for proposal, evaluation of fare level before HPC will approve. When O&M Company proposes any subsidy, MRB, in coordination with DOF, and other agencies, will chair the assessment and review, and then submit for HPC for approval. After being approved, the subsidy shall be executed by following contract via orders or plans. According to the roadmap, bidding method will be conducted.</p>	<p>DOT is assigned by HPC to evaluate, in corporation with functional organizations, to propose fare policy for urban railways. Regarding the subsidy, DOT cooperates with organization to evaluate, review business plan and subsidy alternatives, then submit HPC for approval</p>	<p>At initial timing, O&M Company provides UR services based on method of payment based on real expenses. According the schedule, the method of plan assignment, orders and bidding shall be conducted.</p>	<p>DOT, DOF coordinate with MRB during preparing proposal for fare level and subsidy.</p>

Article 62	Clause 3. The urban railway transport enterprises must ensure safe, regular and timely train operations.		HPC assigns DOT to advise, assist HPC to develop regulations and instructions for implementation by O&M Company, aiming at ensuring operation, maintenance of UR in safe, effective and quality manner, satisfying demand of the citizens.	DOT is chairing organization to evaluate, develop regulations: about safety in compliant with local context and regulations, operation plan, supervision, accident reporting, etc.	O&M Company shall develop safe operation plan, including organization of personnel, other resources, plans, procedures to guarantee the safety, taking over/certifying for safety under its own responsibility and following regulations of the government	
Article 74	Contents of railway communications and transport controlling	MOT will develop and issue technical standards for urban railways.	HPC assigns DOT to be responsible for advising, developing and issuing regulations about UR operation, in accordance with city's eco-social condition.	DOT advises and issues regulations on UR operation, asking for opinions from related Ministries, departments before promulgation, direct operation units for implementation	O&M Company control the operation of the transport via line OCCs and integrated OCC - Follow legal regulations on UR controlling	
Article 82:	<p>1. People's Committees at all levels shall, within the scope of their tasks and powers, have to organize the implementation of the provisions of Clause 2, Article 10 of this Law in order to raise the people's sense of maintaining railway traffic security, order and safety.</p> <p>2. People's Committees at all levels of the localities where railway stations are located and/or rail routes run through shall have the following responsibilities:</p> <p>a) To direct the local police forces in coordinating with the railway security forces to</p>		<p>HPC has methods to monitor and instruct functional organizations, sub-ordinate PCs where UR lines go through, in promulgating, educating citizens in implementation of policies, regulations on urban railways: protect UR infrastructure, without intervening into operation limit of urban railways, guarantee the attitude while participating in urban railway transport system.</p> <p>When an accident happens, PCs at all level will coordinate with the police to support victims, participating in rescue activities. Isolate the accident site and</p>	DOT provides advices, assists HPC in promulgation of regulations or implementation of regulations of higher authorities	O&M Company develops and implements specific programs, activities	

	<p>prevent and handle in time acts of encroaching upon railway infrastructures and/or railway traffic means and other acts of violating the legislation on railway communications and transport safety;</p> <p>b) To participate in settling railway traffic accidents under the provisions of Article 11 of this Law.</p>		conduct inspection for accident's reasons			
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Via the above table that analyse the responsibilities of HPC in UR activities based on Railway Law in 2005, proposed main responsibilities of HPC in governmental management of UR are as following:

- Organize, monitor the implementation of legal regulations on urban railways; prepare methods to protect infrastructures and urban rail transport safety corridor; organizing the rescue activities, dealing with consequences of urban rail transport in the city.
- Development plan, long term plan, 5 year plan, annual plan, development program of urban railway consistent with general socio-economic development master plan of the City, regional and sectorial plan.
- Ensure the order and safety of UR; inspect and handle with legal violations in UR in local area;
- Organize promulgation, education towards citizens about protection of UR infrastructure; organize activities to prevent, avoid and handle with any violations to railway infrastructure and safety of UR in the locality.
- Propose preferential policies to attract resources for operation and maintenance of UR.
- Regulations on responsibilities of individuals and organizations investing into UR business for management and maintenance of UR infrastructure.
- Regulations on fare level of UR.
- Subsidy for UR.
- Approve for operation plan of UR
- Organize the promulgation and education of legal regulations about urban railways for local residents.
- Regulations and management of maintenance of infrastructures and equipment of urban railway.

4.2. Clarification and details about related legal documents, institutions, policies, coordinating & supervising mechanism among governmental agencies in Hanoi

4.2.1. Related legal documents to clarify regulations and policies:

- Joint Circular No. 42/2015/TTLT-BGTVT-BNV dated 14 August 2015 of the Ministry of Transport and the Ministry of Home Affairs, providing guidelines for the functions, responsibilities, powers and organizational structure of the professional agencies in transport under the People's Committees of provinces or centrally cities and the People's Committees of districts, towns, or provincial cities.

Accordingly, DOT is clarified to be a specialized agency under HPC, with the function of advising and supporting HPC to manage urban railway.

- Decision No. 6266/QĐ-UBND dated 27/11/2015 of HPC on establishment of HMC, with the main function of operating public transport business through urban railway system in Hanoi.

4.2.2. The relationship among governmental agencies regarding institutions, policies and coordinating & supervising mechanism about urban railway:

4.2.2.1. Principle for management coordination:

In execution of governmental function regulated by law and guidance of HPC, governmental management agencies are in charge of governmental management activities within their responsibility, coordinating with related organizations and agencies to ensure consistency in urban railway management in the city.

Form of communication: coordinate through written documents or direct discussion between assigned divisions of governmental authorities.

4.2.2.2. Coordinating mechanism of governmental management agencies:

- Coordinate in informing and providing guidance to HMC, organizations and individuals related to urban railway system; conform to regulations on governmental management roles in urban railway in Hanoi.

- Coordinate in developing programs, implementing plans to examine and inspect law execution in the city; within agency's competence, strictly deal with law violating activities.

- Provide information related to urban railway activities in the city as requested by related state management agencies .

- Periodically every year, management agencies related to urban railway governmental management shall make preliminary summary, total summary and evaluation of coordination, management and supervision work, as well as draw experience and propose recommendation (if any)

4.2.2.3. Responsibilities of management agencies:

- HPC: integrate governmental management of urban railway in Hanoi, assign Hanoi DOT to preside and advise HPC in conducting management activities in the city; Regulate functions, assign responsibilities and authority to departments and agencies in managing and coordinating urban railway sector.

- DOT: specialized agency under HPC, conduct advisory role for HPC in managing urban railways.

- DOT:

- + Preside over and coordinate with related agencies to allocate funding to HMC.

- + Preside over and coordinate with departments, industries, railway companies to develop accounting and financial mechanism for operating model of the company.

- + Work as the focal point for HPC to supervise finance and evaluate business performance, consolidate financial report of HMC

CHAPTER 3. PROPOSAL FOR DESCRIPTION OF RESPONSIBILITIES AND ORGANIZATIONAL STRUCTURE OF HANOI URBAN RAILWAY REGULATOR - DOT

1. Specific description of responsibilities of UR regulator in of urban railway:

1.1. Quality management for urban railway transport service

1.1.1 Scope of application

Quality management of urban railway services mentions influential factors, measures to ensure, improve and allocate responsibilities in passenger service quality management of Hanoi urban railway system.

1.1.2 Applicable objects

Management of UR service quality is related to operation and participation in urban railway transportation.

1.1.3 Concept of urban railway service quality

In the current integration process, with the development of science and technology and economy – society, product quality in general and service quality are increasingly interested. It is possible to say that improving quality has always been the primary objective for every enterprise.

According to Vietnam Standard ISO 8402:1999 "Quality is a set of characteristics of an entity created for entities that meet the stated needs and latent needs". Or follow Vietnam Standard the ISO 9000:2000 "Quality is a set of characteristics of the product, system or process to meet the needs of customers and stakeholders."

Service quality of urban railway passenger transport is a set of service characteristics that can satisfy the travel demands of passengers from one place to other and the other demands (before, during and after traveling time) to serve the process of moving (time, space, convenience and safety etc.).

Urban railway service quality is provided and ensured by two main objects:

1. Hanoi Metro Company: directly determine quality objective and supply quality guaranteed services.
2. Hanoi City People Committee: accept and control quality objectives, provide common condition about service quality (regarding connectivity, subsidy, etc.)

1.1.4 Purpose of UR service quality management

Building up the system to manage standard, check and control service quality of urban railway to make sure service quality provided by the operator stable and increasingly improve to meet requirements of the passengers and in accordance with the general progress of the UR world.

The further objective is to enhance production of public passenger transport, limit, minimize personal vehicles, reduce pollution, save energy and contribute to building the modern, civilized and sustainable city of Hanoi.

1.1.5 Factors impacted on UR service quality

1.1.5.1 Quality of planning and implementation of urban transport planning:

Quality planning is shown in the factor of alignment length, station length, platform width, etc. If at the very beginning, planning quality is well studied with inter-connection among lines to meet current demand and orientation for expansion in the future, improvement of UR services will be easier and investment costs will be minimized.

In the current period, the planning and implementation of planning is the responsibility of the authorized state agency. In the future, UR Company may propose alternatives of planning and investment and operation implementation on accordance with laws.

1.1.5.2 Infrastructure:

Infrastructure is understood to be construction works along the lines, station facilities and tracks.

- Quality related to facility usage: Platform, access path, architectural space (mainly based on design stage).
- Quality of construction work, maintenance work: affect smooth operation of infrastructure items. For example: degraded construction works that are non-aesthetics, unsanitary, unsafe, causing performance not to be as designed.

1.1.5.3 Capability of connection among lines and with other public transport means:

This is an important factor in attracting and encouraging people to use public transport system. Integral and proper connection will increase convenience for passenger trip, help passengers shorten travel times and increase public transport system users in general and urban railways in particular.

1.1.5.4 Operation vehicle factor:

UR operation vehicles are electric rolling stocks:

- Service quality impact by vehicle performance: capacity, design speed, braking system, arrangement of seats and standing areas, width of car doors, etc. are mainly in the design and production stage of rolling stocks.
- Maintenance quality of operation vehicle: direct impact on the train operation plan of the company, the comfort of the passengers and safe train operation.

During transportation, vehicle quality will greatly affect service quality. This is the element that makes safety in operation, bringing physical and spiritual comfort passengers.

1.1.5.5 Other passenger services:

- Passenger information services
- AFC system (depending on fare policy of the city and efforts to improve the company)
- Socio-economic services in the stations and surroundings (commercial, medial, entertainment and administrative areas): depends on the planning and strategy of the city and also depends on strategy and effectiveness of non-fare business of the company.

1.1.5.6 Train operation and organization factors:

This is a key factor that makes passengers choose UR means. In the competition of the market economy, time accuracy is the target to compare between UR transportation means with personal vehicles and other public transport modes.

The quality of this work is to minimize unplanned and non-punctual trips, specifically emphasizing on the running time with the following criteria:

- + Time: arrival time, departure time, delay time, operating time interval
- + Space: congestion percentage in rush hours at platforms or in cars, train stopping, and car door opening and closing properly as regulated.

1.1.5.7 Human being factor:

- The leader must have a vision and general policies to ensure UR service quality.
 - + For the City authority, ministries: the leaders make policies and have long-term vision as appropriate appraisal of UR planning with connectivity; invests in large facility in harmony with UR system.
 - + For the Company: makes a long term plan, puts commitment of the vision leaders in guarantee of UR service quality.
- Direct operation workers: They are those who directly participate in train operation process, receiving and instructing passengers at the stations, including: train driver, station staff, and dispatch staff. Quality, efficiency, attitude, responsibilities to passengers are decisive factors to safety and service quality of urban railway transport.

1.1.6 Measures to guarantee and improve UR service quality**a) Infrastructure:****In the design and construction stage:**

- + It is necessary to clearly indicate or display line name and number, name of the station, operation times of UR, headway, and ticket price, information of transiting to other lines or other modes on the electronic information board.
- + Arrangement to serve the disables with wheelchairs: It is required to build a convenient entrance for wheelchairs and positions reserved only for the disable with wheelchairs waiting for train arrival.

- + Arrangement of leading paths for the blind from the streets down to the platform.
- + Arrangement of platform door types to ensure the safety of the passengers, not falling down the tracks.
- + Invested and equipped with escalators, elevators in the stations.
- + Each urban railway station must have separate number which will be shown in the map for management and information for passengers.

Operation stage: Maintenance work, maintenance of UR infrastructure must be focused to ensure that the infrastructure is in technical state of best quality and safety, and does not impacted on train operation.

b) Transportation vehicles:

- + Maintenance and repair of vehicles must be conducted in compliance with the maintenance rules and procedures, ensured daily technical safety conditions and passenger service equipment and facilities in best condition before operation. Concretely, air conditional system must operate stably suitable with passengers' demands. Lighting systems on board must ensure sufficient light when trains get in tunnel or during night time.
- + Outside the car: it is required to paint typical colour for each line, number of train, name of the line for passengers to easily differentiate.
- + Inside the cars: it is required to equip device to display line route map, broadcast speaker to inform the name of the next station, rules for passengers, telephone number, hot line number for complain or contribution about service quality.
- + Advertisement (in and out of the car) must comply with law.

c) Train operation organization and control:

Time criterion:

- + Train operation control must comply properly with train diagram approved by the competent authorities. Making train diagram must be based on the actual number of passengers or forecasted one, surveys, operational period; transportation capacity of the line.
- + Ensure safe operation without incidents, accidents; avoid disorder and change of train diagram. When station is very crowded, up and down time will be lengthened. Accordingly, in order to ensure the safety, trains will departure later than normal causing changes of train diagram and delay. Therefore, it is required to promptly notify passengers and remedy as soon as possible. (Based on experience and smooth coordination between train operation division)
- + Train operation plan includes train diagram made and adjusted by the operator, reviewed and appraised by the regulator and submitted to HPC for approval.

Space criterion:

- + The ratio of congestion during rush hours: This is a condition in which the number of passengers exceeds the designed capacities of cars and platforms. To improve this situation, the regulator requests and instructs the operators to increase number of trains, reduce

headway, mobilize more platform staff to support passenger in or out of the train safely and orderly. In the long run, if the congestion condition has not been improved, it is required to expand platforms and car door.

- + The regulator must calculate congestion ration in rush hours to enable the operator to find proper countermeasure. In Japan, acceptable congestion ratio does not exceed 150%.

- + Train must arrive at right position and within allowable deviation. For example, in Japan allowable deviation is smaller than 01 m.

d) Human being factor:

- + The leader always puts the mission of improving transport service quality in the long-term mission and vision of the City, of the company, serving travel needs of the people

- + Build a team of well-trained with proper qualification and certificates in accordance with title recruitment. Annual training and testing is taken in order to improve qualifications, responsibilities and professional ethics.

- + Ensure the staff to be always in good physical and spiritual condition.

- + Build cultural behaviour of station employees passengers, responsible for providing guidance and answers to the information needs of passengers on the line information, fares, buying tickets, assisting the passengers on/off the train safely, especially the disable, the elderly, children, pregnant women, international tourists, etc.

e) Line connection:

- Among UR lines: in the planning and planning implementation stage, the state company must determine connectivity among UR lines with integration and connection among lines.

- Between UR and other public transport means: UR regulator and other transport means regulators such as bus, BRT need to study and coordinate for the purpose of facilitating and attracting passengers. Coordination is shown such as synchronization ticket collection; avoid using many kinds of tickets with different prices, possibility to change the line easily and conveniently.

1.1.7 Responsibilities of organization and individual related to UR service quality

1.1.7.1 Responsibility of the Central Agency:

The Government and Ministry of Transport builds up, promulgates regulations, common technical standards for the management and quality assurance of UR services

1.1.7.2 Responsibility of HPC:

- Organize activities, monitor UR service quality management in Hanoi
- HPC assigns the professional bodies to advise and assist the city in issuing regulations, evaluation and monitoring of UR service quality provided by the company and other related agencies.

1.1.7.3 Responsibility of DOT:

- To promulgate, instruct, implement normative documents, regulations, standards and technical standards for quality of urban railway transport services of the Government for urban railway operation companies managed by HPC.
- To participate in formulation of regulations on quality management of transport services by urban railways.
- To evaluate train operation schedule, urban railway service quality plan of the Company.
- To check and evaluate implementation process of train operation schedule, urban railway service quality plan of the Company.
- To periodically perform statistic works, report results of public transport by urban railways.
- To develop a database, conduct public consultation on results, needs and ability to improve the quality of transport services by urban railways.
- To propose programs and plans to improve urban railway transport services.

1.2: Proposal to advise on regulations and management of urban railway safety

Until now, Vietnam Railways only inspects and certifies safety and quality in each specialized field such as road, bridge, telecommunication, signal, rolling stocks but not executes evaluation and certification for the entire system. Since urban railway system is a closed large system including many small systems closely related and linked to one another, therefore, railway safety assessment by the old methods is not logic and low-reliable. In the near future, in Vietnam, many urban railway projects shall be put into operation and invested in construction such as metro, elevated urban railway, high-speed railway system, etc. In order to ensure the highest safety for these newly-built railway systems, it is necessary to evaluate and certify safety for the systems in accordance with certification method based on risk management (this method is applied by the advanced countries in the world).

The Railway Law, Decree No. 109/2006/ND-CP dated 22 June 2006 and other lawful documents have not mentioned assessment and certification of safety for urban railway, while regulations on assessment and certification of safety for urban railway is necessary and suitable with international practices.

However, urban railway is new and complicated field not yet completed and operated in Vietnam. It requires strictness of safety in design, construction and operation. On the other hand, human resources understand about urban railway systems as well as manages safety of the system is very limited, therefore, in the current period, safety management should be focused on in the specialized state management agency, MOT.

Division of responsibilities for state management of urban railway safety in this period is proposed as follows:

1.2.1 Responsibilities and rights of urban railway management of MOT:

As a state agency managing urban railway activities nationwide (based on Decree No. 107/2012/ND-CP dated 20 Dec. 2012 of the Government defining the functions, tasks, powers and organizational structure of MOT), MOT has responsibilities for state management of urban railway safety as follows:

- a) Develop, promulgate, and publicize under its authority regulations, legal documents on urban railway safety; involve in building up legal projects and relevant legal documents;
- b) Approve, promulgate technical standards, regulations on safety management for urban railway system;
- c) Perform state management over verification and certification on urban railway system safety; Participate in certification on system safety for urban railway lines; Issue and revoke certificate on urban railway system safety; Guide and check implementation of investment organization, and urban railway operation company;
- d) Organize to inspect, check, and monitor compliance with legal regulations, standards, technical codes on urban railway safety management for individuals and organizations under its authorization; Inspection and monitoring may be held regularly or irregularly;
- e) Recommend the local People's Committee where has urban railway passing through to refuse starting of new construction for urban railway system or suspend operation if any unsafe factor for railway system is found;
- f) Receive and summarize reports on traffic safety situation of urban railway from urban railway operation companies and other concern agencies; Participate in investigation and dealing with urban railway incidents and accidents if necessary;

1.2.2. Responsibilities, authorities in terms of state management over urban railway safety in Hanoi City:

Hanoi People's Committee is state-management organization for urban railway at the locality, which is responsible for organizing and directing the implementation, as well as allocating the functions to organizations to ensure urban railway safety.

Responsibilities of DOT

- Instruct, inspect implementation of methods for assurance of traffic safety under the department's functions
- + Promulgate, instruct and undertake the execution of laws, legal documents, regulations, technical standards and regulations about UR system safety which are issued by the Government towards urban railway O&M Company under HPC;
- + To chair to compose or coordinate with other sectors to compose new legal documents or supplement or amend documents relating to urban railway safety as regulations, in order to submit for consideration and promulgation by HPC for promulgation;
- + To check and implement measures to ensure urban railway transport safety under functions of DOT as prescribed by law

- To chair and coordinate with relevant agencies to deal with and investigate accidents, incidents regarding urban railway operation.
- To advise, submit HPC in promulgating regulations on protection of urban railway safety corridor; to propagandize and educate people to protect urban railway infrastructure; to prevent and timely deal with invasion of urban railway infrastructure and urban railway safety in the area.
- To appraise urban railway operation safety plan
- To check, evaluate implementation process of safety plan of urban railway operation company
- To participate in checking preparation of requirements for safety assurance (under responsibility of the HPC) before launching a new urban railway line or extended urban railway line;

1.3. Recommending incentive policies for using urban railways

1.3.1 Necessity of making urban railway incentive policy

To construct a public transport system in general and UR in particular, the State has to invest a huge amount from the budget, normally accounting for 1 -2% of GDP. Accordingly, if people are not encouraged to transfer from private modes to UR, this shall create a big waste for the society, and it also can be a public debt disaster of the city government. Therefore, Hanoi City has to build policies to encourage people to use UR and to attract a certain amount of passengers, creating a custom of using public transport system in which UR is one part, reducing traffic congestion, environmental pollution.

1.3.2 Necessary solutions to encourage use of public transport (Urban railway)

a) Development and attraction of financial resources for investment, construction and operation of public transport system (Urban railway)

- From the state budget, local budget.
- Grants from banks, international donors
- Charges levied on personal vehicles when using public transport works such as roads, bridges, tunnels, highways, etc. and these charges are partially added in the construction and operation of the public transport system.
- Taxes on employers (Taxation of transport):

Enterprises engage in investment for transport through taxation in general, but in some countries they have to contribute directly because regulators think that these enterprises indirectly get benefits from the transport system. This compulsory participation is performed mainly via tax on salary fund, which is paid directly to the transport sector, and support for staffs that use public transport.

The most commonly known example is to compulsorily collect taxes, which is a form of transport tax on state or private enterprises that have more than 9 employees in France. Taxes are set in accordance to the percentage on salary fund for employees. In the Paris area, the ceiling is 2.7%; in other parts of France, tax rate is 1.75% for the city having public transport projects with separate lanes, 1% for the city of more than 100,000 people; and 0.5% with the city under 100,000 people.

- Less commonly, tax is imposed on the value of real estate increased thanks to the introduction of railway system.

For example: in Dublin, Ireland all buildings constructed adjacent to railway line are taxed because the value of their real estate increases.

b) Solution group of urban transport orientation to public transport:

- To make plan and organize urban railway stations into a system of commercial services, industry, office etc. with development of high density population within a 20-minute walk distance, radius of from 0.4 to 0.8 km.
- Services for accessing to stations with vehicles arriving at and departing from the streets:
 - + Design of bus service area, bus stops, waiting area for passengers
 - + Provision of parking lots for two wheelers (motorcycles, bikes)
 - + Provision of parking places for motor-taxi and taxi adjacent to near the station location
 - + Provision of locations for vehicles receiving and releasing passengers, near to the station entrance without obstructing traffic
- Services for pedestrians accessing to station:
 - + Provision of open spaces for pedestrians, removal of the obstacles on the sidewalks impeding pedestrians
 - + Improvement and upgrade of pavements, curbs, allay surface approaching station for pedestrians; Installation of appropriate navigational strip to guide the disable to access to the station.
 - + Provision and assurance of and ensure adequate lighting, trees, drainage, markings, signboard, etc. to help people walk better access to station area
 - + Additional provision with system of overpasses, underpasses for passengers, where traffic density of vehicles is high.
- To design places for passengers able to transit between urban railway and other public transport means. Transitional services such as bridges, underpasses, shelters, paths, shelters, commercial area should be properly arranged for passengers' convenience

c) Integration and improvement of public transport service (UR)

- Urban railway lines and bus routes are extended, space is expanding, increasing the frequency of services, day-time operation duration meets demand for public passenger transport. Priority is given for passenger vehicles with large coefficient of road occupancy, such as dedicated lanes for buses, traffic signal priority for buses, minimizing delays for public passenger transport vehicles.
 - Innovation is made to ensure convenience of service facilities for passengers at railway stations, bus shelters, seats, toilet etc.
 - System integration and fare price of public transport should have a consistent policy for integrating ticketing system and public transport means, creating a form of convenient fare payment s by smart electronic card.
 - Integration of passenger information, improvement of marketing program is to give passengers information, options for route, fare price of public transport service.
 - Improvement is made for those who use cycles:
 - + To construction parking lot, lanes dedicated to bicycle users

- + To provide map, sign board for bicycle user
- + To provide services of bicycles for rent

Some cities in the world are successful with their assistance for people who use bicycles daily for travelling, accordingly promoting usage of public transport modes. For example, Cambridge, London (England), Copenhagen (Denmark), Osaka (Japan)

d) *Control and management of private vehicles ownership:*

Measures of taxes and fees used by the governmental management agencies as an effective economic instrument for controlling and managing the ownership and use of private vehicles. In addition, this economic instrument also brings a part of income to support the development of public transport system.

- Import duties on vehicles: Many countries impose tariffs or import duty for cars from overseas in order to prioritize policies for domestic use of goods. Vehicle sales tax is generally applicable to all types of vehicles. In some cases, a lower tax is imposed on vehicles which consumes fuel efficiently in order to encourage rotation of vehicles, or to replace vehicles using fuels caused pollution to meet the objective of ensuring environmental quality.

- Road tolls: In the developing countries, the automobile owners often must pay annual or semi-annual fees for contributions to income source allocated to road and bridge maintenance. The level of this fee may be based on engine size, to encourage vehicles to use fuel efficiently.

- For example, in the US, registration fees range from \$30 to \$ 150 per year, and with a piece of adhesive stickers on license plates. Road tolls in Singapore are classified according to engine size, fuel type, and vehicles (cars, motorcycles, etc.) to encourage people to use the means with fewer emissions. Under this system, the owners of a small car with 1000cc engine may pay \$600 annually, whereas, the owners of 4000cc engine car pay more than \$6,000. Payment for Diesel vehicles is 6 times higher than that of similar vehicles using gasoline.

- Fuel tax: more or less depends on the conditions of each nation. In some developed countries this tax brings a big income source to re-invest in public transportation system (urban railway). For example, in the State of California allocates 70% of fuel tax revenue, including transport sector and public transport.

- Ecological taxes (environment protection tax): It means that the tax is imposed on destruction of personal vehicles and solutions of consequences due to pollution.

- Fees for entering the city in rush hours (urban transport fees): urban traffic fees is aimed at minimizing the number of vehicles moving in a metropolitan area through requesting people (owned personal vehicles) to pay fee for entering certain areas. The important thing is that it discourages private mode users to enter the city at a certain place in a certain time and to consider using alternative means of public transport. Example: Some cities in the world which collect this charge are Singapore, London etc.

- Management of parking inherent public transport policy:

The competent authority may consider parking in urban centers as a tool as a lever to control traffic. However, in order to achieve effectiveness, this measure should be implemented in coordination with other transport policies. Parking fees is not just a way of asking traffic participants to pay for the use of urban lanes but also is a source of revenue and as a tool to encourage motorists to switch to public transport modes such as urban railway, bus.

Transport policies must balance between one side is the desire to provide space to meet the needs of the driver and the other side is the need to control the space occupation and minimize its negative consequences.

Limiting the number of parking yards and adjusting this number according to many different criteria is one of the measures to control demands of personal transport in the city center.

To achieve this target, it is necessary to satisfy the following elements:

- + Provision of alternative or combined transport modes, such as parking lots for transition in the area surrounding the center.

- + Keeping a minimum parking lot to ensure activities in the city center.

Similar to collections of urban transport fees, provision of parking yard services and collections of parking fees is a measure to encourage people to shift to use public transport. This measure also brings remarkable revenue which is partially invested in public transport.

Successful example is Sanfrancisco city (American), Monterpilier (France)

- In addition, solution to ban and force private mode users should be considered to apply such as parking limit, ban on circulation on some streets and certain areas or during rush hours, limiting car to enter under license plates in the city (for example, China, Mexico, the Philippines ..)

e) Encouragement and financial assistance for public transport users (UR):

To provide appropriate fare policy (fare type, fare structure, fare level), subsidy for passengers using public transport, especially students, workers, staff, the disable, pensioners etc.

- To indirectly support for public transport by funding through users rather than services. Enterprises, public administrative agencies shall assist their staff amount of money to buy monthly pass of public transport, or business owners will buy transport fee at operation agency and hand over the transport card to their employees.

In Brazil, when Vale Transporte card was launched, employers support their employees. Accordingly, enterprises will pay for public transport fee for their employees up to 6% of the salary. The business owner purchase public transport fees at the transport agencies and handover employees the transport cards. This is a legal obligation for enterprises, taking validity for the entire urban center. This is also a tool of social equality because priority is only given to the poorest workers.

In France, from 1980s to the present, the payment of monthly traffic fee from employers to employees is applied nationwide regardless of their ranks and salaries. A current payment level (2009) is 50% of the monthly ticket. The payment is done at the end of the month after workers return monthly ticket.

f) *Propaganda and raising awareness of people towards usage of public transport (urban railway):*

Public transport service also faces challenges like any other products in the market. It is the more people know the more people access. Advertisement of new transport service

(Urban railway) is a key sector for development of urban transport. Information about route, fares, service quality and benefits of energy savings, environmental protection, prevent of traffic congestion and accidents, etc. can be easily available for new users through various channels such as its website, maps, sign boards, kiosks, telephone hotlines, mass media and billboards.

These public events and advertising campaigns can help raise awareness of people about the efforts to manage travel demand and at the same time to win their likings. These events can help the city distribute a map and other information, providing advices on cycling, walking and using public transport, and getting feedback from people about the offered plans.

1.3.3 Proposal for responsibilities of regulator – Department of Transport in encouraging people to use urban railways in Hanoi City:

In the initial stage, currently, the urban railway network has not been completed yet, just only one or two line to be put into operation, therefore, it is not easy and convenient for people access to the network and use the urban railway. With the measures mentioned above, there are many things that are not able to immediately apply in Vietnam. Indeed, Vietnam is still poor, scientific and technical capacity is still under slow development, therefore, social security assurance remains difficult. Application of multiple taxes on people using private transport modes, on residential systems, real estate for the time being is very difficult, complicated and must be carefully considered with a gradual roadmap when public transport system is underdeveloped, especially mass transport modes such as urban railway. That invisibly forces the residents in transport, which can cause instability in the society

Responsibilities of urban railway regulator – DOT in encouraging people to use urban railway in Hanoi City:

- *To coordinate with relevant agencies to advise the HPC in policies to raise funds for construction and operation of the urban railway system.*
- *To coordinate with relevant agencies to advise the HPC in solutions for urban design in accordance with orientation towards public transport, enhancing accessibility of passengers to urban stations.*
- *To propose integration solutions to improve the quality of public transport services, especially the quality of urban railway services.*
- *To participate in programs and projects on reducing traffic volume of personal transport modes and switching modes of transport for private vehicles to public transport system;*
- *To propose measures to encourage and support financially passengers using urban railway system*
- *To propose solutions for propaganda and raising awareness of citizens regarding use of public transport.*

1.4. Development and proposal for urban railway fare policy:

Fare policy is relatively important, since it is a basis for coordination among urban railway lines, public transport modes, ensuring the supply and improvement of urban railway quality under reasonable price level, encouraging citizens to use urban railways, creating a corridor attracting investors while participating in development of urban railway system in Hanoi City.

Fare policy is to orient decision making for setting up and changing fare structure and level. Fare policy is formed by objectives and guidelines. Goals of fare policy show the general objectives of the city which the fare structure can satisfy.

1.4.1: Fare policy applicable to Hanoi urban railway system is studied to meet the following objectives:

- To ensure a number of passengers using urban railway system: this is main priority objective of investment in urban railway lines;
- To strengthen people's awareness of urban railway transportation; to build up advance transport culture; to increase competitiveness of urban railway system with private transportation modes.
- To contribute significantly main income for operation of urban railway system; to build the basis to call for new investment in urban railway line and to engage in operation of urban railway systems.
- To contribute to narrow the income gap in the society; to create opportunities for the poor, war invalid and the disable.

1.4.2: Main contents of fare policy applicable to urban railway which are studied in other reports of TA Project are as follows:

a) Based on the goals of the fare policy report, the regulator will determine the criteria to decide strategies of fare: initial fare, fare structure, and fare types:

- Fare structure: The fare structure should be established diversification to meet passenger demand, to encourage passengers to regularly use public transport, and to support low-income people, the disabled, and policy favoured subjects.

Fare structure is categorized in the following groups: Flat fare, distance-based fare, zonal fare, time-based fare. Distance-based fare should be preferentially chosen as it maximally ensure social equality (in order for fare equality, fare should be depended on type of service. It means passengers should pay more for longer trips) and maximize fare revenue (normally fare revenue is understood to be reach maximum under this structure as passengers traveling long distances often have psychological willing to pay more)

- Type of fare should be diversified, modern, convenient and integrated many functions to attract users and promote the dynamic of the economy. Type of fare includes::

- + Single Journey Ticket
- + Stored Value Ticket 100,000, 200,000, 500,000

- + 1 Day Ticket, 3 Days Ticket, Monthly Ticket
- + Fare for public transport network (Hanoi Pass)
- + Group Ticket
- + Single Journey Concession Ticket (Child, Elder, Student, Military, Disabled, etc.)
- + Concession Pass (Child, Senior, Student, Military, Disabled, Motorist, etc.)

- Propose for initial fare: The regulator should calculate to proposals fare level based on total cost (i.e. cost and revenue structure to ensure the operation and maintenance of the Company), based on the willingness of passengers to pay (WTP), and based on ticket price comparison among other modes.

b) Transfer pricing and discount:

Study on transfer pricing and discount among urban railway lines of urban railway company, among urban railway and BRT system, between urban railway and bus (with and without IC).

c) Fare regulation:

Fare regulation is necessary to enable and support conveniently and feasibly implementation of set fare policy goals, fare structure and fare system.

Moreover, the railway operators often require subsidies (recovery ratio is about 40% in Europe and less than 20% in the US), therefore, regulation on fare is necessary because of the following reasons:

- Hanoi urban railway will gradually invested and completed, including the connection with the other transport modes while standard of living and inflation in Hanoi will be improved/changed significantly. Therefore, the incremental costs or fare review and fare adjustment should be applied.

- The policy on fare review to be accepted is a key for the operation and maintenance company for preparation of long-term plan, including human resource plan, service quality, maintenance, and reform etc., ensuring a comprehensive plan for operation and service improvements of urban railway.

- Transparency of the fare adjustment will be one of many important factors that are considered by non-state parties in investment in urban railway as well as operation of urban railway which often need to consider and participate in the long term.

Fare regulation includes one of the following methods:

- Price cap regulation: In this regulation, the regulator will apply a price limit, or a cap, and the operator have the full right to change prices at or below this ceiling. Probably, many services is applied with price cap, and also have impact of the average level of prices on the price cap.

- Rate of Return Regulation: The principle is to control prices to let the operators do as regulations that will be able to earn a rate of return based on invested fund.

- Regulations on fare adjustment: to learn appropriate practice of several Asian countries, fare adjustment formula is proposed as follows:

$$\text{(Rate of Fare Adjustment)} = \alpha (\Delta \text{CPI}) + \beta (\Delta \text{WI})$$

Where,

ΔCPI : change in Consumer Price Index over the preceding year

ΔWI : change in Wage Index defined as national (or transport sector) average monthly earnings

$\alpha + \beta = 1$ (α is share of non-personnel cost over O&M cost, β is share of personnel cost over O&M cost of the corresponding year. These figures must be figured out from the result of operational benchmarking during the period from 2016 to 2021.)

Alternatively, utility (i.e. energy) cost may be separately assessed with the following formula.

$$\text{(Rate of Fare Adjustment)} = \alpha(\Delta \text{CPI}) + \beta(\Delta \text{WI}) + \gamma(\Delta \text{EPI})$$

where,

ΔEPI : change in Energy Price Index (i.e. electricity cost) over the preceding year

$\alpha + \beta + \gamma = 1$ (α is share of non-personnel non-energy cost over O&M cost, β is share of personnel cost over O&M cost, and γ is share of energy cost of the corresponding year. These figures must be figured out from the result of operational benchmarking during the period from 2016 to 2021.)

d) Subsidy system of urban railway transport:

Fare policy applicable to Hanoi urban railway system must meet the public transport development objectives of Hanoi and match the standard of living of the majority of citizens and socio-economic conditions of the City. However, in order to implement fare policy to achieve the goal to guarantee the numbers of passengers using urban railway with the objective of ensuring financial significant revenue balance for operation of urban railway system is very difficult. The majority of city residents still have low living standards and affordability. If fare price is low, suitable with affordability of people, it is certainly not enough to offset operation cost of urban railway system. But if fare price is high, able to offset operation operating costs of the urban railway operator, the majority of people will not use the service. Thus, standing in the middle of this matter, transport subsidy of Hanoi city is necessary.

Decree No. 130/2013/ND-CP dated 10/16/2013 of the Government providing regulations on production and supply of public utility services as a legal basis for Hanoi City to regulate and develop subsidy scheme for urban railway transport services. Subsidy level for urban railway transport services is the difference between fare price prescribed by the Government and reasonable cost of urban railway operation company for supplying public services. The importance is HPC with advices of the relevant authorities to identify the subsidy system corresponding to each supplying mode of urban railway services in

accordance with each development stage of the urban railway company. In the first stage of operation of the urban railway company, it is not yet not identified the economic-technical benchmarking, urban railway transportation cost benchmark subsidized in the form of reimbursement; the coming periods, plan assignment or order is applied when economic-technical benchmarking and cost benchmark and number of urban railway passengers are relatively clear and accurate.

1.4.3. Responsibilities of regulator – Dot in development and proposal for fare policy for urban railway in Hanoi:

- To advise, propose and coordinate with the concerned departments to draft regulations on fare policy (fare structures, fare types, fare level, fare adjustment, and subsidy system) applicable to Hanoi urban railway network.
- To advise in development of mechanisms and policies, technical-economic indicators, unit prices of urban railway transport sector.
- DOT coordinates with departments of HPC to determine subsidy amount and to support for additional, renewed assets in accordance with requests in later stages because the value this is too big and is a burden for urban railway company.

1.5 Advice on regulations on maintenance of urban railway infrastructure and equipment:

Proposal for responsibilities of DOT in advising regulations on management of urban railway infrastructure and equipment:

- To participate in formulation of regulations on management of maintenance and upgrading of urban railway infrastructure systems and equipment.
- To perform management functions of monitoring technique and quality of urban railway works.
- To evaluate maintenance programs and plans proposed by urban railway company.
- To inspect, evaluate and report implementation process of maintenance programs and plans of urban railway company; to request requirement or suspension of operation of urban railway company.
- To regularly or irregularly hold or request the operator to perform verification and revaluation of longevity and quality of infrastructure and equipment.
- To comment on programs, plans to improve the quality of maintenance proposed by operators.
- To propose programs and policies to encourage improvement of quality and effectiveness of maintenance of urban railway infrastructure and equipment.
- To perform periodical report on performance results of maintenance plans of urban railway infrastructure and equipment to HPC.

1.6. To provide advices and proposal to submit HPC for issuance of documents on allocation, decentralization of governmental management of urban railway sector.

1.7. To advise, submit HPC regarding development plan, long term plan, 5 year plan, annual plan and development program of urban railway consistent with socio-economic development master plan of the city, region plan and industrial plan.

1.8. To inspect, check and handle violation of laws on transport, transport safety in the city area as prescribed;

1.9. To propagandize and educate laws related to urban railways.

1.10. To perform international cooperation in urban railway in accordance with provisions of law and allocation or authorization of HPC

2. Proposal for organizational structure of urban railway regulator – DOT

2.1 Existing organizational structure of DOT

In accordance with Decision No. 17/2008/QĐ-UBND of HPC, organizational structure of DOT includes Director, Vice Director, officials, staff and employees working in specialized or equivalent department:

- The Director of the Department is the head of the department, taking responsibilities before the Chairman of HPC and before law for all activities of the Department.

- Vice Director of the Department is a person who assists the Director of the Department, taking responsibilities before the Director and before law for his/her assigned tasks; When the Director is absent, a Vice Director of the Department is mandated to execute operations of the Department.

Appointment of the Director and Vice Directors of DOT is decided by the Chairman of HPC based on profession and qualification standards issued by the Ministry of Transport in accordance with governmental regulations on staff management.

- Specialized departments and equivalents:

- + Office;

- + Inspection of Department;

- + Human Resource Department;

- + Appraisal Department;

- + Planning and Investment Department;

- + Urban Traffic Management Department;

- + Suburban Traffic Management Department;

- + Transportation Management Department;

- + Traffic Vehicle Management;
- + Quality Verification and Technical Management Department;
- + Economic Management Department;
- + Office of Traffic Safety Board;

The functions, responsibilities and rights of the Office and of departments of the department and responsibilities of the leading person shall be decided by the Director of DOT in accordance with law:

- Administrative organizations:
 - + Scientific Research and Training Centre;
 - + Training Centre of transport profession;
 - + Urban transport management and operation Centre;
 - + Hanoi Center for Examination for issuance of driving licenses;
 - + Urban Transport Project Management Board;
 - + Hanoi Urban Transport Development Investment Project Management Unit;
 - + Transport Project Management Unit 1;
 - + Transport Project Management Unit 2;
 - + Hanoi Road Motor Vehicles Registry Centre;
 - + Hanoi Bus Station Management Centre.

Administrative organizations directly under DOT that were established by HPC have legal status, seal and separate accounts for transactions and activities in accordance with law.

- Staffing

Staffing of DOT is assigned by HPC annually. The Director of DOT shall base on the assigned staffing number to arrange cadres, public officials and civil servants and contract employees of the Department in accordance with current regulations of the Government and City.

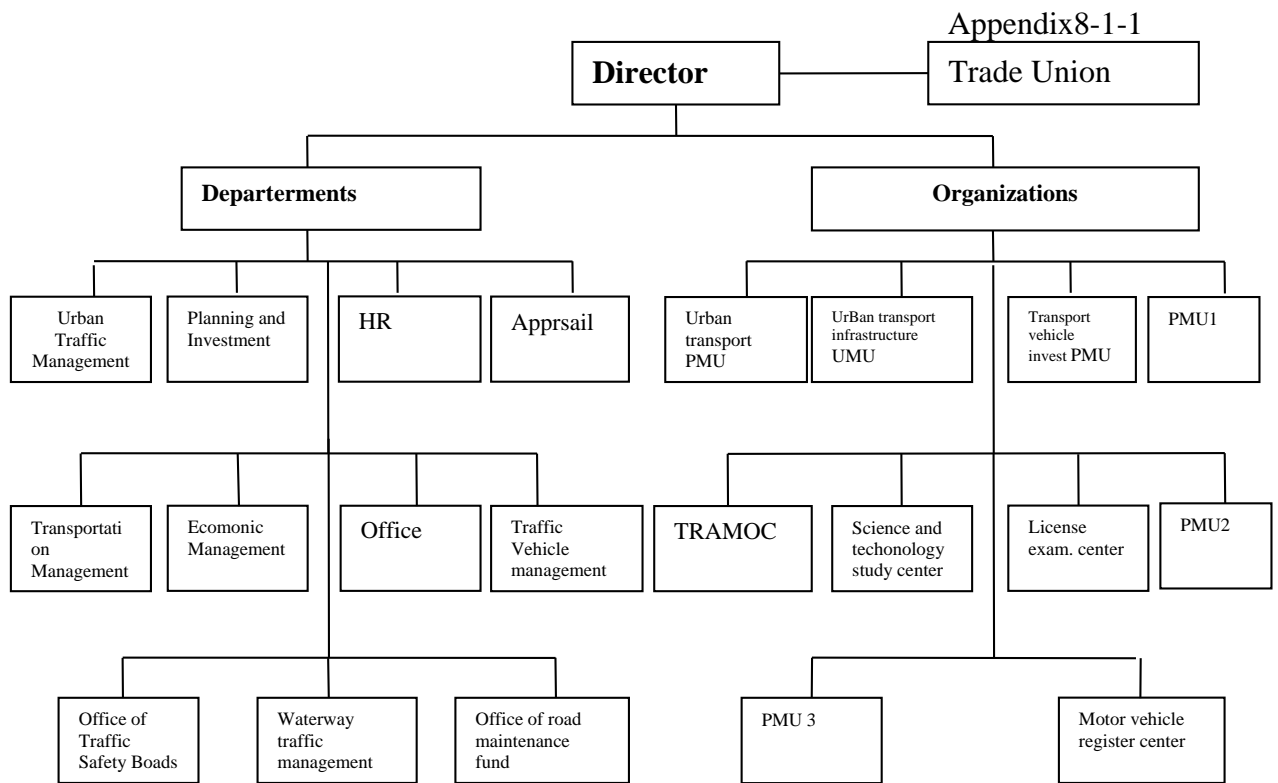
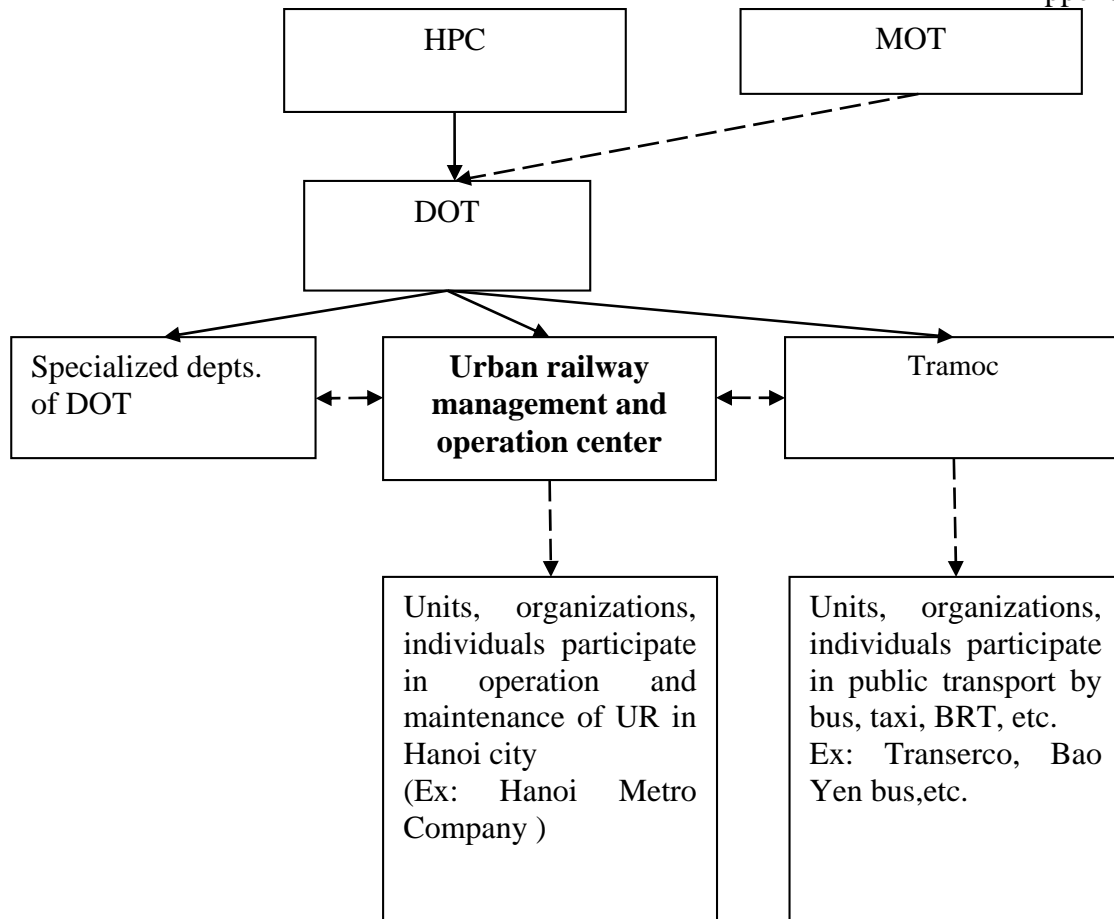


Figure: Existing organizational structure of DOT

2.2 Proposal for organizational structure of urban railway regulator – DOT

2.2.1.Stage 1: (Current stage)

2.2.1.1. Establishment of UR Regulator under DOT (Option 1):



With this option, it is proposed to establish an UR Regulator under DOT. The investment construction, management and operation of the UR system is very complicated and without antecedent with Hanoi. Currently, in addition, TRAMOC is performs management for public transport network primarily by bus, it is necessary to establish a management agency for UR.

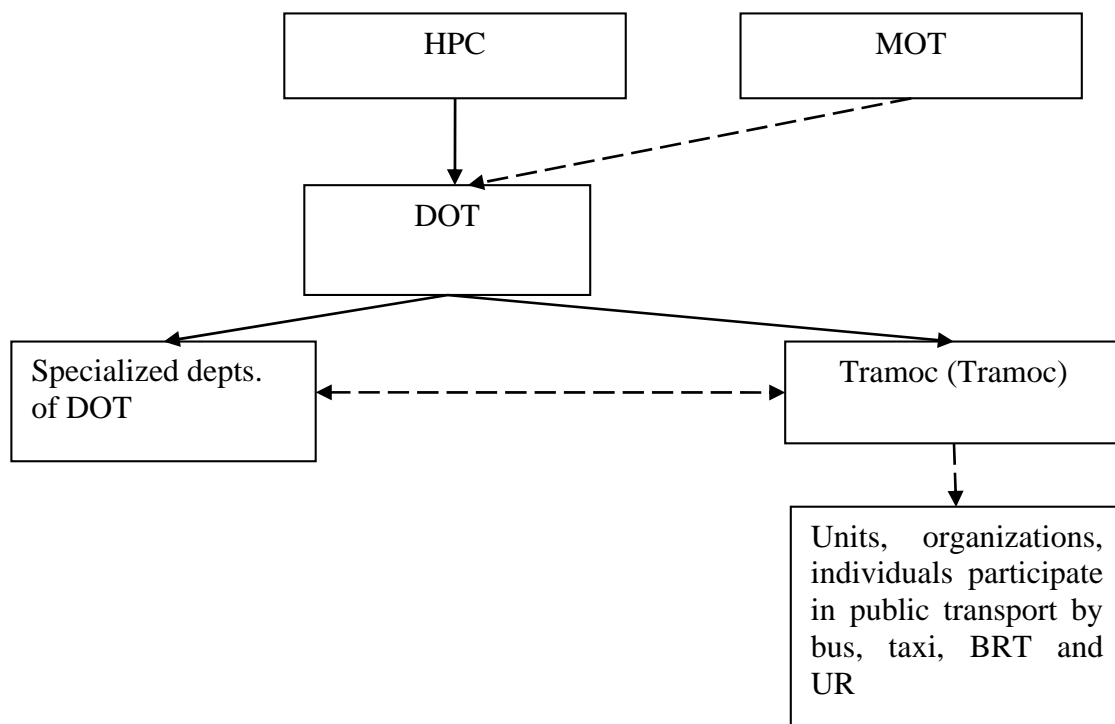
- Position: the agency under DOT, equal level to departments of the Department
- Function: Governmental management of UR
- Relationship among agencies:
 - + To assist DOT's Director to advised HPC policoes, programs, regulation reargding UR governmetal management
 - + For HMC: To guide, disseminate, and check implementation of legal regulation on urban railway; To check and supervise activities related to UR operation and maintenance, etc of HMC
- Financial activity: State budget
- Advantages of the plan: forming an independent UR regulator in this period is significant, meeting the management scale of the special sector of mass and complicate transport as UR. This option is to help decisions and advisory role of UR regulator be quick, timely, simplifying the coordinating relations between the regulator with relevant agencies and UR companies.

As functions and responsibilities are clearly, specifically defined, it is a hub agency of UR system in the City. Specialized DOT's departments will assist and guide the UR regulator regarding governmental management.

- Disadvantage of this option is to build a completely new organization with the organizational structure and appointment of officials, employees, personnel, budget, policies and mechanisms, and other resources etc. of the Government, with roadmap and requirement of relevant agencies's decisions, etc. for implementation.

In order to coordinate activities between UR Regulator and Tramoc, this stage requires strong instruction policies of HPC (among related departments) to handle issues when connecting and interoperating among bus transport, UR, and BRT, etc. such as fare policy for public transport system, common fare system, integration of inter-modal service, incentive policy for use of public transport etc.

2.3.1.2. Model 2: Tramoc under DOT is UR Regulator in Hanoi City: (Option 2):



Assessment of option application:

- This option, Tramoc, the unit under DOT having obvious functions and responsibilities, is the hub in governmental management of public transport in the city (Bus, BRT, UR), the specialized departments of DOT play role to assist Tramoc in performing governmental management of UR.
- Advantage: taking advantage of the existing resources and facilities of Tramoc. Ngoài ra, TRAMOC đã trải qua một quá trình phát triển, hoàn thiện thể chế, nâng cao, tăng cường năng lực quản lý vận tải hành khách công cộng tại Hà Nội.
- Disadvantages: Tramoc has been mainly playing the role of managing public transport by bus, therefore, experience in management and knowledge of UR is very limited. That UR governmental management is added to Tramoc is beyond its capacity to meet

the requirements of the assignment, which may cause difficulty for connection and coordination among transport modes

2.3.1.3. Model 3: MRB participates in UR management in Hanoi city - Option 3

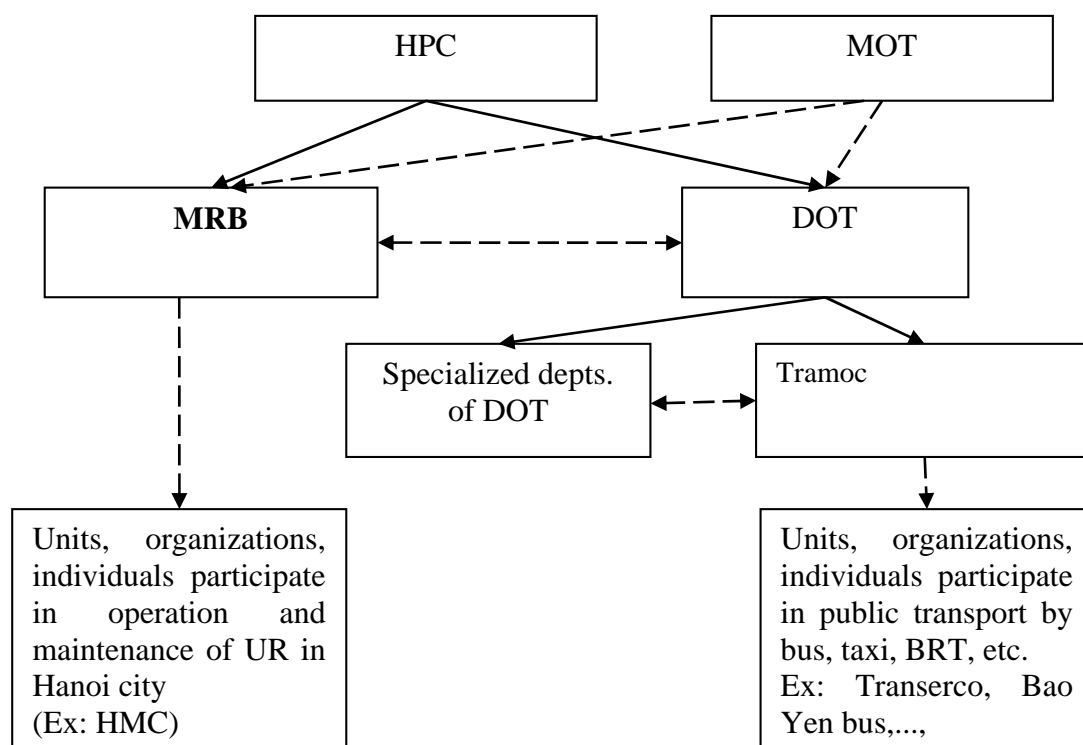


Figure: MRB participates in UR management in Hanoi city

Assessment of option:

MRB was established in accordance with Decision 925/QĐ-UBND dated 22 Feb. 2012 of HPC, as a public service unit under the HPC, whose function is to advise the HPC, is the project owner of UR construction projects and orients management of operation and maintenance of UR in Hanoi City.

- **Advantages** of this option is MRB is the agency that manages UR in Hanoi City:
 - + MRB is initially the agency having a lot of experience in early accessing to scientific and technological knowledge and profession about UR.
 - + MRB is under HPC, therefore, decision, advice and report to the higher level are made promptly and timely.
- **Disadvantages** of this option:
 - + In the process of performing the function of Hanoi UR project owners, typically, the pilot UR project, Line 3: Nhon - Hanoi Station, Line No. 2 South Thang Long - Tran Hung Dao, MRB faces many difficulties in project management, difficulties in land acquisition, etc. with huge workload, therefore, it has not meet the schedule of completion of construction projects yet. As a result, that function of governmental management for UR in Hanoi is assigned to MRB is considered relatively heavy and difficult to meet the general requirements of UR governmental management, quality and safety as well as other targets of HPC.

+ Moreover, Decree No. 24/2014/ND-CP of the Prime Minister; Joint Circular No. 42/2015/TTLT-BGTVT-BNV of MOT and MOHA guiding functions, responsibilities, powers and organizational structures of specialized agencies transport of the people committees of provinces, cities directly under the central government, the DSDT responsibility of provincial Department of Transportation, central cities already specified clearly that the functions of governmental management is under responsibility of department of transport of province and city directly under the central government.

Therefore, within the study area of this Report, it is recommended that MRB should not undertake responsibilities of UR governmental management.

Conclusion: Among 3 options mentioned and analyzed above, the Report recommends to select the option 1, with establishment of a new center (department): Urban railway management and operation center under DOT.

2.3.2. Stage 2: (from 2022 onwards): a common public transport management model – Public Transport Authority (PTA):

2.3.2.1. Proposal for public transport regulator model -PTA:

Tramoc (under DOT) and UR Regulator under DOT are suitable, effective model, have a positive effect in the governmental management, planning, and regulating public transport sector, especially with buses and UR. However, the public transport system that is gradually improved with operation of many UR Lines, BRT with mass volume and modern, sophisticated technologies of operation, etc. models of Tramoc and UR Regulator separately will be no long suitable, capable to perform governmental management functions of public transport in Hanoi, the capital region period 2020, the development orientation towards 2030

In addition, the program “strengthen the institutional capacity for Tramoc and create PTA” is within the framework of Hanoi Urban Transport Development Project – HUTDP funded by World Bank to assist HPC, which is under implementation, with direct connection to the future transport of Hanoi City. This program has been conducted since July 2012, with following overall targets:

- To assist Tramoc to establish and operate BRT in the first year;
- To create an independent agency under HPC, which will be financial safety and strong human resource with sufficient skills on control and management of all works including preparation of plan and operation of public transport in Hanoi city.

Accordingly, the study proposes model of PTA in the period of 2022 and afterward as follow:

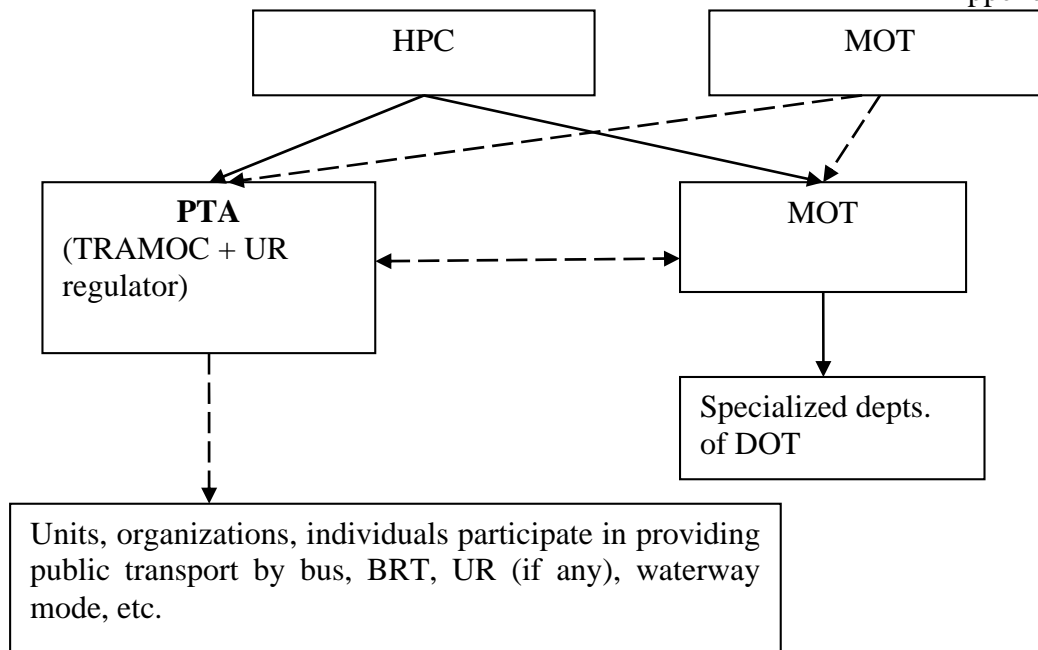


Figure: Proposal for PTA model

2.3.2.2. Advantages of a common public transport management model (PTA) under HPC:

- The model satisfies principle of one Leader: Process of public transport management is performed by a agency specialized in public transport.
- There are no overlaps regarding functions and responsibilities.
- Organization and management model is consistent with the real condition: with the participation of several modes of public transport with much complexity and high frequency; Management of public transport are made by an agency of departmental level with function of coordination between public transport modes.
- Decision-making process is simple and quick.
- Management power is smooth from top to bottom because public transport management agency does not have to share much its management power with other departments within DOT.
- Gathering and processing of information and feedback information is simplified, more reasonable because information goes directly to HPC. Hence, the decision is made quickly and integrally.

2.3.2.3. Functions, responsibilities and position of Hanoi PTA:

Hanoi PTA shall be responsible for governmental management of all modes of public transport in the city:

- To submit the HPC planning, common strategy for public transport (UR, buses, BRT, taxi, inland waterway transport, etc.)

- To perform planning of public transport infrastructure
- To investing in infrastructure for public transport
- To advise on regulations on public transport in the scope and authority of the City
- To provide public transport services in the city through order contract, bidding
- To supervise the quality of service and safety in public transport
- To propose fare price of public transport
- To manage fare collection systems for public transport
- To propose policies and scheme to encourage usage of public transport
- To perform international cooperation on public transport

2.3.2.4. Organizational structure of Hanoi PTA:

Based on above-proposed functions and responsibilities, the Report proposes the organization structure of Hanoi PTA as follow.

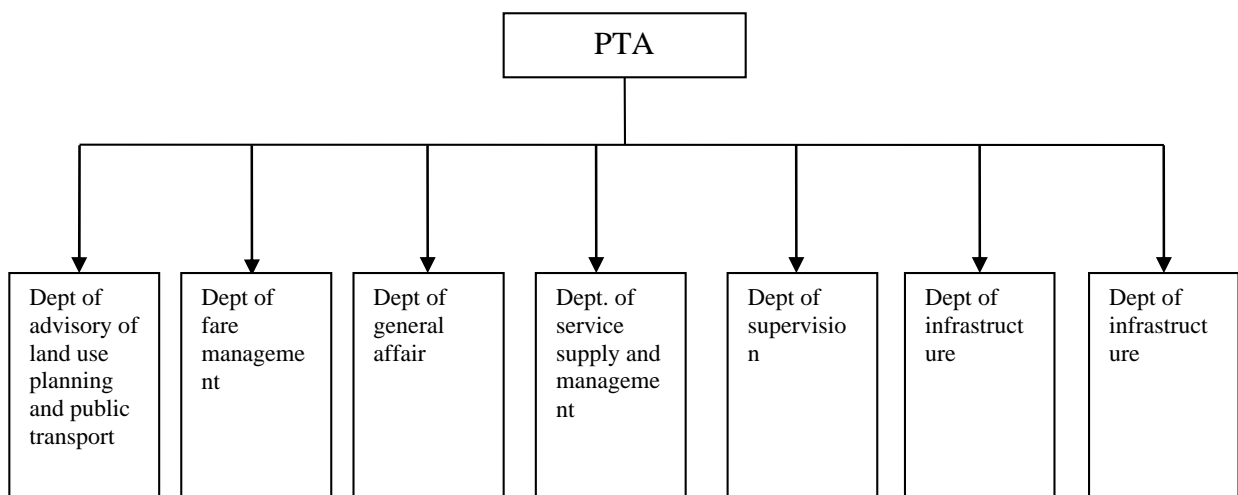


Figure: Proposal for PTA for later stage

CHAPTER 4. CONCLUSIONS, RECOMMENDATIONS

1. Conclusions

Since 10, 2010 till now, there have been discussions, studies by foreign consultants (especially studies by JICA SAPI Team) under the instructions of HPC, departments of Hanoi City and related departments of MOT, the establishment of O&M Company and UR regulator for Hanoi City is defined as necessary and urgent tasks when Hanoi City prepares to put UR lines into operation in the near future.

Along this spirit, JICA has supported HPC to implement TA project to “strengthen the capacity of regulator and to establish operation and maintenance company for metropolitan railway lines in Hanoi City”. Within the frame of the TA project, studies regarding the strengthening of UR regulator have been conducted, and in short term, it is necessary to define Functions, responsibilities and suitable organization model for UR regulator in Hanoi City.

Based on the mentioned above target, this activity of the Project, with analysis, evaluation and proposal in the report, important points are summarized as follows:

- a) Proposal for governmental management responsibilities for UR in Hanoi:
 - To advise on regulations and management of UR service quality
 - To advise on regulations and management of UR safety
 - To advise on incentive policy for UR use
 - To develop and propose Fare Policy Report and asking for approval by HPC
 - To advise Tham mưu quy định và quản lý kết cấu hạ tầng và thiết bị ĐSĐT
 - To advise and manage infrastructure and urban railway facilities
 - To advise, submit HPC documents related to assignment and arrangement of urban railway governmental management.
 - To advise, submit HPC development plans, long term and 5-year plans, urban railway development programs that suit master plan on socio-economic development of the city, regional and sectorial planning.
 - To check, inspect, and deal with law-violating activities under current laws in term of transportation management, transportation safety in the city area.
 - To propagandize and propagate knowledge related to urban railway laws.
 - To promote international cooperation in urban railway field in accordance with current laws and assignment/authorization of HPC.

b) Governmental agencies currently in charge of urban railway management in Hanoi: Hanoi DOT, which proposes to establish one organization directly under DOT in charge of urban railway governmental management.

2. Proposals and recommendations

On the basis of study results, evaluation and analysis, in order to ensure the effectiveness of proposals and goals, within this document of “strengthening the capacity for Hanoi UR regulator”, it is recommended to HPC and JCC the following:

- Direct and review this Proposal, obtain more comments from functional organizations to complete this before approval of HPC.

- DOT, under the support of JICA TA Team, shall continue to study and develop regulations of Hanoi UR regulator for UR system in Hanoi City, and to develop the personnel for operation and maintenance of UR.

- The approval of HPC for DOT's functions, responsibilities as operating and maintaining UR system in Hanoi City is a basis for DOT and concerned departments to study and advise HPC to develop and promulgate regulations about UR's governmental management in the city.

**URBAN RAILWAY USE INCENTIVE POLICY
STUDY REPORT**

Table of Contents

CHAPTER 1: INTERNATIONAL EXPERIENCE IN PROMOTING, ENCOURAGING THE USE OF PUBLIC TRANSPORT (INCLUDING URBAN RAILWAYS).....	4
I. Necessity of the study, objectives, scope and objects of study:.....	4
1. Necessity of the study:	4
2. Objectives of the study:.....	4
3. Scope of the study:	4
4. Objects of the study:.....	4
II. Background and necessity of promoting public transport (urban railways) in Hanoi City:	4
III. International experiences in promoting and encouraging public transport (including urban railways): ..	5
1. Strengthening institutional capability in transport management (passenger public transport)	6
2. Promoting Public transport (Urban railway) via connection and planning of urban land use with public transport:	6
3. Travel Demand Management	8
CHAPTER 2: STUDIES RELATING TO THE USAGE OF PUBLIC TRANSPORT AND URBAN RAILWAYS IN HANOI.....	26
I. Final report of Feasibility study “Survey consulting service to prepare FS report about transferring stations in pilot UR project (Nhon – Hanoi station)” under the Project of urban and environmental integration for pilot UR line (Nhon – Hanoi station):.....	26
1. SOLUTION GROUP OF ENHANCING ACCESSIBILITY TO STATION:	27
2. INTEGRATION AND IMPROVEMENT OF PUBLIC TRANSPORT SERVICE:	30
3. ASSISTANCE FOR CHANGING POLICY AND MANAGEMENT MENTHOD	32
II. URMT development project linked with urban development in Hanoi – The Socialist Republic of Vietnam (Line 1 + Line 2)	32
Contents of URMT development project linked with urban development in Hanoi:	32
Current situation and evaluation	33
III. THE STUDY ON “OWNERSHIP AND USE OF MOTORCYCLE IN HANOI CITY” – 2014 TILL NOW:.....	34
VI. Mechanism and policy of Hanoi City in encouraging the usage of puplic transport system by bus:	38
CONCLUSION OF CHAPTER 2	43
CHAPTER 3 : EVALUATION AND PROPOSAL OF RESPONSIBILITIES OF REGULATORS IN ENCOURAGING THE USE OF URBAN RAILWAY IN HANOI CITY	49
A. Background:.....	49
I./ Solutions to strengthen institutional capacity in public transport (Establishment of PTA).....	49
II./ Solution group of developing the urban area with public transport orientation (TOD)	50
1. Development of the area in the future.....	50
2. Station accessing services with “On-street vehicles”:.....	50
3. Station accessing service for pedestrians:	51
4. Transport organizing method: establish prioritized transport systems such as prioritized signal lights, signs, laning for public transport modes to access:.....	51

5. <i>Multi-modal transit:</i>	51
III./ Solution group of Traveling demand – PUSH:	51
1. <i>Controlling the increase of private vehicles (automobiles, motorbikes):</i>	51
2. <i>Regulation on vehicle parking in the city:</i>	53
3. <i>Control and mitigate the number of cars by separating odd/even number plates:</i>	54
IV./ Solution group of Traveling demand management – PULL:	55
1. <i>Improving public transport services (bus, BRT, UR)</i>	55
2. <i>Integration of public transport system and fare: Need suitable policy to integrate the ticket system for public transport vehicles, creating a convenient fare payment by using smart card</i>	55
3. <i>Passenger information integration and improvement of public transportation marketing system:</i>	56
4. <i>Service improvement for bicyclers:</i>	56
5. <i>Policies to encourage and support passengers in using public transport (Urban railway).</i>	57
CHAPTER 4: CONCLUSION, PROPOSAL AND RECOMMENDATION	66
I. Conclusion:	66
II. Proposal, recommendation:	66

CHAPTER 1: INTERNATIONAL EXPERIENCE IN PROMOTING, ENCOURAGING THE USE OF PUBLIC TRANSPORT (INCLUDING URBAN RAILWAYS)

I. Necessity of the study, objectives, scope and objects of study:

1. Necessity of the study:

At present, Hanoi City is implementing many investment projects to promote the development of public transport such as investing and improving bus lines, BRT lines, constructing urban railways, etc. Accordingly, related TA projects funded by foreign and domestic donors have helped HPC to approach technology of management, development of policies and institutions, then, giving out necessary instructions for public transport development projects to achieve optimal results, such as projects of integrating urban development with public transport (for UR Line 1 and 2) funded by JICA, project of enhancing the accessibility to UR stations (Line 3), other projects of PTA, WB, etc.

However, at present, there have not projects or programs of technical assistance studying comprehensively about public transport, especially for urban railway network, in order to bring about an overall picture of policies encouraging the use of urban railway. TA project “to strengthen the capacity of regulator and to establish O&M Company for metropolitan railway lines in Hanoi City” funded by JICA, with item of “Study on Incentive policies for UR”, shall work out proposals, necessary recommendations to encourage the use of public transport, integrating public transport vehicles (including bus, BRT and urban railways, etc.) to bring about the efficiency of operation, convenience and the most safety for people.

2. Objectives of the study:

Objectives of the study are to work out evaluations and proposals of projects and programs encouraging the use of public transport, responsibilities of concerned organizations, action plans, and implementation plan, in order to ensure the feasibility of incentive policies’ implementation for public transport system and urban railway network in Hanoi City.

3. Scope of the study:

Hanoi City, projects which are in accordance with Resolutions, policies of the National Assembly and the Government.

4. Objects of the study:

UR system (public transport) of Hanoi, institutional system of Hanoi, which relate to the encouragement of UR use.

II. Background and necessity of promoting public transport (urban railways) in Hanoi City:

While the growth rate of population in Hanoi city is high, especially core center area (4.1% per year), transport infrastructure system is insufficient, often causing traffic congestions, slow traveling speed, and high noise and air pollution.

Citizens in Hanoi City are mainly using private vehicles, which accounts for 90% of their traveling demand. And, public transport could only serve 10% of the demand (*Trancocen, 2012*), equivalent to about 1.296 million passengers. Main public transport

vehicle is bus, which transport about 1.06 million passengers. Other than that, there are taxi, motorbike taxi, etc.

Ground public transport has many problems due to restricted space for roads: this ratio in Hanoi is 7%, while it is 25% in Paris.

At present, to improve public transport system, selected feasible solution is development of urban railway system, playing the role of backbone in public transport system in Hanoi City.

To develop public transport system in general, and urban railway system in particular, the Government must disburse large amount of money from the budget for this investment. The investment and completion of urban railway system for two cities of Hanoi and HCMC will account for more than 40% of GDP, thus, if people are not encouraged to transfer from private vehicles to public transport (urban railways), there will be large waste for the society, and probably becoming public debt disaster for the city's authorities. Thus, Hanoi City must develop policies to encourage the usage of urban railways, attracting certain number of passengers, creating the habit of using public transport (including urban railway), in order to mitigate traffic congestion and environmental pollution.

Within the fringe of this report, TA Project shall study and refer to management experiences, measures to promote and attract the usage of public transport system in general and urban railway in particular in big cities in the world. Accordingly, lessons will be learnt and suitable recommendations and policies for Hanoi City to develop sustainable UR system will be worked out.

III. International experiences in promoting and encouraging public transport (including urban railways):

Reasons of implementing measures and policies to encourage usage of public transport, especially urban railways by organizations, cities in the world?

Passenger transport using public vehicles is normally faster and cheaper than riding a car – especially in crowded areas where there is limited space for car parking.

More frequent usage of public transport modes mean benefits for the community and environment: mitigating environment pollution and traffic congestions, accidents, traffic collisions, and making social environment more active and connected.

In addition, the usage of public transport system will bring about big benefits for users: significantly reducing daily transport expense in the urban area comparing to the cost of using private transport vehicles, and parking fee in urban areas. Frequent usage of public transport system will help to improve conditions, people's health environment, and indirectly increasing productivity of the community.

A study in Perth (Australia) showed that by using public transport, passengers have walked significant distance. Passengers on public transport modes will averagely spend 13 minutes walking for each trip, and about 26 minutes per day. This satisfies 30minutes/day-recommendation on necessary physical activities that body needs in order to ensure good health.

1. Strengthening institutional capability in transport management (passenger public transport)

Government organization is one of main parties providing capital for urban transport and passenger public transport. In general, the Government invests into infrastructures and usually support the operation of that system, or directly joins in the operation via enterprises in the localities even though this is not compulsory regulation. Governmental organizations of each country shall have extremely different methods of operation, due to history of administration organization in that city or country.

Governmental organization at each level from central to local ones shall have certain authorities in urban transport sector, from developing to promulgating legal regulations, planning and funding. These administrative levels often operate in a common certain locality, being coordinated or not. In fact, there is possible situation in which funding sources, development and encouragement policies may focus more on some certain transport modes, resulting in lack of coordination among concerned organizations, not synchronous connecting between urban transport modes, causing less attractiveness to people.

The integration in one urban transport agency will help to create unification and coordinate operation of all stakeholders and transport modes. When many stakeholders join in activities, or network consists of different transport modes, transport agency shall coordinate the operation of such transport modes, being responsible for stabilizing the organization, planning and monitoring urban transport system (passenger public transport – urban railways).

For examples, in developed countries, UR is part of the public transport. After a long development period with many adjustments, the public transport system is organized into Transport organizing agency/State management agencies equivalent to functional Departments in the provinces/Cities or region.

The model of public transport management in big cities in developed countries has high centralization and self-control, in which, transport organizing agency has important role in working out the strategy, planning, balancing and maintaining the budget for public transport development. Cities which are successful in centralizedly managing the transport by one common transport authority such as Ile – de – France region (France) with STIF, London (UK) with TfL, New York (MTA), Singapore (LTA), Japan (Railway Bureau, MLIT), etc.

2. Promoting Public transport (Urban railway) via connection and planning of urban land use with public transport:

Encouraging the usage of public transport via planning of land use including planning new land area and managing existing land will:

- Improve requirements to effectively operate the public transport system (urban railways)
- Improve the access to affected urban area (by public transport) and enhance the traveling of people by different public transport modes
- Increase the demand for public transport, especially encouraging transferring from private transport modes.

This is normal method by organizing/planning positions, coordinating with planning on urban land use, in accordance with development of public transport. Intersections in public transport system, including urban railway stations, are considered catalytic substance, transport nodal for access to land use, urban areas. Households and citizens living in adjacent areas, where public transport nodal concentrates on, tend to travel by private car lesser than those living in other urban areas. Similarly, labors/citizens in planned land area integrated with public transport will be able to travel and commute by different suitable transport modes. They can travel on foot or by bike during lunch time.

In recent years, the development model (urban) supporting Transit-Oriented Development (TOD), focusing on urban areas and communities, is being paid attention to.

TOD Transit - Oriented Development takes transport development orientation as foundation for urban development, planning, taking transport nodal to people attracting area, accordingly forming decentralized transport system. In other words, urban development following TOD is based on developing orientation of public transport system. TOD is an approaching method, to deal with issues relating to traffic congestion and environment protection.

TOD oriented Urban development is area which functions mixing between residential and financial, office purposes. This area is designed to ultimately utilize public transport modes, promoting the development of a city, at the same time, balancing community's benefits. Center of these areas will often include railway stations, bus stops, so on. And commercial, industrial, office service system, etc will be established surrounding which is called TOD points. This is advanced and complete infrastructure system, satisfying living demand. This kind of area is often from 0.4-0.8km radius suiting walkers.

To harmoniously develop and improve living standard for citizens, objective of TOD is to reduce the number of private vehicles (cars, motorbikes) by increasing walking, bike, bus trips, etc. Objective of TOD is to achieve convenience for passengers, commuters, tourists, etc. By this idea, to arrive in a railway station, a person can walk, ride a bike or motorbike or use bus. When getting off the train, they can walk, ride on a bike, etc.

Case study:

Connection integrating with transport and planning of land use is specific character in urban planning in Tokyo, Singapore and Hong Kong. In Hong Kong, city's authorities have planned to make sure a high ratio of about 75% of office buildings and around 42% of resident areas are 500-m surrounding metro stations. This will encourage people to walk to metro stations and get on trains to work or for traveling demand daily, hence, gradually reducing the dependence in road transport.

Similarly, in National and Urban Planning of Singapore in 1971, the connection between planning of land use and transport for city's development was firstly introduced. Main transport modes such as MRT and expressway/urban roads are integrated and connected in the planning of land use in the city. In addition, the connection among integrated transport hubs - ITHs will improve passengers' traveling by creating effective transferring among public transport modes. ITH in Singapore has been equipped with air-conditioning at intersections between bus and urban railways, or with retails, shopping and

commercial developing areas. Then, passengers will feel comfortable for transferring at connecting areas among public transport modes with commercial, office areas in the city, creating a community with better living standard and friendly to walkers.

In Tokyo, urban area surrounding metro stations are planned mixed with retailing area, office and space for walkers. Transit-Oriented Development – TOD in Tokyo is characterized by private transport operators, big buildings crowded along urban railway lines; and in Tokyo, passengers/citizens shall move from each station to their working places/schools and use services on foot.

Stockholm, Copenhagen, Tokyo and Singapore are public transport supported development cities. Urban railway system plays the role of orienting the urban area to ensure objectives of creating open space and social houses for citizens within the service radius of railway system. Suburban land areas shall have mixed functions, and new cities are all gathering surrounding stations.

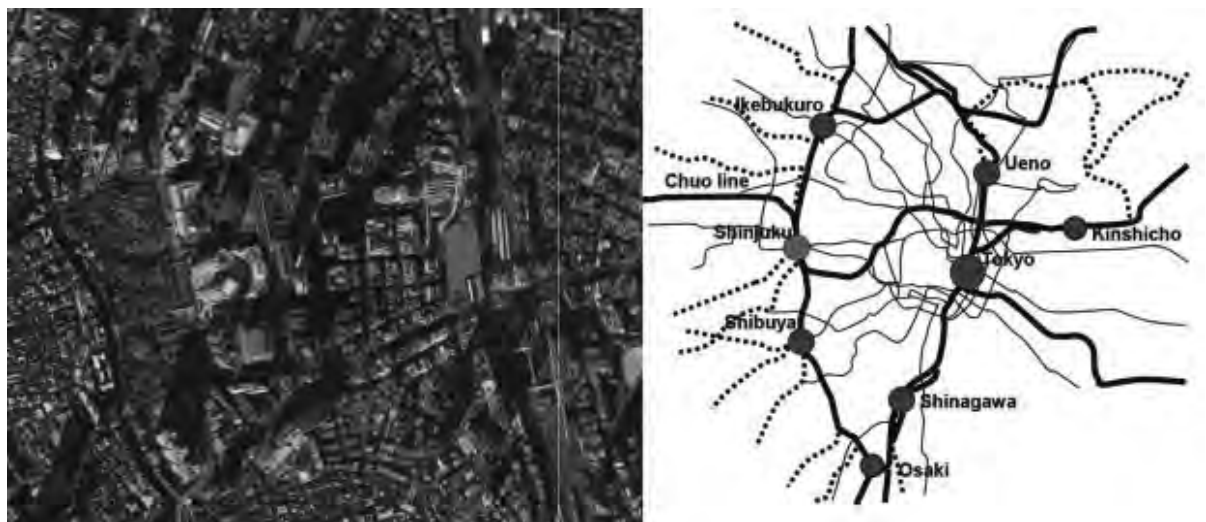


Figure: Tokyo City – All center areas locate surrounding the stations such as Sinjuku, Shibuya, and Tokyo... The red in the figure is Sinjuku Station and office building and western commercial area

3. Travel Demand Management

Transportation Demand Management – TDM) or Travel Demand Management aims at optimizing effectiveness of the urban traffic system by encouraging people to reduce usage of private mode and increase usage of environment-friendly modes, which are more effective and better for health, generally are public transportation ones (priority given to mass, rapid and convenient modes such as urban railway) and rudimentary modes.

Within the scope of encouraging usage of public passenger transport, especially urban system, it is necessary to implement measures that restrict people to use personal vehicles (cars, motorcycles) (PUSH) and promote and enhance the attractiveness of public passenger transport mode to move people to use it (PULL)

A livable city is the one that not only have economic growth, but also ensure sustainable development, clean environment, safety and economic benefits for the society and community.

Goal	Reduction of transportation speed	Change of travel time	Travel with shorter distance	Change of travel mode	Reduction of travel by vehicles	Reduction of use private cars
Reduction of congestion		x	x	x	x	x
Saving road cost			x	x	x	x
Saving parking fee				x	x	x
Saving for the users			x	x	x	x
Increase of travel options			x	x	x	x
Road safety	x		x	x	x	x
Preservation of energy source			x	x	x	x
Reduction of polluted waste substance				x	x	x
Effective use of land			x	x	x	x
Health of the community	x		x	x	x	x

3.1 Restriction of the use of private modes:

3.1.1 Motives leading to travel demand by private modes::

To evaluate measures to restrict private modes, it is necessary to consider many factors impacting on demand of using these modes:

The factors include:

- Level of wealth and vehicle ownership of the households.
- Quality and capital sources for construction of parking work and road.
- Price (fuel, road use, parking, public transport fares).
- Average speed, convenience and comfort when traveling by private cars and when using public transport.
- Conditions for walking and cycling.
- Model of land use (distribution of destinations).
- Desire and habits of people in traffic.

As families become more affluent, they are more likely to own and use vehicles including motorcycles and cars. Therefore, if there is no special efforts to maintain the options of travel and manage travel demand, the traffic problems will increase and eventually they will make everyone feel the situation worse.

3.1.2: Control of car ownership increase:

Although the cost of cars is expensive, the car ownership is growing rapidly in many developing countries. Thus, in order to control the increase in car ownership, the government and the transportation management agency proposed economic instruments like car sale tax, import tax, registration fees and taxes that may affect number and type of vehicles bought.

3.1.2.1 Car sale tax/import tax

Many countries impose customs duties or import tax on vehicles imported to give priorities to policies on usage of domestic goods. Car sale tax is applied widely to all types of vehicles. In some cases, lower level tax is imposed on vehicles which consume fuel efficiently to encourage rotating means or replacing car using pollution fuel to meet the goal of ensuring environmental quality.

In the developed countries, imposing tax is applied popularly.

Type	Tax or fees	Ratio
Buying vehicles	Customs duty	
	Indirect tax	3-5%
	VAT	17%
	Ownership tax	10%
Ownership of vehicles	Fee for inspection of new vehicle	
	Fees for license plate registration of new vehicles	8,7 \$ - 46,8\$
	Vehicle use	
Vehicle use	Insurance fee	16-46,8\$
	Maintenance fee	
	Consumption fee	3-20% (depend on size of the engine)

Table: Vehicle taxes thru several periods in China

3.1.2.2 Registration fee/annual road fee

In developing countries, the owner of the car must be charged annually or semiannually to contribute to the revenue for maintenance of roads and bridges. The level of this fee may be based on engine size, to encourage types of vehicles which use fuel efficiently.

In the US, registration fees range from \$30 to \$ 150 per year, and with a piece of adhesive stickers on license plates. In addition to "toll" calculated for people, many European countries also require their people to buy time-based stickers as yearly, monthly, weekly or daily when people go back and forth in other countries.

Road tolls in Singapore are classified according to engine size, fuel type, and vehicles (cars, motorcycles, etc) to encourage people to use the means with less emissions. Under this system, the owners of a small car with 1000cc engine may pay \$600 annually, whereas , the owners of 4000cc engine car pay more than \$6,000. Payment for Diesel vehicles is 6 times higher than that of similar vehicles using gasoline.

3.1.3: Restriction and reduction of car use

A series of economic measures could affect driving habits and reduce trips that only one person is in the car. The economic measures that minimize the use of cars provided signs of prices based on marginal cost of using car, i.e. the more cars are used, the more money the drivers have to pay.

3.1.3.1 Fuel tax

Almost all countries impose taxes on fuels. These taxes can be regarded as a general tax or fee dedicated to road users. Revenues from fuel tax are used for transportation purposes, and in some cases limited to the road network. Fuel taxes can be collected by the central government, state or locality. For example, in the US, the state-level fuel taxes on gasoline and diesel are \$0.048 and \$0.064 per liter, respectively for all road vehicles, from motorcycles to public transport modes as bicycles, trains. Additional tax (state-level fuel taxes average is \$ 0.07 per liter) is limited with a purpose for roads in 36 states. However, such tax level is too low to implement measures to manage travel demand, as well as impossible to achieve fuel tax purposes in the United States.

Europe where the policy makers intend to reduce the use of cars through the fuel tax, higher tax levels. In Germany, for example, drivers pay the state-level fuel tax equivalent to US \$ 0.81 per liter on gasoline and US\$ 0.058 per liter on diesel. But in the long term, such as 10 years, the price fluctuation is twofold. Thus, the fluctuation of fuel prices faster than inflation and the increasing rate of income is to effectively manage the demand.

Some countries impose high level taxes on fuel in order to encourage use of public transport modes. In some develop countries this tax brings a big income source to re-invest in public transportation system (urban railway).

For example, in the State of California allocates 70% of fuel tax revenue, \$4.3 billion in 2006, to the transport sector, 10.4% of which goes to public transport. In Colombia, this tax on fuel provided 20% of the investment for the first three Transmilenio railway lines; In

Germany, Bavaria State uses these funds to subsidize the losses of suburban rail services (40% of costs).

3.1.3.2 Urban traffic charges:

Urban traffic charges aim at minimizing number of vehicles in urban areas by requiring transport mode users to pay fees entering some certain regions.

These fees are for many different purposes:

- Reduce congestion in the inner city:
 - + Through encouraging people who use private mode to shift to public transport mode
 - + Through dispiriting a part of those who still use cars and motorbikes in some center times on some certain distances.

The main purpose of the cities like London, Singapore, and Stockholm that apply the method of charge collection is to constraint number of cars accessing the city center, making traffic circulate more smoothly and giving priority to public transportation.

- Reduce environmental pollution (since pollution levels are often associated with congestion) and improve the quality of urban life by forcing those who use private vehicles pay a portion of the extra costs for the negative impacts they made.
- Raise new funds for investing in road infrastructures or public transport. In Oslo, a toll was introduced in 1990 for a limited period of time in order to raise funds for building new bypasses and tunnels which would relieve traffic congestion in the city centre. The moderate charge was introduced solely to raise funds, not as a measure for reducing traffic.

Depending on the main objective, be it to deal with congestion in a particular area, to raise funds, or to tackle congestion at certain times of the day, different systems can be implemented. Normally, urban transportation charge is divided into three types, namely cordon charge, area charge and toll roads for use of the freeway network.

- Cordon charge: users are charged each time they enter the designated zone. The boundary, or cordon, often surrounds the heart of the city centre.
- Area charging: a one-off charge is imposed on all users for travelling within the zone for a specific period of time. It can, however, be varied according to the overall length of the journey and or the time spent within the zone.
- Toll roads: this toll applies to high speed roads running directly into central urban areas, and aims to provide clear roads to paying traffic, and to alleviate congestion on the toll-free roads.

Bảng: Các loại phí giao thông đô thị

	Phí vành đai	Phí khu vực	Phí sử dụng mạng lưới đường cao tốc
Một mức phí duy nhất	Na uy (Trondheim, Oslo, Bergen) Dự án Stockhom	London, Singapore (trước năm 1998)	
Nhiều mức phí khác nhau	Singapore (Từ năm 1998)		Hot Lanes (San Diego, SR – 91), Đường cao tốc 407



Users are charged each time they enter the designated zone. No charges are imposed for journeys within the zone.	Users are charged each time they enter the designated zone and may be charged for internal journeys within it.	Driver pays for the privilege of using the road; generally a free-of-charge alternative exists.
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Conditions for application of transportation charge:

- It is required to have a network of public transport (Urban system, bus, BRT) that meets the increasing number of passengers and ensures the quality of service so as to switch to use other transport mode is not considered as a discrimination against those in traffic. Otherwise, charging may restrict the traveling flow and decrease number of economic activities or cause to the situation that the private mode users switch to use to less expensive route.
- Society acceptance is compulsory condition. It is necessary to explain people about the consequences caused by traffic congestion to people, society and the environment. Urban transportation fee may be introduced as the "who causes pollution must pay" model. When information is not good for people, the charge can cause strong objection.

References of London case:

In London, traffic management agency of TfL type is responsible for the entire transport policy from circulation to public transport. It is also the agency that conduct charge collection in the center area. The establishment of the system was introduced

in two successive stages: in 2003, the zone covered 22 square km, and in 2007 it was extended to 40 square km.

Camera system tracking number plates shows that people strictly pay daily charge of £8. Payment is compulsory from Monday to Friday between 7 a.m. and 6 p.m. The zone's residents are entitled to a 90% reduction if they buy a monthly or annual pass. Emergency vehicles, vehicles for disabled persons, vehicles with more than 9 seats, motorcycles, taxis and buses are exempt from charging. The fee is required from 7h to 18h in the period from 2nd to 6th The people in this area is reduced by 90% charge when purchasing tickets or tickets five months. The emergency rescue vehicles, disabled vehicles, public transport do not have to pay.

The goals of the transport charge policy set for 2010, are:

- a 15% decrease in road traffic (excluding motorcycles) within the zone
- a 20-30% decrease in traffic congestion within the charging zone.
- by 2020, a modal shift of 20,000 passengers towards public transport (urban railway, bus and tax) during charging times.

In 2004, research carried out by TfL show that these goals have largely been accomplished.

- Number of vehicles with more than 3 wheels has decreased by 15%;
- Congestion has decreased by 35% in the zone, which has resulted in a 3km/h increase in traffic speed, from 14 km/h to 17 km/h;
- 14,000 users have switched to public transport, mainly urban railway and bus.

The introduction of congestion charging wasn't met with a strong opposition. This may be attributed to the fact that the scheme was introduced in a limited zone, where about 15% of passengers travelled in personal cars before the trials began. The pilot process was conducted smoothly.

Setting up charge collection stations seem to have a positive impact on the real estate market because after 6 months, the value of office buildings in the charging zone has increased and in higher level compared to the similar areas without charge collection stations.

Figure: Urban transport charge collection in (TfL)





3.1.3.3 Regulations of parking fee

The competent authority may consider parking in urban centers as a leverage tool to control traffic but to be effective, such measure should be implemented in coordination with other transport policy. Parking fees are not just a way requiring the traffic participants to pay for the use of urban road lanes but also a source of revenue and as a tool to encourage motorists to switch to use public transport modes (Urban railway, bus ..).

The transport policy must balance between one side that desires to provide space to meet the needs of the drivers and the other side that requires to control the space usage and minimize the negative consequences of it.

Limitation of the number of parking places and adjustment of this number according to many different criteria is one of the many measures to control demands of using personal transportation mode in the city centre.

- To achieve this goal, the following elements must be ensured:
 - + Providing alternative or combined transport means, for example, transitional parkings in the areas surrounding the centre.
 - + Keeping minimal packing space for the activities in the city centre.

Similar to charge urban transport, providing parking service and park charge collecting is a method to encourage people to switch to public transport means. This measure can also bring significant revenues and part of investments in public transportation system.

- Conditions required to implement parking charging:
 - + Firstly, parking places, on the road or parking area. One of the measures possibly to implement is to build a limited parking places in the center of the city and arrange parking with charge on the routines to free traveling space. However, this policy needs to be applied with reduction of traffic flow by issuing strict regulations on parking place.
 - + State management agency needs to control parking places directly or through regulations and setting of ticket prices, at the same time, to acquire a portion of the parking revenues.

- + The quality of public transport services must be guaranteed, playing additional role for parking policy.
- + The existence of a transport agency generally will facilitate the integration of policy on parking with charge into the general transportation policy on in the city centre.
- + Profits gained from the parking should be invested in urban transport (public transport).

For example, in San Francisco, Municipal Transportation Agency (SFMTA) manages the entire transportation system of the city, including 40 charge parking yards of the city and parking spots along the roads. In 2007, the SFMTA earned 197 million dollars of fees, equivalent to 1/3 of SFMTA budget. Revenues from parking includes collection from the users, long-term parking pass for the local residents, fines and a half in the amount of tax equal to 25% of the total revenue of the private park place.

Lesson learnt from Montpellier (France):

In Montpellier (France), Montpellier Residential Community (CAM) has used parking yards as a leverage means to encourage the construction of more parking area in the building with parking attractive charge for people living in this building. On the other hand, in the working areas where has tramway service, parking places will be limited. In addition, the construction of transitional car park at the gateways of the city.

This method is formed from the idea of encouraging people to park their cars in the parking garage or transitional parking area and then use public transport to enter the city.

TAM is the transport company of Montpellier metropolitan area applying the above measures thru management:

- + 7 transitional parking yards to the tramway with a capacity of 3000 cars and attractive price. Parking charge plus return ticket is 3euro for the residents of urban areas and 4 euros for the others.
- + 7 public parking yards in the city centre with 3300 lots and price determined by the city;
- + About 15,000 parking places charging by timers installed in the lines, accounting for three-quarters of the total number of parking spaces in the city center. Parking prices also regulated by the city.

The goal of TAM is to encourage the use of public transport with a price acceptable to the public and commercial activities to impact on these activities as well as people's lives. On the other hand, TAM wants to mobilize financial resources for construction and maintenance of parking area. Implementation solution is to apply incentive parking charge for people in the region and introduce parking system with time-based charging (short, medium, long) to those from other places.

3.1.3.4 : Measure to regulate and ban on private modes:

- The regulations and policies on restricting vehicles into the city centre are implement through limiting parking and banning vehicles to run on some streets and certain areas or during rush hours. In addition, it is necessary to increase the areas without cars as well as days without cars.

For example:

+ In China: Air pollution, noise pollution, traffic accidents and congestion are tarnishing the image of the modern cities of China. Guangzhou issued regulations on banning motorcycles circulation in 2007 to improve this situation. Previously, the city had a series of measures to restrict personal vehicles registration, to ban on vehicles with suburban number plate getting in the city from 7am to 7pm, and stopped issuing vehicle registration for new motorbikes since 1995.

Banning on circulation of motorcycles has reduced 24000 tons of CO, 300 tons of CO₂ and 300 tons of waste substance to the air every year.

Many people changed from motorcycles to subway and bus. The city authority has changed the bus route to intensively receive passengers outside of the metro station.

Municipal government has policies to encourage buying back motorcycles for its people.

After 8 months of ban issuance, the number of traffic crashes has decreased by 17.5%, down 2.2% of mortality, injury due to traffic accidents decreased by 20.4%.

For travelling situation, space for pedestrian in the entire city had improved markedly with civilized landscape and less sleazy. Public transport system developed rapidly with metro system, buses, BRT, basically satisfying traveling demands of the people.

+ In Southeast Asia, the Yangon city authority (Myanmar) issued a complete ban on motorcycles in 2003. The authority has issued regulations on strictly sanctioned for violations, as fine with 20,000 kyat or seize of car if entering the restricted areas. Although Myanmar has not had developed public passenger transport system (UR, BRT), the objective to ban private cars will help the government easily manage and control urban transport better in the future.

- Restriction by license number plates:

This is policy to restrict vehicles, pursuant to their number plates, running in a certain area during some certain days per week in order to reduce the number of cars operating. In almost cases, the restriction in number plate will be applied on several vehicles, areas or certain timing during a day; even though, some cities in the world even restrict this for the whole day. This is common agreement, restriction following number plates is not effective solution for long term since in fact, this method cannot meet the increase of number of vehicles operating.

For example:

+ Mexico City prohibits vehicles operating in states based on its last digit on its license plate, for example, those ending with number 1 and 5 on Mondays, last digits of number 2 and 6 on Mondays, etc. in working days (“Hoy No Circula”);

+ Bogota applies a policy in which 40% of private vehicles cannot operate from 7am to 9am and from 17.30pm to 19.30pm depending on license plate as regulations (“Pico y Placa”);

Santiago De Chile implements a policy which is only effective during days when air pollution reaches alarm level. All of vehicles except for bus, taxi and ambulance are prohibited from operation during peak morning and afternoon hours on six main roads connecting suburban with city center;

+ Sao Paulo applies mechanism on a broad area (within the inner ring road, with radius of 15km), in which, 20% of transport vehicles (such as those have last digit of license plate is 1 or 2 on Mondays) is prohibited from 7am to 8am and 17pm to 20pm everyday;

+ Malina is using policy prohibiting several transport vehicles based on license plates from operating on some main roads during peak hours.

3.2 Supporting people to use public transport vehicles (Urban railways)

3.2.1 Encouraging voluntary participation of enterprises:

Public transport regulator takes solutions for employers to involve in traveling of the staff. Methods and scale of projects are different much by each country, but this idea also has common characteristic as following:

- Encourage enterprises to think, be responsible and improve the traveling for their employees.
- Mitigate traffic congestion and environmental pollution via encouraging the use of car-pooling, organization’s vehicles as well as advertising sustainable transport modes.

Companies in Europe, America had set up Company Mobility Plan (PDE) and this was encouraged by transport regulators. In PDE in America, companies shall pay compensation to employees who chose to give up their free parking spaces. This money can thus be used by employees for public transport or for car-pooling.

3.2.2 Mandatory contribution of companies for public transport (including urban railways)

Businesses contribute to financing public transport through general taxes, although in some countries a direct tax is imposed on companies since authorities consider them to be indirect beneficiaries of the public transport system. These mandatory taxes are applied in different ways, mainly as tax charged on company’s total payroll costs and directly attributed to the public transport sector and subsidies for salaried employees who use public transport.

a) Direct finance support for employees:

This is direct support for employees, which will indirectly support public transport system. One advantage of this method is its transparency, because costs will be paid sufficiently. It will help to encourage the use of public transport modes.

For example

- In Brasil, Vale Transporte card is introduced and it is employer-subsidized scheme for their employees. Accordingly, employers will pay public transport fee for their employees equivalent to maximum 6% of their salaries. The

employers buys public transport vouchers from the transit authority and tops-up the employees' pass. This is legal obligation of employer, applied to the entire of urban center. This is also social equalizing method, because it prioritizes only the poorest staff.

- In France, since 1980 till now, monthly mobility fee of employer to employee will be applied nationwide despite of their positions and salaries. Current payment level (in 2009) is 50% of monthly pass. The payment is made at the end of a month after employee returns monthly pass.

b) Companies' transportation tax

The most popular example is mandatory transportation tax (VT tax) which was introduced in 1971 for public or private companies for 9 staff in Ile de France to support the development of urban transport in Paris region which is under economic bursting development. This method had later expanded to the entire residential area in France.

In Paris region, the ceiling rate is 2.6%, and suburban area is from 1.4 to 1.7%. Transportation tax imposed on payroll costs is a stable source of income, importantly contributing to improvement of public transport services.

3.3 Enhance people's acknowledgement on the use of public transport

Public transport also needs to face challenges as any other products in the market, meaning that the more people know about this service, the more people will buy it. Advertisement of transport service is key factor to develop the transport sector. Information about route and fare is available for new user via different channels such as websites, maps, signs, kiosk, hot line and advertisement panels.

Public events and advertisement strategies can help to improve people's acknowledgement about efforts to manage traveling demand, at the same time, getting the trust of passengers. Such events will help the government to distribute maps and other information, providing advices on using bikes and public transport modes, and receiving people's feedbacks about the plan. An example of a public event which was spreaded many cities in the world is "Car-free day", when cars are not allowed for operation, and roads are spent for walkers, bikes, patin, skateboard, segway private vehicle and others. This event is estimated to become social and entertainment event for people to communicate and feel of the city in another way, and people will enjoy pure and quiet atmosphere.

Example:

Bogota City, Columbia is the first city executing Car-free day since February 24, 2000, organized by Mayor Enrique Pe and The Commons, an international environment organization. This was one of the first Car-free day organized in a developing country. This event was successful and became popular, thus, organizers had received Stockholm Challenge Award. The following is a summary of the mayor's speech: "This is an excellent achievement of people in Bogota City. A city with 7 million population has operated without cars. His experience allows us to understand basically about city's transport system in 10 or 15 years later: an excellent public transport system and there are no car during peak hours. The more important is community's attitude to show during those days. We have reinforced more trust on capability to implement big community efforts to develop more sustainable and happier city. Surveys showed that 87% of citizens agreed with Car-free day, 89% did

not face any difficulties for existing transport system, 92% said that no staff or student had been off and 88% revealed that they wanted one more Car free day. Now we want to implement a polling to propose objectives of 2915: from 6am to 9am, and from 14.30pm to 19.30pm, all cars must leave roads. Thus, citizens will travel by their own means like public transport and bikes”.

URBAN RAILWAY ENCOURAGEMENT POLICIES ON USE IN THE WORLD

POLICY GROUP	DESCRIPTION	SPECIFIC POLICIES/METHODS	CITIES APPLYING
GROUP 1		Integrating into one regulator which managing and organizing public transport for all vehicles (bus, urban railway, BRT, etc.) in strategy planning, planning, balancing and maintaining budget for development of public transport.	European countries, North America, Japan, Singapore.
GROUP 2 (TOD)	Developing the area in the future	Planning to organize UR stations into a system of commercial services, industries, offices, etc with high density development within the distance of 20 minutes walking, in the radius of 0.4-0.8km	Big cities in Japan, Bangkok, Australia
	Station accessing services with “On street vehicles”	Design of bus services, bus stations, waiting shelters for passengers	
		Provide 2-wheel vehicles parking lots (motorbikes, bicycles)	
		Provide parking areas for motorbike taxi and taxi nearby stations	
		Provide positions to stop and dropping passengers off for vehicles, which should be near to entrance/exit of stations without causing traffic obstacles	
	Station accessing services for pedestrians	Provide the space for pedestrians, remove obstacles on pavements which may obstruct walking paths	
		Improve, upgrade the pavements, curbs, accessing corner to stations. Install reasonable accessing paths for the disabled to enter stations	
		Provide, ensure sufficient lightening system, trees, water drainage, lane printer, signs, etc. to help pedestrians better accessing the station area.	
		Need to supplement the system of flyovers, underpass for passengers in areas where the density of vehicles is high	
	Organizing the traffic surrounding stations	Select optimal plans to well organize the traffic surrounding stations, creating priorities for public transport vehicles such as Bus, BRT to access stations: Laning from distance and surrounding stations to avoid traffic jams; Establish	

		prioritized traffic system such as prioritized signs, signal lights, laning for public transport vehicles to conveniently access stations	
	Multi-modal interchange	Design an area where passengers can interchange from UR with other public transport vehicles. Interchange, connecting services such as bridge (tunnel), waiting shelters, indoor walking paths, roofs, commercial areas need to be reasonably arranged, ensuring convenience of passengers	
GROUP 3a Management of traveling demand (PUSH)	Controlling the increase of private transport modes (automobiles, motorbikes)	Imposing various tax and fees: import tax, registration tax, vehicle using tax, annual road tax	Many countries in the world
		Provide quota for automobiles, motorbikes, accordingly, people must engage in auction or purchase the right of vehicle using.	Singapore
		People those want to own a car shall need to prove that they have area to park their cars.	
		Apply the regulation on life cycle of motorbikes	
	Restrict, reduce the use of private vehicles	Fuel tax	USA
		Urban transport fee	Singapore, Stockholm
	Charge for parking in urban area	Collect parking fee These kinds of tax, fee shall encourage enterprises to provide parking areas, and for users, these will encourage them to use replacing vehicles.	Cities in the world
	Prohibite private transport vehicles	Prohibit some transport vehicles to enter city center during peak hours	London
		Restrict transport vehicles by register number plate	China (Shanghai, Guangzhou, etc.), Mexico, Sao Paolo, Manila
GROUP 3b Management of transport demand (PULL)	Improve public transport passenger services	UR and bus lines are extended, the space is extended, the service frequency is increased, in order to ensure the demand of public transport	Cities in the world
		Prioritizing supporting passenger transport modes which have high space occupation rate such as separated lane for bus, prioritized signals for bus, and mitigate any delay for public transport modes	London (UK), Singapore

		Improve, ensure facilities for passengers in stations, bus shelters with roofs, seats and WC, etc.	Curitiba (Brazil), Guangzhou (China), Bogota (Colombia), Munich (Germany)
		Integrate the system and fare of public transport, need to have reasonable policy to integrate the ticket system of public transport vehicles, creating a convenient payment system by using smart e-ticket.	Popular in the world
		Integrate passenger information, improve promotion programs: provide passengers with information, alternatives of routes, fare level of public transport services	
	Improve the services for bicycle users	Construct parking lots, separated lane for bicycles	Cambridge, London (UK), Copenhagen (Denmark)
		Map, direction signs for bicycle users	
		Public bicycle leasing service	Big cities in Europe, Osaka (Japan)
	Encourage, support public transport users (Urban railways).	This is method with which Transport organizer can pull, encourage enterprises to join in the transport of their employees. Enterprises must pay their employees an amount of money if those employees do not use free parking area in the enterprise. With this amount of allowances, employees can pay to ride on common bus or by public transport (Metro, bus, BRT)	Brussel (Bi), USA, UK, Canada, New Zealand...
		Compulsory contribution of enterprises to urban transport (including public transport: Urban railway): specifically, a level of urban transport tax is stipulated for employers, this tax rate shall be contributed to the development of city's public transport system.	Entire France
		Indirectly support urban transport via subsidizing users not services. Enterprises, state administration organizations support their employees in purchasing monthly public transport ticket, or employers can purchase transport fee/tickets at public transport operators or transfer to transport card of their employees.	Brasil, France
		Have a reasonable ticket policy (fare type, fare structure, fare level), fare subsidy for public transport users, especially students, workers, officers, the disabled, the retirements, etc.	European countries, USA, China, South East Asian countries, etc.

	Propagandize, enhance the awareness of people about public transport by urban railways	Methods of promoting public transport services, provide information, reasonable routes on mass media; launch campaigns of encouraging the use of public transport, bycycle day, no-car day.	Bogota (Colombia), Zurich (Switzerland) with no-car campaign, Bavaria State with bycycle day
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CHAPTER 2: STUDIES RELATING TO THE USAGE OF PUBLIC TRANSPORT AND URBAN RAILWAYS IN HANOI

At present, Hanoi City is implementing many UR projects such as Line 2A Cat Linh – Ha Dong, Line 3 Nhon – Hanoi station, Line 2 Nam Thang Long – Tran Hung Dao, Line 1 Ngoc Hoi – Yen Vien. Projects are being actively implemented and managed by governmental organizations and HPC under the assistance of international organizations in terms of capital and construction technology. Besides, apart from the study to help HPC on investment of constructing UR lines, international organizations such as ADB, WB, JICA, etc have also worked out and provided Hanoi City with issues and solutions for implementation, as well as recommendations on integration, improvement, encouragement of using Public transport system, in which, the core is UR system.

Within this Chapter, I would like to brief the information of several TA projects which aim at encouraging people to access and use UR system in easy, convenient way, promoting the development of public transport system in Hanoi in general.

I. Final report of Feasibility study “Survey consulting service to prepare FS report about transferring stations in pilot UR project (Nhon – Hanoi station)” under the Project of urban and environmental integration for pilot UR line (Nhon – Hanoi station):

A. Project’s introduction:

In implementation of studies on Strengthening the sustainable urban transport for Hanoi UMRT Line 3 project, Hanoi City has received financial aid from ADB and other international organizations. To support the preparation of Project to strengthen sustainable urban transport for Hanoi Metro Line 3 Project, ADB has funded a PPTA no. 7894-VIE regarding feasibility study on transferring stations for pilot UR line Nhon – Hanoi station, especially two stations of Cau Giay and Ngoc Khanh, which is included in TA Project “assisting to harmonizing urban area and environment for pilot UR line Nhon – Hanoi station” funded by FFEM and AFD, shall be main contents of consulting service. Consulting organization included experts of main contractor MVA (SYSTRA).

B. Study objective of the Project:

Main objective of this project is to improve the accessibility of UR stations, and ensure the multi-mode transferring via effective connection between metro with existing and future public transport.

C. Main contents of the project report:

Project report has overviewed all centralized solutions from locality level to national level. In which, it focuses on three group of solutions to be considered for studying and analysis as following:

- Enhancing the accessibility of passengers to UR stations
- Integrated services and improvement of public transport service
- Support for transformational policies and management measures

1. SOLUTION GROUP OF ENHANCING ACCESSIBILITY TO STATION:

The project report has worked out and clarified the objectives of this solution group. Accordingly, methodology method is given out, which is reasonable for management organizations of Hanoi City in design and improvement of UR station infrastructures, and adjacent urban transport infrastructures.

Important solutions need to be implemented in this solution group have been worked out by consulting organization as the following:

“On street vehicle” accessibility design

Consulting organization presents this solution is to provide stops/parking lots in adjacent areas of stations, aiming at mitigating the parking in areas where the accessibility to station can be obstructed, and provide stops/parking lots at distance which is convenient for passengers to access metro stations.

Evaluation on current situation in Hanoi City

+ In “Plan of public parking lots”, UR Line 3 accepted the proposal of constructing several parking lots such as Van Mieu – Quoc Tu Giam, Ngoc Khanh underground park-and-go lot.

+ Prioritizing in land fund, parking lots, etc. for investors. Decision no. 4390/QĐ-UBND by HPC in 2012 approving the Plan on management of public transport by taxi in Hanoi City in period of 2015-2030 has indicated policy for the development of taxi stops, especially in commercial centers, stations, etc.

Pedestrian accessibility design:

This is design mainly serving passengers who live within 500m around station area or passengers who would use Metro to go to attractive centers around the station. The pedestrian approach is applicable to both sidewalks on the streets and alleys accessing to the station. The report presented several requirements on pavement design for pedestrian to easily access stations in convenient and safe manner.

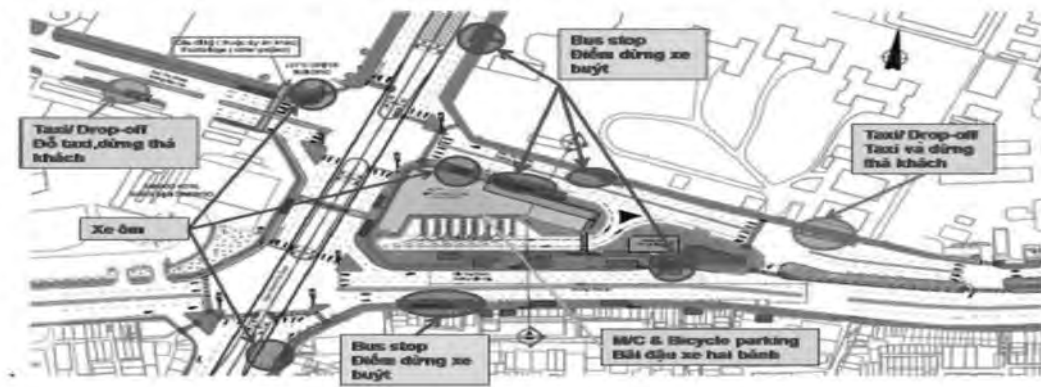
The report has explained about the necessity of installing signaling equipment, and signs for pedestrian; direct accesses from parking areas, bus stations to the station; vegetation, trees or request for designing and constructing viaducts, underpasses for pedestrian at crowded traffic areas.

Evaluation on current situation in Hanoi City

+ The Plan on improving, amending pavements till 2020 by HPC has mentioned about solutions of improving and amending pavements, trees and urban landscape...

+ HPC has implemented the program of 7 solution groups for mitigating traffic accidents and congestions: constructing flyovers, signal traffic lights for pedestrians in crowded areas, bus transit points.

Figure: Plan of Transport services accessing Ngoc Khanh station



Traffic management measures:

Traffic management is a priority in designing passengers' access by vehicle to stations. The purpose of this method is to study overall integrated traffic planning around the station area. To select optimal options for overall good traffic arrangements as well as creating priority for public transport access such as bus to the station.

Main tasks are proposed as following:

- To forecast traffic demand in all directions. To arrange remote traffic divergence to minimize traffic congestion within the area.
- At intersections, install traffic systems such as priority signals, signs and dedicated lanes to facilitate public transport.
- There should be temporary traffic management measures when Ngoc Khanh and Cau Giay stations are under construction in order to minimize the impact on current traffic flows.
- Usage of “soft” measures such as regulations for restricted parking areas, limited waiting / parking time, etc.
- Provide kiosks and suitable facilities for inspectors.

Evaluation on current situation in Hanoi City

- + The Plan on improving pavements till 2020 by HPC has worked out solutions to improve the pavements, trees, urban landscape, etc.
- + HPC has implemented the program of 7 solution groups for mitigating traffic accidents and congestions: constructing flyovers, signal traffic lights for pedestrians in crowded areas, bus transit points.
- + To ensure safety and avoid traffic congestion, HPC has instructed city's authorities to re-configure the traffic system, banning and restricting trucks, taxi during rush hours, using warning lights and lights, laning from distance. In addition, there are also sanctions towards vehicles consciously violating such instruction of laning.

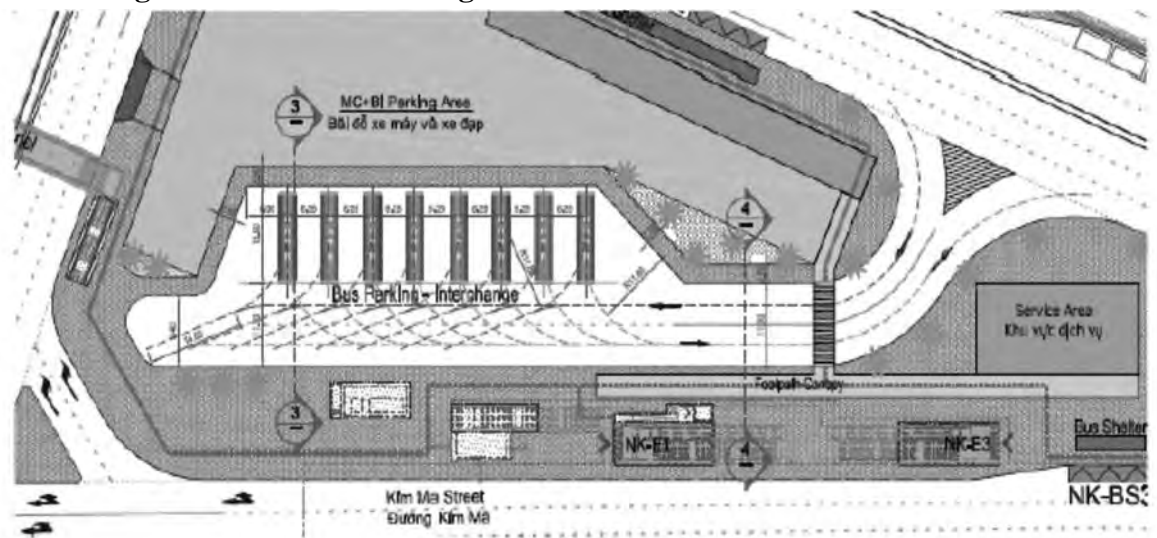
Intermodal interchange design:

It is to design an area where passengers transfer between metro and various travel modes.

- Interchange facilities such as shelter, pedestrian subways/footbridges, and indoor or roofed sidewalks should be provided where appropriate and optimal for pedestrian.

- Provide real-time and fixed information for passengers. Provide space for the commercial business area if possible.
- Other travel modes such as bicycles, motorcycles, taxis, etc. should also be optimized in term of distance as well as services for transit passengers.
- Facilities for the disabled should be provided at all interchange areas to ensure the disabled could use these facilities themselves as conveniently as possible.
- **Evaluation on current situation in Hanoi City**
 - + At present, in Pre-FS report of Line 5 (Nam Ho Tay – Ba Vi), it is said to link with Line 3 in Ngoc Khanh.

Figure: Bus terminal in Ngoc Khanh station



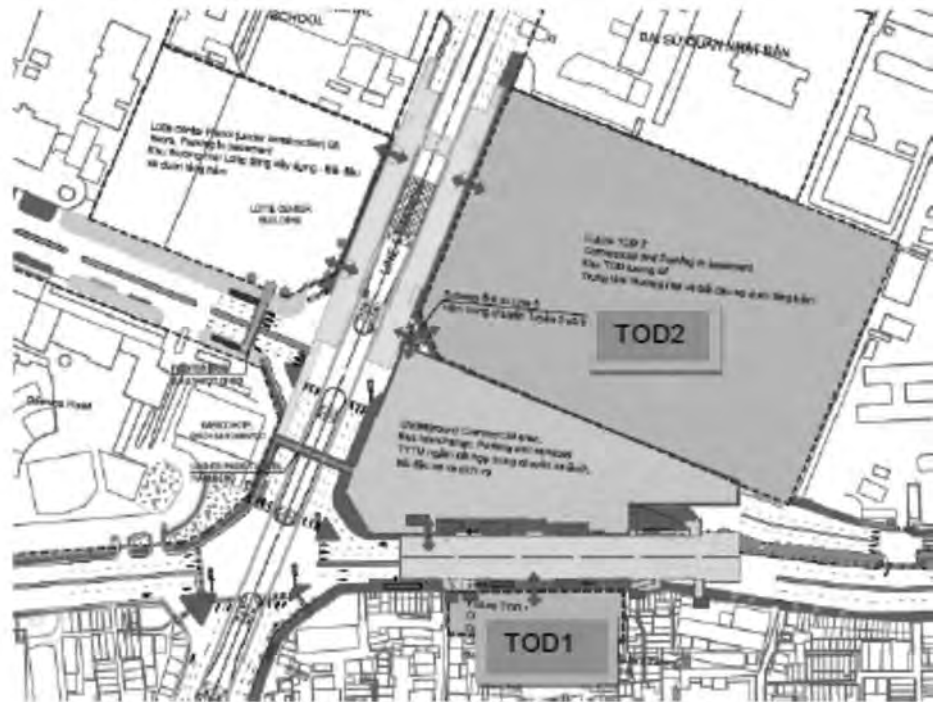
Future development concepts: (TOD oriented)

The report considers this is relevant to the future planning and the long-term overall proposals for the area with the aim to optimize the extent and orientation of the development of the areas surrounding the stations. TOD ideas for urban areas, urban center fringe and suburban areas.

For urban areas surrounding Cau Giay and Ngoc Khanh station, the proposed concepts include:

- + Propose construction of commercial traffic oriented development (TOD) surrounding station and propose a concept of the connection between the stations and the TOD zones to form a planning oriented development area. This area will attract passengers to use metro, and create good conditions for the development of area.
- + Propose multi-modal interchange in the future. These centers can include bus terminal and underground parking nearby the station.

Figure: Proposal of TOD areas in the future surrounding Ngoc Khanh station



- **Evaluation on current situation in Hanoi City**

HPC has policy accepting the proposal of connecting urban railway stations with commercial centers, residential areas, such as connecting S7 station (Chua Ha station) with 2nd floor of Discovery Complex commercial center, which will be convenient for passengers, their works and their entertainment activities, etc.

2. INTEGRATION AND IMPROVEMENT OF PUBLIC TRANSPORT SERVICE:

The purpose of this solution group is: to enhance the traveling demand, optimize the UR transport capacity, encourage passengers to use UR, reduce the cost of bus operation, etc.

Station integration:

Ensure easy and quick passage from one vehicle to another, direct, with minimum changes of levels and direction, spacious, well lit, well ventilated walkways, attractive displays and advertisements, no hidden spaces.

- **Evaluation on current situation in Hanoi City**

Has been mentioned in Decisions for approval of Technical design of UR stations by competent authorities.

Bus network integration

The report presented proposals for this solution, focusing on re-systemicalizing the bus network: changing, omitting routes and frequency of buses, to ensure accessibility and optimizing the transport capacity of UR.

- **Evaluation on current situation in Hanoi City**

HPC approved for the project of developing passenger public transport by bus in period of 2011-2015, vision to 2020, which is implemented by TRAMOC, and this project has mentioned about the integration with UR network.

In which, it is necessary to adjust bus line alignment of those relating to UR Line 3 such as bus line no. 32 (Nhon – Kim Ma section), omitting Cau Giay – Nhon section on bus line no. 20, changing bus line no. 50's alignment, etc.

Operation Service integration:

Schedules are coordinated so that passengers may interchange without waiting.

Taxi integration:

The integration of taxi system needs to be integrated as the best to public transport system (UR) such as allocating pick up/drop-off areas, facilities, signs, regular parking lines, without causing obstacles onto passengers' transportation and other vehicles.

Integrated Passenger information

This integration shall provide passengers with information, solutions of routes, fare of multi-mode services. Information about service and fares of all modes are together shown.

- **Evaluation on current situation in Hanoi City**

At present, TRANSERCO is coordinating with TRAMOC to allocate displays, LED showing information of lines, bus fare on buses or bus shelters for passengers to follow and update.

After UR commences its operation, the information of alignment, timetable, fare, etc. of public transport modes shall be displayed together.

Integrated brand-name development:

The whole public transport system such as vehicles, stations, information, advertisement, promotions – is uniformly branded.

- **Evaluation on current situation in Hanoi City**

The advertisement for using public transport in Hanoi has been implemented in recent years, especially for bus. TRAMOC has launched many campaigns promoting the use of bus by circulating free prints, bus routes to passengers in bus shelters, stations, fairs, etc.

For UR in the future, HPC shall surely assign DOT, MRB, Hanoi Metro, etc. to function this service promotion, etc.

Integrated ticketing system and fare

- The integration of ticketing system and fares are to pursue objectives: ensure that an integrated ticketing system, smart ticket vending system shall be developed for all public transport modes, aiming at encouraging the usage of public transport in Hanoi, reducing transport time for passengers.

- The report has provided experiences from elsewhere in the world, such as proposing a fare structure and optional fare level, ticket vending system and technology, institutions of fare management and integration, etc.

- **Evaluation on current situation in Hanoi City**

In 2013, HPC made Decision no. 5579/QĐ-UBND to approve for Plan on framework of e-ticket policy and technology applicable for public transport network in Hanoi. In addition, MRB is coordinating with concerned organizations to propose Fare Policy to HPC for its approval.

3. ASSISTANCE FOR CHANGING POLICY AND MANAGEMENT METHOD

Policies related to development of public transportation and transport management:

- Enhancement of institutional capacity of public transport, in which requiring establishment of Public Transport Management Authority (PTA) to unify common directions of transportation modes, fare policy, service supply and network accessing.
- Setting up Fare policy framework and IC technology
- strategies, policies and regulations on the management of parking yards
- **Evaluation on current situation in Hanoi City:** in the project to enhance institutional capacity in operating BRT lines and establishing PTA funded by WB to HPC, the necessity of establishment of PTA in the future has been mentioned.

II . URMT development project linked with urban development in Hanoi – The Socialist Republic of Vietnam (Line 1 + Line 2)

URMT development project integration with urban development in Hanoi is the project that Vietnam Government requested Japan Government to assist. JICA is the representative of the Japan Government to fund the projects with study areas of urban railway Line 1: Ngoc Hoi – Yen Vien and Urban railway Line 2 Nam Thang Long – Tran Hung Dao including 31 urban stations (in both phases). The project is directly studied, implemented and F/S prepared by the consultants, namely ALMEC and Nippon Koei.

The goal of the project is to improve competitiveness, optimize operation of the urban system, and promote passenger usage and urban development, creating new space as motivation to speed up society and economy to be more dynamic.

The report of the Project indicated urban development potentials linked with public transport (TOD) in Hanoi City. The TOD development orientation in Hanoi is appropriate, feasible for development context of Hanoi, attracting large numbers of passengers, and having a special meaning to make Hanoi become green and liveable city in the future. The report indicates the TOD development model in some cities such as San Francisco (USA), Munich (Germany), Curitiba (Brazil), and Tokyo (Japan) is well oriented and can be applied to company in Hanoi.

Contents of URMT development project linked with urban development in Hanoi:

1. Urban railway development project linked with urban development that creates development form in accordance with public transport orientation (TOD) brings the following benefits for Hanoi:

- For community:
 - + Less usage of private modes

- + Travel capacity suitable with financial capacity and increase of transport means options
- + Effective and concentrated land usage
- For urban railway:
 - + Use land surrounding stations and attract many passengers to the stations
 - + Multi-modal interchange works
 - + Development of arranged urban railway corridors
- 2. Development orientation planning for stations of Line 1 and Line 2 to promote development of arranged urban railway corridors:**

JICA project proposed orientation planning for 31 urban railway stations of line 1 and line 2. Orientation planning points out an idea for development and usage of land in the future, projects with feature of integral development. In addition, periodical development based on time and feasibility is proposed and considered carefully.
- 3. Detailed planning of the priority station area:**

Detailed planning is made in 5 station areas, Gia Lam Station, Nam Cau Long Bien Station, Hang Dau Station, Ha Noi Station, Thong Nhat Station, Bach Khoa Station, Den Ngoc Son Station based on evaluation and study of the following criteria:

 - Urban development potentials
 - Station accessibility
 - Transition
 - Necessity of society and environment
- 4. Implementation scheme :**
 - To be implemented in compliance with the existing legal system and added new approaches. This is new legal and institutional scheme aiming at urban development integral with urban railway system, land re-adjust system and urban re-development.
 - To be executed in the principle of sharing responsibilities and risks among the State (HPC), Vietnam Railways, private investors, community, public private partnership (PPP). In addition, it is necessary to have scheme for coordination among stage agencies.

Current situation and evaluation

- At present, urban railway project, Line 1 Yen Vien – Ngoc Hoi is till late implemented and progress delayed. In Notification No. 78/TB_VPCP in 2015 of Deputy Prime Minister Mr. Hoang Trung Hai requests HPC and MOT to early agree to the location of Hong River Railway Bridge of the project. In addition, the detailed design of phase 1 is completed; bidding for construction is not implemented yet.
- Urban railway project, the progress of Line 2 Nam Thang Long – Tran Hung Dao is also delayed for about 3 years. Increase of total investment amount is estimated to be up to 51,750 billion VND, increased by 164%, triple over the initial estimation. Currently, the project is under consideration for such increase of the total investment amount by an independent inspection hired by the Government and MOT.

- In the JCC's 2nd meeting on JICA Technical Assistant, the Vice Chairman of HPC has agreed to apply experience as well as model of Japan for some priority stations that meet conditions such as Giap Bat, Gia Lam and Ngoc Hoi. For urban stations alone, it is required to study and select location so as to limit maximally land acquisition and ensure sustainable development together with environmental sanitation. For suburban stations, parking areas will be exploited.

III. THE STUDY ON “OWNERSHIP AND USE OF MOTORCYCLE IN HANOI CITY” – 2014 TILL NOW:

The study on “Ownership and use of motorcycle in Hanoi City” is sponsored by WB and Australian NGO AID for HPC, which has been implemented since 2014.

This project aims to support HPC in the following goals:

- Identify the factors and provide better understanding on the ownership and use of motorcycles.
- Provide information that can assist authorities and regulators in issuance of reasonable policies for sustainable development of motorcycle.

The Study team has formed focus group and implemented surveys within the area of Hanoi City, from intersections, parking lots, pavements, etc. including various social classes, ages, gender such as bus riders, motorcycle riders, motorcycle taxi drivers, women, officials, etc.

The content of surveys focuses on the traveling habit of the people such as transport modes, transport time, waiting time in stops, stations, fee for transport, parking, fare of public transport, vehicles functions and transport service quality. Besides, there are surveys on intersections, parking situation on big streets, pavements.

Based on the result of surveys, the Study has collected data, information, and implemented analysis with incomes, study on data, existing regulations, accordingly, recommendations, proposals of potential model and policies applicable for reasonable development of motorcycle in Hanoi will be worked out.

Analysis results of surveys show that motorcycle is still a vehicle in favor of majority of people by its convenience and flexibility as well as low ownership and operation fee. Factors causing disadvantages of the motorcycle include low safety, environmental pollution, traffic jams and causing bad effects on public health, unsuitable to trip in long distance. As a result, the report has worked out solutions to optimize the advantages of use of motorcycle, to mitigate bad effects from the use of motorcycle or solutions to restrain fever increase of motorcycle.

In addition, the Study also proposes solutions for sustainable development, promoting the use of public transport in the City.

Some results of the Study have been compiled and proposed under the following proposals and recommendations:

Objectives	Proposed solutions	Evaluation of solutions in current situation
Management on ownership and use of motorcycle	<p>1. Ensure the thoroughness of intersections, the empty spaces on roads and safety by clear laning between motorcycle and cars, using signs, traffic signal system and especially propaganda to observe traffic regulation</p> <p>2. Better improve, restrict disadvantages of motorcycle such as low safety, causing traffic jams, environmental pollution, etc. by solutions to improve, supplement into regulations and enhance education and propaganda:</p> <p>- Improve the safety: promoting the role of propaganda to people, integrating deterrents and penalties. This is shown in the fact that people are compulsory to wear helmets while on road, penalizing if using mobilephones while on motorbike, riding motorbike in wrong lane, causing traffic jams, not observing traffic lights, etc.</p> <p>- Environmental improvement: having policies requesting domestic motorcycle manufacturers to strictly and early</p>	<p>1. At present, Hanoi has laned for cars and motorcycle on many streets such as Ba Trieu, Giai Phong, Kim Lien, etc. by lane painting system, signs system, and propaganda to integrate the method of reminding people with punishments in various cases of violation.</p> <p>2. Better improve, restrict disadvantages of motorcycle</p> <p>- This has been quite seriously implementing in Hanoi. However, in the future, it is necessary to broadly propagandise for people, integrating the penalty with stricter sanctions in order to further improve the awareness of traffic participants by using motorcycle.</p> <p>- At present, according to roadmap of VR, car and motorcycle manufacturers</p>

	<p>implement the usage of EURO 3 standards in manufacturing motorcycles, which can help to reduce half of emission gas. This has been evaluated as low cost for the society.</p> <p>In addition, not allow the operation of any vehicles which do not satisfy requirements on emission gas controlling.</p> <p>3. Having overall and orientation policies to control the fever development of motorcycle in the future when vehicle importat imposed shall be grastically reduced following WTO roadmap (In 2018, the ratio of motorcycle is 800 motorcycle/1000 people): Adjusting registration fee, road use fee, fuel tax, jams fee, parking fee, etc.</p> <p>4. Developing a system of policy tools for management over ownership and use of motorcycle in Hanoi</p> <ul style="list-style-type: none"> - Propose to change mainly on the use of the only certain fee to use various fees (fuel fee, parking fee, jams fee, etc.) - Methods to restrict the parking on pavements, walking routes. Parking will need fee payment, accordingly, the users of private vehicles shall need to consider parking fees when decising on their own trips. 	<p>and importers are requested to satisfy the least standards of Euro 3, possibly Euro 4 in 2017.</p> <p>1. At present, to control the fever development of motorcycle, the Government has promulgated various fees on the operation of vehicle such as registration fee, road use fee (50000-100000), fuel tax (3000d/littre) which has been adjusted.</p> <p>⇒ This solution also contributes to the development of public transport</p>
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	<ul style="list-style-type: none"> - Change regulations on parking fee, allowing paid parking in hour-based, maximumly mitigating the fixed fee. - Having legal regulations and education methods to propagandize in order to transfer public land fund into free parking lots. - Propagandize towards people to understand about fees to operate motorcycle not simply only fuel fee, parking fee, but also more seriously intangible fees (accidents, traffic jams, environmental pollution, healthcare, etc.) <p>⇒ These solutions also contribute to promoting the use of public transport modes</p>	
Promoting the role of public transport	<p>1. Need to have methods better focusing on passengers group which are ready to transfer to public transport, other than other groups</p> <ul style="list-style-type: none"> - These include women, middle-age people, those who often need to transport in long distance. - Or high-income people but care much on the time, need quickness and good service quality of public transport. - Motorcycle riders who often need to transport in dusty, bad weather, etc. conditions on bad quality roads. <p>⇒ This provides a good viewpoint to select suitable transport modes.</p>	

	<p>2. Issue of Planning, Design, and Operation of public transport must be organized in clear and specific manner for success:</p> <ul style="list-style-type: none"> - Need a solution on integration: + Improve the integration among transport modes + Integrate fare level and fare system + Integrate, provide transport information for passengers <ul style="list-style-type: none"> - Improve the accessibility for passengers: + Improve the accessing paths to stops, train stations + Support by the role of “Motorcycle taxi” in public transport. + Need to prioritise and better support bus if traffic jams become more and more serious. 	
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VI. Mechanism and policy of Hanoi City in encouraging the usage of public transport system by bus:

Public passenger transport by bus plays an important, significant role in addressing the travel demand of the people, reducing traffic congestion, accidents, and reducing environmental pollution, contributing to the sustainable development of the capital.

Understanding the significance and importance, the Party, Government, HPC have issued several policies and mechanisms to encourage and promote the development of public transport by bus.

1. Several policies and mechanisms:

(1). Law on the Capital: promulgated in accordance with Resolution No. 25/2012/QH13 of the National Assembly, in which specifying common mechanisms:

Article 18. Development and management of transport

- The transport system in the capital shall be synchronously and modernly planned, constructed, and developed, ensuring the connection between the capital and the central-

affiliated cities and provinces in the capital area and in the whole country, conformable with the requirements for the socio-economic development, and ensuring the National defense and security; concentrate on the investment, and encourage the investment in the development of the transport infrastructure and the public transportation system in the capital.

- The People's Council of Hanoi city shall issue regulations on prioritize the development of the mass public transport system; encourage the investment in the construction and use of bus stations and car parks; apply high-technologies to the management and operation of the transport system.

(2). Decision No. 13/2015/QĐ-TTg dated 5 May 2015 on mechanism and policy to encourage development of public transport by bus:

- Accordingly, decision on mechanism and policy for planning, investment and development of infrastructure is as follows:

- + To prioritize the allocation of sufficient funds from the State budget for the formulation, regulation and implementation planning of public passenger transport by bus, with the targets in the plan including: the undertaken proportion of public passenger transport, land, solutions for connecting to other transport modes, the proportion of vehicles using clean energy and proportion of vehicles satisfying technical regulations on accessible transport;
- + To prioritize access to preferential loans: loans in official development aid (ODA) and preferential credit capital for investment in infrastructure serving public passenger transport by bus;
- + People's Committees of provinces and cities directly under the central government based on local resources to support interest rates of loan at credit institutions for investment projects in infrastructure construction of public transport by bus.
- Mechanism and policy to encourage investment in transport vehicles:
 - + To exempt from import tax on spare parts, components which can not be produced domestically for manufacturing and assembly of public transport vehicles by bus.
 - To exempt from registration fees for vehicles for public passenger buses using clean energy.
 - + People's Committees of provinces and cities directly under the central government based on local resources to support loan interest rates at credit institutions for investment projects in public passenger transport mode by bus .
- Mechanism and policy to assist transport operation activities:
 - + People's Committees of provinces and cities directly under the central government based on local resources subsidize price of operation costs of public transport by bus. Priority is given to develop model of management center of public passenger transport by bus to monitor and manage the quality of services by bus in the locality.
- In addition, this Decision also prescribes mechanism and policy on subsidy for public transport users:
 - + People's Committees of provinces and cities directly under the central government based on local resource to subsidize users of public passenger transport by bus as follows: Free tickets for children under 6 age, the severely disables and the particularly severe disables; fare reduction for the user who have distribution to the revolution, the elderly, students, pupils who are Vietnamese.

(3). Circular No. 39/2003/TT-BTC dated April 29, 2003 of The Ministry of Finance guiding the financial mechanism applicable to enterprises of public passenger transportation by buses in urban centers

- Activities of public buses in urban areas as public service shall enjoy preferential policies on finance including: state-own enterprises providing public transport by bus; Parts of state-own enterprises providing public transport by bus; state-own enterprises running business activities involving in public transport by bus; other types of enterprises engaging in public transport by bus, such transport cooperatives, joint-venture companies, limited liability companies, joint-stock companies, etc.

- Activities of public passenger transport by bus shall enjoy preferential policies on land rent payment, road tolls and yard fees under the existing regulations and decisions by the competent authorities.

- State-own enterprises and other economic sectors to invest assets to participate in public passenger transport in the large urban areas shall enjoy investment preference and be assisted with post-investment interest.

- Activities of public passenger transport by bus in urban areas are not subject to VAT.

- Activities of public passenger transport by bus if fare revenues are not enough to cover the cost of public services, the People's Committee of province and cities under the central government shall be subsidized from local budgets. Annual subsidy level should cover reasonable expenses specified under current regime of the government.

- The state-own enterprises and other economic sectors is ordered by the Government to purchase public transport products. For purchasing products for public passenger transport, People committee of province or city shall sign or authorize the Department of Transportation to sign a contract with the public transport enterprise. If there are several enterprise participating in public transport on the same territory of the city, bidding shall be applied under current regulations of the Government.

(4). Resolution No. 03/2013/NQ-HDND dated 12 July 2013 of Hanoi People's Council regarding priority for development of public mass transport system; encouragement to invest, construct and exploit bus station, parking places for cars and motor vehicles; application of high technology in management and administration of transport:

a) Priority for public mass transport system:

- Priority for traffic organization

- Priority for innovation and improvement of public transport service quality:

+ Vehicles used in public transport must be modern and applied with advanced technologies

+ Priority for proposal for selection of new, high-quality means in transport services when bidding is hold to open a new bus route.

- Encouragement to use mass transport modes:

+ Users are subsidized appropriately

+ The city exempts public mass transport users from charge for country-contributed people, the disables, and children under 6 years only;

+ For public transport by bus and BRT, state fund shall support 50% of monthly ticket for pupils, students, the elders; support 30% of monthly ticket for officials, staffs of office building, enterprises out of industrial zone that buy monthly tickets in collective form.

- Mechanism, policies giving priority for development of public mass transport:
 - + Budget supports 100% of road toll for public transport by bus, BRT
 - + City's budget supports 50% of interest rate of loan with first five years for investment in infrastructure of public transport by bus and for procurement of buses in each project ...
- b) Encouragement to invest in construction and operation bus station, parking yards for cars and other motor vehicles:
- Budget supports 100% of land leasing fee for 10 years from incurring of obligation to pay rent.
 - To be allowed to borrow from the development investment fund of the city with preferential loans.
 - City's budget supports 100% of import tax on imported equipment and technological lines to construct high-rise car park yard, underground car park yard.
 - HPC approves ceiling prices for parking service, bus station service charges, parking rates in terminals to be suitable with each area, scale and nature of each project, ensuring payback and social security.
- c) Application of high technologies in management and administration of transport system:
- Management and exploitation of transport infrastructure
 - Organization and management of transport:
 - + Development of roadmap and plans to apply high technology in management and administration of transport by using geological informatics system (GPS) and scientific advance of internet... Step by step to develop the center like PTA, traffic light control center ...
 - + Gradual development and improvement of a system of early warning information on traffic conditions; encouragement to install navigation equipment on vehicles
 - + Development of plans on application of high technology in building automated toll system
 - Management of transport operation:
 - + To encourage transport enterprises applying high technologies to coordinate and control of transport activities and simultaneously to connect information with the management and transport operation center in the area.
 - + Transport organizations and owners whose vehicles are equipped with journey monitoring devices are responsible to provide information on journey monitoring devices for traffic management and administration of the regulator.
 - Implementation of several solutions for application of high technologies.
 - + To organize trainings for high tech human resource to achieve international qualifications to accept and master high technologies in management and administration of transport and make plans to strengthen the capacity of regulator.
 - + To enhance international cooperation in research, application and development of high technologies in the field of management and administration of transport.
 - Mechanisms and policies to encourage the application of high technologies:

High-tech application in the management and administration of transportation is the content of the key scientific and technological program of the Capital.

2. A number of mechanisms and policies applicable to encourage the development of public passenger transport by bus in Hanoi:

- The decision of the HPC (Decision 45/QD-UB dated 29/6/2011) regarding consolidation of 4 companies into Transport and the Public Service Company (the predecessor of the Transerco) had created an organizational unity, the route network, management and administration, maximizing potential and available resources to accomplish large goals.
- The city's large initial investment is an important material prerequisite to comprehensively reform and improve the quality of public bus services, and to change traveling habits of people.
- For example: From 2001-2003, the state own enterprise of the City had invested 479.9 billion for public transport, the project on "Public transport investment vehicles " with the following portfolio:
 - + Purchase of 200 buses in Phase 1, 2001
 - + Purchase of 320 buses in Phase 2, 2002
 - + Receipt and transport of 50 Renault buses sponsored by France
 - + Purchase of equipment for bus management and operation
 - + Investment in upgrading the technical infrastructure of bus line
 - + Construction of bus maintenance workshop
 - + Purchase of equipment maintenance and repair
 - + Hiring experts and training operational personnel.

The project aimed to promote the leading role of stateown enterprises in the consolidation and rapid development of public buses in Hanoi, creating premise and market orientation for other economic sectors.

In the long term, the city's budget will support investment in building the technical infrastructure for public bus activities of the city. Investment in vehicle procurement and logistics service basis is investment responsibility of the units involved in public passenger transport. The city will support part of the interest rate for business loans or guarantee for foreign loans to purchase vehicles. The transport enterprise engaged in public transport prepares small projects to borrow and self pay in the course of business operation.

- To ensure adequate income that is attractive enough for employees to stick to the job and interested in improving the quality of passenger service.
- The consistent policy of the City of long-run subsidies for bus passengers are factor that ensures the sustainable development of public buses in the capital.
 - + Direct subsidies for public bus: allocate funds to directly subsidize based on the achieved passenger transport volume.

From 1992 - date, the HPC has a policy of direct subsidies for bus. Since the performance of the bus network increases, the subsidy per passenger 1 continuously decrease as follows:

In 2001, new buses were begun to be invested, therefore, cost of transportation increased, however, because the passenger did increase much, then subsidy per 1 passenger also increased. In 2002, bus passengers increased and the average level of subsidy for one passenger started to decrease compared to 2001. In 2004, after having acquired the habit of passengers, number of passenger increased rapidly, leading to subsidy level for 1 passenger reduction of more than a half, only VND500/passenger

-> When investment on vehicles to open new routes, it is accepted to acquire passenger habits with high subsidies. When the passenger habit is accuired, it will be more effective and subsidy is reduced rapidly.

+ Subsidy by the indirect method: through policies for businesses such as incentives, exemptions from VAT taxes and fees, parking and road tolls

- To improve the quality of services on the basis of a comprehensive innovation in combination with propaganda about the benefits using bus is the decisive factor to increase the rate of bus users.
- About the implementation method: It is agreed on guidelines – Development of detailed implemetation plan – Strong and deep awareness to workers – Close instruction of implementation - Follow the pilot model - Learning timely - Replication of the model is the success lession.

CONCLUSION OF CHAPTER 2

In Chapter 2, the Report has concentrated into introducing about several outstanding projects of technical assistance for Line 1, Line 2 Projects funded by JICA, Line 3 project funded by ADB and the Program on management of ownership and use of motorcycles in Hanoi City funded by WB; some policies of the Government and the City for development of public bus etc. Projects have given out various solutions, approaching methods helping HPC to orient and propose policies in compliant with main objective which is to promote the development of public passenger transport, encouraging people to use urban railway system.

The below is summary of solutions, policies which have been proposed in above-mentioned projects, as well as the implementation status, action plan of Hanoi City till current timing, in comparison to experience in promotion of using public transport modes in the world, which has been mentioned in Chapter 1. This will help HPC to know which solutions have not been applied for consideration of pilot application in the City, and which solutions have been applied in the City without clear effectiveness in encouragement and increase of the number of passengers using public transport.

IMPLEMENTING STATUS OF POLICIES/METHODS TO ENCOURAGE THE USE OF PUBLIC TRANSPORT IN HANOI CITY						
POLICY GROUP	DESCRIPTION	SPECIFIC POLICIES/METHODS	CITIES APPLYING	Encouraging methods for the use of public transport (Urban railway) in Hanoi City		
				Under study (Yet applied)	Prepare to apply	Already applied
GROUP 1		Integrating into one regulator which managing and organizing public transport for all vehicles (bus, urban railway, BRT, etc.) in strategy planning, planning, balancing and maintaining budget for development of public transport.	European countries, North America, Japan, Singapore.	✓		
GROUP 2 (TOD)	Developing the area in the future	Planning to organize UR stations into a system of commercial services, industries, offices, etc with high density development within the distance of 20 minutes walking, in the radius of 0.4-0.8km	Big cities in Japan, Bangkok, Australia		✓	
	Station accessing services with “On street vehicles”	Design of bus services, bus stations, waiting shelters for passengers			✓	
		Provide 2-wheel vehicles parking lots (motorbikes, bicycles)			✓	
		Provide parking areas for motorbike taxi and taxi nearby stations			✓	
		Provide positions to stop and dropping passengers off for vehicles, which should be near to entrance/exit of stations without causing traffic obstacles			✓	
	Station accessing services for pedestrians	Provide the space for pedestrians, remove obstacles on pavements which may obstruct walking paths				✓
		Improve, upgrade the pavements, curbs, accessing corner to stations. Install reasonable accessing paths for the disabled to enter stations				✓

		Provide, ensure sufficient lightening system, trees, water drainage, lane printer, signs, etc. to help pedestrians better accessing the station area.				✓
		Need to supplement the system of flyovers, underpass for passengers in areas where the density of vehicles is high				✓
	Organizing the traffic surrounding stations	Select optimal plans to well organize the traffic surrounding stations, creating priorities for public transport vehicles such as Bus, BRT to access stations: Laning from distance and surrounding stations to avoid traffic jams; Establish prioritized traffic system such as prioritized signs, signal lights, laning for public transport vehicles to conveniently access stations			✓	
	Multi-modal interchange	Design an area where passengers can interchange from UR with other public transport vehicles. Interchange, connecting services such as bridge (tunnel), waiting shelters, indoor walking paths, roofs, commercial areas need to be reasonably arranged, ensuring convenience of passengers			✓	
GROUP 3a Management of traveling demand (PUSH)	Controlling the increase of private transport modes (automobiles, motorbikes)	Imposing various tax and fees: import tax, registration tax, vehicle using tax, annual road tax	Many countries in the world			✓
		Provide quota for automobiles, motorbikes, accordingly, people must engage in auction or purchase the right of vehicle using.	Singapore	✓		
		People those want to own a car shall need to prove that they have area to park their cars.		✓		
		Apply the regulation on life cycle of motorbikes				✓
	Restrict, reduce the use of private vehicles	Fuel tax	USA			✓
		Urban transport fee	Singapore, Stockholm	✓		

	Charge for parking in urban area	Collect parking fee These kinds of tax, fee shall encourage enterprises to provide parking areas, and for users, these will encourage them to use replacing vehicles.	Cities in the world			✓
	Prohibite private transport vehicles	Prohibit some transport vehicles to enter city center during peak hours	London			✓
		Restrict transport vehicles by register number plate	China (Shanghai, Guangzhou, etc.), Mexico, Sao Paolo, Manila	✓		
GROUP 3b Management of transport demand (PULL)	Improve public transport passenger services	UR and bus lines are extended, the space is extended, the service frequency is increased, in order to ensure the demand of public transport	Cities in the world			✓
		Prioritizing supporting passenger transport modes which have high space occupation rate such as separated lane for bus, prioritized signals for bus, and mitigate any delay for public transport modes	London (UK), Singapore			✓
		Improve, ensure facilities for passengers in stations, bus shelters with roofs, seats and WC, etc.	Curitiba (Brazil), Guangzhou (China), Bogota (Colombia), Munich (Germany)			✓
		Integrate the system and fare of public transport, need to have reasonable policy to integrate the ticket system of public transport vehicles, creating a convenient payment system by using smart e-ticket.	Popular in the world		✓	

		Integrate passenger information, improve promotion programs: provide passengers with information, alternatives of routes, fare level of public transport services				✓
Improve the services for bicycle users	Construct parking lots, separated lane for bicycles	Map, direction signs for bicycle users	Cambridge, London (UK), Copenhagen (Denmark)	✓		
				✓		
	Public bicycle leasing service		Big cities in Europe, Osaka (Japan)	✓		
Encourage, support public transport users (Urban railways).	This is method with which Transport organizer can pull, encourage enterprises to join in the transport of their employees. Enterprises must pay their employees an amount of money if those employees do not use free parking area in the enterprise. With this amount of allowances, employees can pay to ride on common bus or by public transport (Metro, bus, BRT)		Brussel (Bi), USA, UK, Canada, New Zealand...	✓		
	Compulsory contribution of enterprises to urban transport (including public transport: Urban railway): specifically, a level of urban transport tax is stipulated for employers, this tax rate shall be contributed to the development of city's public transport system.		Entire France	✓		
	Indirectly support urban transport via subsidizing users not services. Enterprises, state administration organizations support their employees in purchasing monthly public transport ticket, or employers can purchase transport fee/tickets at public transport operators or transfer to transport card of their employees.		Brasil, France	✓		

		Have a reasonable ticket policy (fare type, fare structure, fare level), fare subsidy for public transport users, especially students, workers, officers, the disabled, the retirements, etc.	European countries, USA, China, South East Asian countries, etc.			✓
	Propagandize, enhance the awareness of people about public transport by urban railways	Methods of promoting public transport services, provide information, reasonable routes on mass media,; launch campaigns of encouraging the use of public transport, bicycle day, no-car day.	Bogota (Colombia), Zurich (Switzerland) with no-car campaign, Bavaria State with bicycle day	✓		

CHAPTER 3 : EVALUATION AND PROPOSAL OF RESPONSIBILITIES OF REGULATORS IN ENCOURAGING THE USE OF URBAN RAILWAY IN HANOI CITY

A. Background:

Chapter 1 of this report has studied and compiled on policies, experiences of big cities in the world about public transport use encouragement. In Chapter 2, the Report focused on updating, compiling programs, projects and policies for encouraging the development of sustainable public transport system, including urban railways, in Hanoi City.

According to international experiences, a public transport organization shall be in charge of the entire public transport system in one region/city. As a result, all public transport system related policies shall be made in quick, independent and modification easy manner. However, the management institution for public transport in Hanoi in particular, and in Vietnam in general, is quite complicated with interactive responsibility constraints: in central level is MOT, in local level is MOT, and other Departments, etc. As a result, the objective of Chapter 3 is to clarify and evaluate the roles, responsibilities of governmental organizations in proposing, advising and organizing the implementation of programs, policies encouraging the use of public transport system – urban railway in Hanoi City.

The study method of this Chapter focuses on evaluation, analysis of each policy, method of encouraging the use of public transport which are under the current authority and responsibilities of concerned departments, as well as explaining on the implementation and coordination mechanism.

B. Evaluation of responsibilities of UR regulators in solutions to encourage the use of urban railways:

I./ Solutions to strengthen institutional capacity in public transport (Establishment of PTA)

The benefits of forming a PTA are mentioned in Chapter 1.

In Hanoi, WB is coordinating with HPC to implement a project relating to the establishment of PTA, but this issue needs to be implemented following a roadmap and a competitive period to further complete current management institution of public transport. However, important steps in establishing PTA have been realized, HPC established Steering committee on the establishment of Multi-modal public transport organization with the participation of leaders of HPC, departments such as DOT, MRB, DOF, HAPI, TRAMOC, TRANSERCO, etc.

In the future, to successfully establish PTA, it is proposed to implement:

- Build up, strengthen the capacity of MRB to become Urban railway regulator of Hanoi City, which is responsible for managing, coordinating with departments and organizations in advising the city about state management over urban railways (fare policy, service quality, etc.)
- Strengthen the capacity of TRAMOC (under DOT): completing the function of planning and managing the network, constructing and completing BRT system, etc.

Selecting to incorporate public transport regulators (MRB, TRAMOC) shall help HPC to have a common strategic vision, mutually supplementing each other during management of multi-modal network right from the planning stage and network planning. As a result, each vehicle (bus, BRT, metro) shall be used at its most effectiveness for each region. Transport services with lower loading capacity can connect to those with higher capacity.

HPC shall need to coordinate and instruct, it is in need of a political determination and the vision of leaders and officers of Regulators in forming a common regulating organization for public transport (PTA) for the sake of citizens' traveling benefits. The establishment of PTA needs to be carefully discussed with the participation of departments and organizations, and consultation from international organizations, before People's Council adopts the resolution on its establishment.

II./ Solution group of developing the urban area with public transport orientation (TOD)

1. Development of the area in the future

Master plan of expanded area till 2030 and vision to 2050 includes recommendations appropriate to the role of Hanoi as capital city of the nation:

- Developing modern and integrated transport infrastructure;
- Constructing urban areas with public transport orientation;
- Developing a network of MRT to support the urban development;
- Developing all kinds of public transport, gradually reducing the use of private transport modes; encouraging the use of transport modes utilizing clean fuels;
- Building up integrated public transport system

In conclusion, HPC is the highest authority to organize activities and implement master plans and issues relating to the development of public transport incorporating the urban development. To develop urban areas surrounding urban railway stations, responsibilities of related regulators are proposed as following:

- HAUPA: instructing project owner (MRB or other organization as project owner) to make layout plans and station architecture; evaluating plans.
- Other project owners directly work with DoNRE regarding land use demand for development projects surrounding station area, are guided for implementing report on environment impacts assessment in accordance with regulations for DoNRE to compile and report to HPC.

2. Station accessing services with “On-street vehicles”:

DOT: instruct the planning of station accessing area for transport modes; Evaluate, approve for station accessing area of transport modes in the locality such as bicycle, motorbike, bus, taxi parking lots, etc. to ensure safety for passengers and transport modes when travelling and operating in accessing areas.

3. Station accessing service for pedestrians:

DOT is regulator for transport infrastructures in Hanoi City, including bridges, pavements, streets, median strip, road signs system, traffic lights, underpasses for passengers, which has been stipulated in Decision no. 17/2008/QĐ-UBND regarding functions, responsibilities and authorities of DPT.

- Thus, DOT is responsible for ensuring safety corridor for pedestrians, organizing monitoring and strictly dealing with any occupation to road bed, pavements by violating individuals or organizations; Organizing to improve the pavements, trees, urban landscape, etc.
- The Police will coordinate with PCs of districts: to organize activities avoiding any illegal occupation to pavements which affects the travelling of pedestrians.

4. Transport organizing method: establish prioritized transport systems such as prioritized signal lights, signs, laning for public transport modes to access:

DOT is responsible for advising HPC to promulgate specific methods such as laning of transport modes on big streets, building up separated lane for buses, installing prioritized signal lights. In addition, DOT also implements projects relating to improving public passenger transport such as project for BRT, etc.

- To ensure safety and mitigate traffic congestion, HPC instructed city's organizations, including DOT which is the main organization to re-lane the transport system, prohibit and minimize the operation of trucks, taxi during rush hours, utilizing warning lights and lights, laning from distance. In addition, there are penalties for vehicles violating the laning instruction.

5. Multi-modal transit:

HAUPA: organization which instructs, evaluates the layout planning and architecture design trung chuyên giữa các tuyến ĐSĐT, giữa ĐSĐT với phương thức khác.

DOT coordinates with HAUPA during the planning plane and designing of the UR transit area, presides over issues relating to bus, BRT systems, and parking lots, etc.

III./ Solution group of Traveling demand – PUSH:

Traffic congestion and traffic accidents, environmental pollution are problems affecting on the sustainable development of Hanoi capital city area. The main reason causing those problems has been clearly mentioned in Chapter 1, i.e. fever increase of private vehicles such as automobiles, motorbikes. Ministries, boards and HPC as well as related functional organizations have worked out various solutions, plans to mitigate and control the increase of private vehicles, especially in central urban areas in such big cities as Hanoi.

1. Controlling the increase of private vehicles (automobiles, motorbikes):

- a) Optimal method that Regulator can apply to control the increase of private vehicles is the application of policies relating to tax, fees for vehicle importers and users. This can adjust the consumption of people as well as increasing the input for the State budget.

MOF is an organization under the Government which implementing the State management functions of tax, fees, etc. In which, MOF shall precise, instruct related organizations to develop and promulgate the basis for calculating, and calculation methods for tax, fees for transport modes such as motorbike. For import tax, MOF has stipulated the level in Circular 79/2009/TT-BTC dated 20/04/2009 regulation on import tax of automobiles and motorbikes, or Circular 64/2009/TT-BTC detailing and guiding the execution of Decree 26/2009/NĐ-CP by the Government regarding special consumption tax. Road use fee has been prescribed at Circular 133/2014/TT-BTC instructing the collection, management and usage of road use fees for vehicles.

Together with regulations on tax and fee management by MOF, it is possible to totally control and mitigate the quantity of operating vehicles or imported components for automobiles, motorbikes.

However, in such big cities as Hanoi and HCMC, City's authorities also implemented methods to mitigate the operation of newly registered individual vehicles: those are registration fees, vehicles using fees (registration tax) phí trước bạ. DOF and DOT shall advice to HPC about the fee level for registration and usage of vehicles before reaching adoption by Resolution of City People's Council (the fee level ranges from 10-12%). If the City wants to mitigate the increase of private transport modes, traffic congestion and environment pollution, the method of adjusting registration fee is often used. In addition, City People's council shall issue Resolution on collecting road fee for motorbike (100,000 - 150,000/unit/year), HPC shall execute the Resolution, make decision to assign PCs of commune, towns levels to collect this fee. Traffic police of the City shall check and monitor the fee payment by vehicle owners.

b) Method of providing annual quota for motorbikes:

c) This method has not ever been applied in Vietnam, but has been developed and proposed to HPC and HCMC PC for consideration.

DOT is the organization proposing HCMC PC to allocate quota for vehicle operation on the basis of current situation and the annual development of transport infrastructure in the city. DOT, in coordination with DOF, shall propose the auction for the right of owning private vehicles and the owner shall pay a certain amount of money for the operation of the vehicle. In addition, to gain the right of participating the auction, DOT shall require participants to prove sufficient space for private vehicle parking in urban area. (The Plan on "Plan to develop public transport system in the city till 2025 - HCMC).

d) Applying the regulation on use life for automobiles, motorbikes:

The application of regulation on use life for automobiles and motorbikes is necessary, which aims at reducing the environment pollution, ensuring traffic safety and vehicle density on streets.

- Vietnam Register, functional organization of MOT in management of vehicle quality, assists MOT in instructing, guiding and checking the operation of motored vehicles registration.

- DOT, in coordination with Vietnam Register, shall instruct local motored register organizations, Inspectorate of DOT, in coordination with Traffic Police department, shall monitor, check and manage use life expired vehicles.

e) Urban traffic fee (Congestion-avoiding fee when entering city center)

f) Urban traffic fee is a method to control vehicles entering city center, which can dissatisfy vehicle owners by fees collected when going through check points. Thus, it has important meaning in reducing the operation of private transport modes.

g) However, the implementation is not easy since it affects the traveling, culture, society and economy of the people. For example, in Sweden, it is required to get 171 agreement / 137 blank votes in the highest legislative organization - the Parliament- for adoption. Besides, public polling is also needed, thus, propaganda tools are necessary for people to get comprehensive support from the society.

In Vietnam, urban transport fee (fee to mitigate transport vehicles entering city center) should be proposed by a Plan of MOT suitable to its functions of submitting Plans, projects, policies for developing MOT as assigned by the Government and Prime Minister. Ministries, boards and PCs shall contribute opinions. Finally, this can be approved by a Decision of Prime Minister. However, to implement this, a clear, long-term roadmap is needed, ensuring the survey on actual traveling demand of the people, managing the demand and settling in each certain area, and completing replacing public transport system.

- Accordingly, MOT is responsible for **regulating** the fee collecting for automobiles (based on the number of seats, and car types), motorbikes, etc. It is possible to exempt those under public organizations, police, defence, etc. MOF shall stipulate the fee level.

- HPC is responsible for stipulating the timing, area and method of fee collecting, but it is not allowed to be more than level approved by MOF. DOT is responsible for supporting HPC in the implementation of above activities, coordinating with Traffic Police to control the security and order at fee collecting points.

2. Regulation on vehicle parking in the city:

One of methods to mitigate the usage of private transport vehicles is to collect the fee for using parking lots on pavements, road bed.

DOT, with designated responsibilities and authorities, shall be organization to evaluate conditions to license or revoke license on car, motorbike keeping in the city as regulations. In addition, DOT submits HPC to propose prohibited streets for types of vehicles or prohibiting time, etc. DOT (Inspectorate of DOT) and the traffic police shall check and handle with violations on stopping and parking on prohibited streets as regulations.

+ DOT shall be responsible for constructing park and go areas in metro stations and transit stations.

+ DOT shall coordinate with DOF to study and propose HPC to regulate the fee for time-based car parking, in order to mitigate the use of private cars, the more the car parks, the more its owner will need to pay.

3. *Control and mitigate the number of cars by separating odd/even number plates:*

The control and mitigation of cars by separating odd/even number plates method is not new to various big cities in the world. But, in Vietnam, it has not been applied and a reasonable roadmap is in need of. Accordingly, those carrying even number plates (which has ending number of 0, 2, 4, 6, 8) shall only be allowed to enter city center on even days (Monday, Wednesday and Friday). While, those carrying odd number plates (1, 3, 5, 7, 9) shall be allowed to enter city center during odd days (Tuesday, Thursday, Saturday). Only on Sunday, all cars are permitted to operate.

However, to implement this measure, it is necessary to take socio-economic feature of the City into consideration to realize it in practice.

- Need to improve public transport system integrally and modernly to meet the traveling demand of people, making sure that people will use public transport system in days when they are not allowed to use their personal vehicles based on plate number.
- To improve infrastructure for application of this policy. It is required to construct transitional parking yards in surrounding areas to enable people to park their personal vehicles and continue using public transport modes to enter the center area.
- Application of odd and even number plate may cause some disadvantages for business and traveling of people and force them to have their countermeasure. For example, people or enterprise may buy more private vehicles for both odd and even number plates, accordingly increasing a number of private modes and traffic congestion. In addition, case of using fake number plate may increase to illegally use to counter against competence agencies; therefore, the situation is not improved.

Thus, what the City should do is to propagandize and raise awareness of the people for their understanding about negative things caused by using many personal vehicles and necessity to apply this measure.

- Application of odd and even number plate should accompany with sanction measure of law. It is necessary to study carefully before submitting to the Government to avoid negative reactions and dissatisfied feelings of the people.

Application of odd and even number plate should invest in installation of equipment system including camera, monitor gate, controlling center, force of polices ... and should prepare a large budge from the City. Therefore, study should be conducted properly to apply this measure.

DOT shall advise and propose HPC to submit City People's Council for adoption of this policy.. Based on road map and possibility to complete infrastructure, public transport system of the City is gradually improved (bus system operates stably and urban railway lines 2A, 3, 2, and 1 will be put into operation), people's awareness is raised to understand the importance in prevention of traffic congestion and accidents, then effectiveness is achieved.

IV./ Solution group of Traveling demand management – PULL:

With regard to this solution group, the purpose is to increase the attractiveness of public transport modes for citizens, encouraging people to use public transport via supporting policies and propaganda.

1. Improving public transport services (bus, BRT, UR)

Public transport network in the city includes bus, BRT and UR. Thus, to synchronously and effectively improve public transport service, close coordination of public transport regulators in the city is needed: DOT (common management on public transport in the city), TRAMOC (under DOT, regulator of public transport by bus), MRB (UR regulator)

- DOT evaluates train operation plan of UR Company, appropriate to actual resources as well as the demand of passengers. To improve the provision of UR services, DOT enhances the monitoring, inspecting, and requests the operator to provide the services as schedule, ensuring the quality as regulations. Enhancing the survey on opinions of passengers to request the operator to improve its service quality. If necessary, proposal is made for resources in order to improve the quality of passenger transport service for the operator.

- TRAMOC (under DOT): this is organization managing the bus network in the city, which was established in accordance with Decision no. 1112/QĐ-UBND dated 06/10/2008 by HPC. On 16/06/2009, the decision 764/QĐ-GTVT was issued by DOT to re-determine the functions, responsibilities, organization of the system and officers in TRAMOC.

- + TRAMOC develops the plan and diagram for bus lines monthly, quarterly and annually. Pursuant to traveling demand of the people, chairing and coordinating with functional departments of DOT (Transport management department) and bus companies to propose Director of DOT to promulgate lines, line alignment, service quality on bus lines.

- + TRAMOC enhances the inspection and monitoring bus operators in terms of their observation to regulations, rules in bus public transport by the Government, HPC and DOT.

- + TRAMOC develops the plans and strategy of developing public transport by bus following standards and allocation of bus participating in providing public transport service appropriate to each development stage of the urban area, in order to satisfy the traveling demand of the people and ensure urban environment hygiene.

2. Integration of public transport system and fare: Need suitable policy to integrate the ticket system for public transport vehicles, creating a convenient fare payment by using smart card.

Regarding this issue, on 13/09/2013 HPC made Decision no. 5579/QĐ-UBND regarding the approval for the Plan on technology and policy framework of e-ticket for public transport in Hanoi City. Accordingly:

- DOT shall chair and execute state management over the e-ticket system, advising HPC to promulgate specific regulation to implement that Framework. Coordinate and instruct project owners during the implementation of ticket components under projects of developing public transport in the city

- Department of Information and Communication: responsible for evaluating, checking the ticket system design of public transport development projects, ensuring the interoperability.
- Department of Science and Technology: Providing evaluation comments for ticket system used in public transport network in term of technology.
- Department of Finance: Promulgate documents specifically guiding the management over revenue, revenue allocation and subsidy policies for public transport lines using e-ticket
- The Owners of urban railway construction investment project; public transport operators: to observe stipulations in the Technology and Policy Framework.

3. Passenger information integration and improvement of public transportation marketing system:

At present, Transerco coordinate with TRAMOC (DOT) to arrange screen and led light to display information of the line and fare price in buses, waiting place for passengers to get and update information.

Promotion to use public transportation in Hanoi has been implemented for many years, especially for bus transportation. TRAMOC launched many promoting movements for bus usage in free-of-charge publications and schedules handing to the customers at the bus stations, bus stops, and fair exhibition in Hanoi City.

For urban railway transportation in the future, DOT is proposed to chair and coordinate with the urban railway operation and maintenance unit to implement information integration about train operation (train time schedule, frequency, station map, service time, fares, ticket type, advertisement and other information) at the stations, maps, kiosks, inside the trains), schools, offices, bus stations etc.

4. Service improvement for bicyclers:

- a) Construction of parking areas and lanes separately for bicycles; Provision of map. Sign boards and instructions for bicyclers

DOT with its prescribed functions and power submit to HPC the projects to construct parking yards for bicycles and lanes only for bicycles. However, DOT should study and survey carefully for construction of bicycle lanes because private mode density per 1km street is high. Therefore, construction of bicycle lane shall narrow lanes for cars and bike and pavement for pedestrians. Lane separation for bicycles shall ensure paint striping, fence or staking for lanes.

- Coordination with traffic public polices to instruct, check and deal with other transport modes entering the bicycle lanes in accordance with provisions of laws.
- Coordination with urban railway project owners to construct parking lots in urban railway stations, to check location and technical designs of bicycle parking lots.

- b) Pilot services of bicycles for rent

In order for congestion prevention and traffic safety assurance and sustainable urban development, the Prime Minister instructed HPC and central cities to coordinate with MOT to develop, approve and implement pilot bicycle service development plan in the center areas of the city in the period of 2013 -2015.

Accordingly, HPC assigned DOT to preside over and coordinate with ministries and departments to develop pilot bicycle service development plan in the center areas of the city.

+ Department of industry and commerce implements the plan to manufacture and consume bicycles in order to encourage public transportation and reduce congestion, save fuel and reduce environmental pollution. (For example, support for bicycle manufacturers and traders and subsidy for those who buy bicycles for daily travel in the city...)

5. *Policies to encourage and support passengers in using public transport (Urban railway).*

a) Indirect support for public transport thru funding the users, not services

HPC needs methods to appeal the employers to participate in traveling matter, encourage enterprises to think about responsibility to improve traveling conditions of staffs to enterprises.

- HPC assigns DOT to preside over and coordinate with MRB, bus and urban railway operators, coordinate and cooperate with enterprises and state administrative agencies that use many employees in the city for example:

+ HPC creates favorable conditions and mechanisms to encourage businesses and state administrative agencies to use their car park business to be parking spots for lease. Those employees who do not use private vehicles in the car park will be supported an amount which will be used to buy tickets of public transport facilities.

+ Encouraging businesses and state administrative agencies to support monthly travel allowances for travel expenses by monthly public transport ticket cards for workers who do not used motorcycles, private cars in the parking areas of these agencies (implementation shall be more compulsory for enterprises and departments under HPC).

In 2008, DOT advised HPC to decide on support for civil servants and official who travel to work like setting up bus line with subsidy, free of charge for civil servants and officials working in departments of the City, reducing civil servants and official using private vehicles for traveling to work and reducing travelling expenses.

+ DOT presides over and works with bus, urban railway and BRT operators to create most favor to provide monthly public transport cards right at the enterprises and state administrative agencies without coming to the ticket selling places.

+ It is suggested to the units using employees to apply expense-return policies to those who use public transport mode for traveling trips rather than traveling by cars (taxi, coach)..

Currently, the infrastructure for urban transport as urban railway, BRT, bus, urban road infrastructure, etc. of the city is still under development. Therefore, much more time is required to encourage enterprises and business organizations in the area to voluntarily contribute to traveling of workers by public transport. HPC is not yet able to use coercive measures for enterprises, economic organizations. However, for state enterprises, the business and administrative bodies (departments and agencies) under HPC, DOT is in collaboration with MRB to advise city leaders to instruct and notify to request enterprise leaders, directors of the city departments to implement measures to support, participate in

public transport traveling of workers, and to inform the result to DOT for making report to HPC.

b) Compulsory participation of the city's enterprises in public transport matter:

Concretely, an urban transport tax level is prescribed for employers. Such tax will contribute to the development of the city public transport system. Tax imposed on the total payroll of the enterprises ranges from 1.4% to 2.6% of total payroll. France is very successful with this policy because its state agencies considered that enterprises in the regions has benefited greatly from the public transport network.

Enterprises in Hanoi city in particular and enterprises in the country general, that are mainly small and medium sized enterprises with low capital and profit scale, and just experienced world economic crisis, should be supported by development policies of the government. Therefore, considering the current situation, application of urban transport tax to enterprises is not feasible and taken more time for consideration and decision. The most suitable time to start studying is when public transport management agency (PTA) is established; public transport systems and other transport infrastructure develop comprehensively and modernly, creating leverage for development of enterprises. Meanwhile, propagandizing and convincing the society and enterprises will be easier and more feasible.

However, due to the nature of the national capital, where attracts many social investment, human resources from the nation and foreign countries, HPC should study and learn about application of urban transportation tax to enterprises from the experience of foreign countries like France. It is necessary to implement through a scheme with the chairmanship of PTA in the future, with opinion contributions of the ministries and the government for consideration and finally discussed and approved by the National Assembly of the Socialist Republic of Vietnam.

c) Appropriate fare policy (tickets, ticket structure, fares), subsidy to passengers using public transport (urban railway) especially students, workers, civil servants, the disable and the retirees, etc.

Policies and mechanisms to support the people using public transport are very interested in by the State and have been implemented to share traveling costs for people

Currently, in order to encourage the development of public transport, the Prime Minister issued Decision No. 13/2015/QĐ-TTg dated 05 May 2015 prescribing mechanisms and policies on subsidies for use of public transport services:

- Free tickets for children under 6 years of old, the severe disables and especially severe disabled persons.
- Reducing fare price for people who have distribution to the revolution, the elderly, students, pupils who are citizens of Vietnam

Accordingly, HPC should implement:

- + To assign HAPI to chair and work with DOT, DOF to review and balance annual budget to develop public transport. To arrange local budget in the yearly plan to partially or total assist travel expense and service price in bus public transport.

- + DOT coordinates with DOF, HAPI and operators to propose fare policy with fare structure and fare types suitable with travelling of people, suitable fare price compared to other transport modes and with subsidy for transport to encourage people to use.
- + DOT coordinates with DOLISA to issue regulations on the people subject to assistance or remission of fare for usage of public transport (the poor, students, pupils, the disable, the war invalids, the elders.)

d) Probandization and increase of awareness of people about public transport, especially urban railway – new transport mode

- Annually, DOT makes plan to arrange budget for information and communication aiming at encouraging people to use urban railway transport
- DOT presides over and coordinates with Department of information and telecommunication, Department of Education and Training, Safety and Traffic Board of the City in providing information and communication to encourage people using urban railway transport.

CHAPTER'S CONCLUSION:

Chapter 3 has studied on the responsibilities, participation and coordination of concerned regulators in promoting and encouraging the use of public transport system, including UR network.

For policies/methods of encouragement have been implemented in Hanoi, the study has worked out the responsibilities of main organizations, and mechanism of coordination for implementation. For policies/methods which are under studies without application in Hanoi, the report has proposed the responsibilities of regulators, roles and methods of execution, coordinating organizations in order to apply policies in reasonable and feasible manners.

TABLE OF EVALUATING RESPONSIBILITIES OF REGULATORS IN PROPOSING POLICY TO ENCOURAGE THE USE OF PUBLIC TRANSPORT (URBAN RAILWAY)

○: Coordinating, contributing comments

●: Mainly in charge

POLICY GROUP	DESCRIPTION	SPECIFIC POLICIES/METHODS	Evaluating responsibilities, roles of Regulators (Vietnam) in proposing policy to encourage the use of public transport (urban railway)						
			Central organizations			HPC			Remarks (Other Ministries, Departments, organizations...)
			MOT	MOF	Other Ministries	DOT	DOF	Other Departments	
GROUP 1		Integrating into one regulator which managing and organizing public transport for all vehicles (bus, urban railway, BRT, etc.) in strategy planning, planning, balancing and maintaining budget for development of public transport.				○		○	Need contribution from Departments and boards, consultation of advanced countries before the Resolution is adopted by City People's Council
GROUP 2 (TOD)	Developing the area in the future	Planning to organize UR stations into a system of commercial services, industries, offices, etc with high density development within the distance of 20 minutes walking, in the radius of 0.4-0.8km						●	HAUPA takes main responsibility

	Station accessing services with “On street vehicles”	Design of bus services, bus stations, waiting shelters for passengers				●			
		Provide 2-wheel vehicles parking lots (motorbikes, bicycles)				●			
		Provide parking areas for motorbike taxi and taxi nearby stations				●			
		Provide positions to stop and dropping passengers off for vehicles, which should be near to entrance/exit of stations without causing traffic obstacles				●			
	Station accessing services for pedestrians	Provide the space for pedestrians, remove obstacles on pavements which may obstruct walking paths				●		○	Hanoi Police Department (Traffic police, district police) coordinate to handle with violations to road bed and pavements for pedestrians
		Improve, upgrade the pavements, curbs, accessing corner to stations. Install reasonable accessing paths for the disabled to enter stations				●			
		Provide, ensure sufficient lightening system, trees, water drainage, lane printer, signs, etc. to help pedestrians better accessing the station area.				●			
		Need to supplement the system of flyovers, underpass for passengers in areas where the density of vehicles is high				●			
	Organizing the traffic surrounding stations	Select optimal plans to well organize the traffic surrounding stations, creating priorities for public transport vehicles such as Bus, BRT to access stations: Laning from distance and surrounding stations to avoid traffic jams; Establish prioritized traffic system such as prioritized				●			

		signs, signal lights, laning for public transport vehicles to conveniently access stations							
	Multi-modal interchange	Design an area where passengers can interchange from UR with other public transport vehicles. Interchange, connecting services such as bridge (tunnel), waiting shelters, indoor walking paths, roofs, commercial areas need to be reasonably arranged, ensuring convenience of passengers				○			
GROUP 3a Manage ment of traveling demand (PUSH)	Controlling the increase of private transport modes (automobiles, motorbikes)	Imposing various tax and fees: import tax, registration tax, vehicle using tax, annual road tax	○	●		○	○	○	
		Provide quota for automobiles, motorbikes, accordingly, people must engage in auction or purchase the right of vehicle using.				●			
		People those want to own a car shall need to prove that they have area to park their cars.				●			
		Apply the regulation on life cycle of motorbikes	●			○		○	Coordinating with Hanoi Police Department
	Restrict, reduce the use of private vehicles	Fuel tax	○	●		○	○	○	
		Urban transport fee	●	○		●	○	○	Additionally coordinate with Hanoi Police
	Charge for parking in urban area	Collect parking fee. Strictly regulating the construction of parking lots, mitigating newly construction of parking lots, and using part of parking fee for public transport network. Construct more park and go areas at urban railway stations.				●	○	○	Hanoi Police coordinates in inspecting the use of road bed and pavements
	Prohibite private transport vehicles	Prohibit some transport vehicles to enter city center during peak hours				●		○	Hanoi Police coordinates to monitor
		Restrict transport vehicles by register number plate				●		○	Hanoi Police coordinates to monitor

GROUP 3b Manage ment of transport demand (PULL)	Improve public transport passenger services	UR and bus lines are extended, the space is extended, the service frequency is increased, in order to ensure the demand of public transport				○			
		Prioritizing supporting passenger transport modes which have high space occupation rate such as separated lane for bus, prioritized signals for bus, and mitigate any delay for public transport modes				●			
		Improve, ensure facilities for passengers in stations, bus shelters with roofs, seats and WC, etc.				○			
		Integrate the system and fare of public transport, need to have reasonable policy to integrate the ticket system of public transport vehicles, creating a convenient payment system by using smart e-ticket.				●	○	○	Need coordination from DoST (HN) and DoIC (HN)
		Integrate passenger information, improve promotion programs: provide passengers with information, alternatives of routes, fare level of public transport services				○			
	Improve the services for bicycle users	Construct parking lots, separated lane for bicycles				●		○	Hanoi Police coordinates to monitor
		Guiding map, direction signs for bicycle users				●			
		Public bicycle leasing service				●	○	○	DoIT joins in the development of Plan on producing and

									consuming bicycles for public transport; DOF stipulates rental fee
	Encourage, support public transport users (Urban railways).	This is method with which Transport organizer can pull, encourage enterprises to join in the transport of their employees. Enterprises must pay their employees an amount of money if those employees do not use free parking area in the enterprise. With this amount of allowances, employees can pay to ride on common bus or by public transport (Metro, bus, BRT)				●			
		Compulsory contribution of enterprises to urban transport (including public transport: Urban railway): specifically, a level of urban transport tax is stipulated for employers, this tax rate shall be contributed to the development of city's public transport system.	○	○	○	○	○	○	This is methods needed to be studied and applied for the future (PTA), with opinions contributed from Ministries, boards, ... and adopted by the National Assembly
		Indirectly support urban transport via subsidizing users not services. Enterprises, state administration organizations support their employees in purchasing monthly public transport ticket, or employers can purchase transport fee/tickets at public transport operators or transfer to transport card of their employees.				●			
		Have a reasonable ticket policy (fare type, fare structure, fare level), fare subsidy for public transport users, especially students, workers, officers, the disabled, the retirements, etc.				●	○	○	HAPI coordinates in reviewing and balancing annual

									budget for public transport
	Propagandize, enhance the awareness of people about public transport by urban railways	Methods of promoting public transport services, provide information, reasonable routes on mass media.; launch campaigns of encouraging the use of public transport, bycycle day, no-car day.				○		○	MRB coordinates with DOT, DoIC, Dept. of Education and City's transport safety committee

CHAPTER 4: CONCLUSION, PROPOSAL AND RECOMMENDATION

I. Conclusion:

Report on “Study on incentive policies for the use of urban railways in Hanoi City” of the Technical Assistance Project “to Strengthen the capacity of Regulator and establish operation and maintenance company for metropolitan railway lines in Hanoi City” funded by JICA, indicates clearly the necessity to promote, propose policies, measures to encourage the use of urban railways in Ha Noi city. Among those, there are 3 remarkable groups of policies, including: (i) *Strengthening institutional capability in public transport management*; (ii) *T 2. Promoting Public transport (Urban railway) via connection and planning of urban land use with public transport (TOD)*; (iii) *3. Travel Demand Management (TDM)*.

The proposal and implementation of policies to encourage the use of urban railway is the responsibility of management bodies of the Hanoi City People's Committee, in which DOT takes main responsibility.

II. Proposal, recommendation:

Proposals, recommendations are mentioned in the study as follows:

- HPC decides the functions and responsibilities of the Hanoi urban railway regulator (DOT), to establish organizational structure and resources necessary to perform the responsibilities of governmental management about urban railway in general and advice on the policies to encourage the use of urban railway in particular.
- DOT and relevant agencies to advise the HPC on early studying and issuing measures and policies to encourage the use of urban railway lines to suit with real socio-economy conditions of the city Hanoi and in accordance with the roadmap of urban railway Line 2A: Cat Linh - Ha Dong, and Line No. 3 Nhon - Hanoi Railway Station that are expected to put into operation respectively in late 2016, and 2018.



HANOI PEOPLE'S COMMITTEE



**JAPAN INTERNATIONAL
COOPERATION AGENCY**

REPORT ON THE COMPLETED PRODUCT

TECHNICAL ASSISTANCE PROJECT

**TO STRENGTHEN THE CAPACITY OF REGULATOR AND TO ESTABLISH
OPERATION AND MAINTENANCE COMPANY FOR METROPOLITAN RAILWAY
LINES IN HANOI CITY**

ACTIVITY 2. FARE POLICY AND SUBSIDY

Hanoi, Dec. 2015



HANOI PEOPLE'S COMMITTEE



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ACTIVITY 2. FARE POLICY AND SUBSIDY

PROJECT OWNER

HANOI RAILWAY ONE MEMBER LLC

CONSULTANT

JICA/TA TEAM

CONDUCTED BY

EXPERT

Nguyen Trung Thanh

Takayuki Hagiwara

Hanoi, Dec. 2015

ACRONYM AND ABBREVIATIONS

Acronym/Abbreviations	Description
Government	The Government of Socialist Republic of Vietnam
AFC	Automatic Fare Collection
BRT	Bus Rapid Transit
BTS	Bangkok Transit System
COMET	Community for Metros
CPI	Customer Price Index
DOF	Department of Finance, Hanoi City
DOT	Department of Transport, Hanoi City
FAM	Fare Adjustment Mechanism
Farebox Ratio	A ratio calculated by dividing fare revenues by direct and indirect service operation and maintenance costs
FFC	Fare Fixation Committee
FS	Feasibility Study
GDP	Gross Domestic Product
HAIDEP	Comprehensive Urban Development Programme in Hanoi Capital City (Hanoi development master plan)
HAPI	Hanoi Authority of Planning and Investment
HMC	Hanoi Metro Company (the Operator of Hanoi Metro)
HKD	Hong Kong Dollar
HPC	Hanoi Peoples' Committee
HUTDP	Hanoi Urban Transport Development Project
IC	Integrated Circuit
IDR	Indonesian Rupiah
INR	Indian Rupee
Jabodetabek	Greater Jakarta Region (Jakarta, Bogor, Depok, Tangerang, Bekasi)

JICA	Japan International Cooperation Agency
JPY	Japanese Yen
KCR	Kowloon Canton Railway, Hong Kong
KPI	Key Performance Indicator
KRW	Korean Wong
LOS	Level of Service
LRT	Light Rail Transit
LTA	Land Transport Authority, Singapore
MLIT	Ministry of Land Infrastructure & Transport and Tourism, Japan
MOF	Ministry of Finance, Vietnam
MOT	Ministry of Transport, Vietnam
MRB	Hanoi Metropolitan Rail Transport Project Board -HRB, Hanoi Metropolitian Railway Management Board MRB)
MRT	Mass Rapid Transit
MTR	Mass Transit Railway (Hong Kong Metro Operator)
OA	Operating Agreement
O&M	Operation and Maintenance
OMU	Operation and Maintenance Unit
PHP	Philippine Peso
PM	Prime Minister
PO	Plan of Operation
PTA	Public Transport Authority (proposed consolidated regulator managing all public transport systems in Hanoi)
PTC	Public Transport Council, Singapore
RM	Malaysia Ringgit
RPI	Retail Price Index
SAPI	JICA Special Assistance for Project Impementation
SGD	Singapore Doller

SMRT	Singapore Mass Rapid Transit (Singaporean Metro Operator)
TA	Technical Assistance
TFP	Total Factor Productivity
THB	Thai Bhat
TRAMOC	Existing regulator of ordinary bus systems in Hanoi
TRANCERCO	Existing operator of ordinary bus systems in Hanoi
TWD	Taiwan Doller
UR	Urban railway(s)
USD	U.S. Doller
VND	Vietnamese Dong
VNRA	Vietnam Railway Administration
WI	Wage Index
WTP	Willingness-to-pay

TABLE OF CONTENTS

CHAPTER 0	INTRODUCTION	10
CHAPTER 1	LEGAL BASIS AND BACKGROUND	12
1.1	LEGAL BASIS	12
1.2	BACKGROUND	14
1.2.1	Socio-Economic Growth of Hanoi City	14
1.2.2	Transport Development Master Plan	14
1.2.3	Urban Railway Projects	15
1.2.4	Necessity of Fare Policy Study	15
1.3	Word Interpretation	16
CHAPTER 2	OBJECTIVES AND SCOPE OF THIS STUDY	17
2.1	OBJECTIVE OF THE REPORT	17
2.2	METHOD OF THIS STUDY	17
2.3	SCOPE OF THIS STUDY	17
2.4	STRUCTURE OF FARE POLICIES	18
2.5	WORK PLAN	18
CHAPTER 3	FARE POLICY GOALS	20
3.1	GENERAL	20
3.1.1	Overview	20
3.1.2	Establishing Fare Policy Goals	20
3.2	FARE POLICY GOALS	21
3.2.1	Goal 1: Ensuring Affordability of Fares	21
3.2.2	Goal 2: Increasing Ridership	21
3.2.3	Goal 3: Increasing Fare Options	21
3.2.4	Goal 4: Reducing Complexity	21
3.2.5	Goal 5: Increasing Social Equity (Rewarding Target Behaviours)	21
3.2.6	Goal 6: Meeting Farebox Recovery Targets	22
3.2.7	Goal 7: Enabling Regular Adjustment of Fare Price	22
3.2.8	Goal 8: Maximizing Political Acceptability	22
3.3	CONCLUSION	23
CHAPTER 4	FARE LEVEL, FARE STRUCTURE AND TYPE OF FARE	24
4.1	GENERAL	24
4.1.1	Overview	24
4.1.2	Existing Fare Level, Fare Structure and Type of Fare	24
4.2	PROPOSED FARE LEVEL	27
4.2.1	Initial Fare Setting and Subsequent Fare Adjustments	27
4.2.2	Importance Basis for Fare Setting	27
4.2.3	Related policies of Hanoi City	27
4.2.4	Past Studies on Fare Level	30
4.2.5	Fare Level based on Total Cost (to Meet Farebox Recovery Target)	30
4.2.6	Fare Level based on Willingness-to-Pay (WTP)	31
4.2.7	Fare Level based on Comparison with other Modes	33
4.2.8	Fare Price Benchmarking	34

4.2.9	Important Note	34
4.2.10	Proposed Fare Table	41
4.3	PROPOSED FARE STRUCTURE	48
4.3.1	Flat Fare	48
4.3.2	Distance-based Fare	48
4.3.3	Zonal Fare	48
4.3.4	Time-based (e.g. peak/off-peak) Fare	48
4.3.5	Service-based (e.g., bus or rail) Pricing	48
4.3.6	Assessment.....	49
4.4	TRANSFER PRICING AND DISCOUNT	52
4.4.1	Transfer Pricing	52
4.4.2	Type of Transfer Pricing	52
4.4.3	Choice of Transfer Pricing and Discount Alternatives	52
4.4.4	Proposed Transfer Pricing and Discount System.....	54
4.5	TYPE OF FARE	55
4.5.1	General.....	55
4.5.2	Individual Trip Ticket	55
4.5.3	Multiple-ride Ticket	55
4.5.4	Unlimited-ride Ticket.....	55
4.5.5	Group Ticket	55
4.5.6	Multi-Modal Ticket.....	56
4.5.7	Concession Ticket.....	56
4.5.8	Proposed Ticket Types.....	56
4.6	CONCLUSION	64
4.6.1	Fare Strategy	64
4.6.2	Proposal for Fare Prince in 2017	64
4.6.3	Application of Transfer Fare.....	64
4.6.4	Proposal for Fare Types	65
CHAPTER 5	FARE REGULATION FRAMEWORK	67
5.1	GENERAL.....	67
5.2	FARE REGULATION PRINCIPALS	67
5.3	PREMISES	68
5.4	EXISTING REGULATORY FRAMEWORK.....	69
5.4.1	Bus	69
5.4.2	Vietnam National Railways	70
5.5	FARE PRICING REGULATION	71
5.5.1	General.....	71
5.5.2	Rate of Return Regulation	71
5.5.3	Price Cap Regulation	73
5.5.4	The Elements Controlled by the Form of Regulation	74
5.5.5	Regulatory Lag and Timing of Review by the Form of Regulation	74
5.5.6	Assessment.....	74
5.6	IMPLEMENTATION OF FARE REVIEW	77
5.6.1	Types of Fare Adjustment.....	77
5.6.2	Decision Making Procedure.....	78
5.6.3	Fare Adjustment Criteria.....	79
5.6.4	Timing of Reviews.....	81

5.6.5	Theoretical Studies	81
5.6.6	The General Public	81
5.6.7	Proposed Fare Fixation and Adjustment Mechanism by Period	83
5.6.8	Proposed Fare Adjustment Formula	83
5.7	SUBSIDY SYSTEM.....	85
5.7.1	Subsidy Framework Proposed by SAPI Study	85
5.7.2	Subsidy System Proposed by TA Study	85
5.8	CONCLUSION	87
CHAPTER 6	IMPLEMENTATION SCHEME	98
6.1	GENERAL.....	98
6.2	DEVELOPMENT SCENARIO	98
6.3	PREPARATORY PERIOD	102
6.3.1	Initial Fare Setting.....	102
6.3.2	Theoretical Research.....	102
6.3.3	Decision Making Process.....	102
6.3.4	Timing of Concluding Fare Policy, Fare Structure and Initial Fare	103
6.4	INITIAL ARRANGEMENT (PHASE 1:2016-2018).....	104
6.4.1	Cost-of-Service	104
6.4.2	Benchmarking Total Cost and Service Quality/Level-of-Service	104
6.4.3	Decision Making Process.....	104
6.4.4	Timing of Concluding Target and Total Cost.....	105
6.5	INTEGRATED MANAGEMENT (PHASE 2).....	106
6.5.1	Continuing Cost-of-Service Model.....	106
6.5.2	Designing Farebox Recovery Target	106
6.5.3	Deciding Amount of Subsidy.....	106
6.5.4	Integrating Fare across Urban Railway Lines.....	106
6.5.5	Decision Making Process.....	106
6.5.6	Timing of Concluding Farebox Recovery Target and Subsidy Amount	107
6.6	NEW REGULATORY INSTITUTIONS (PHASE 3).....	108
6.6.1	Introducing Price-Cap Regulation	108
6.6.2	Public Transport Authority (PTA)	108
6.6.3	Mandating PTA with Independent Decision Making Power	108
6.6.4	Proposing Fare Adjustment.....	108
6.6.5	Public Comment Period for Proposed Fare Adjustment.....	109
6.6.6	Public Notice for Impending Fare Adjustment	109
6.6.7	Integrating Fare across Urban Railways and Buses/BRT	109
6.6.8	Decision Making Process.....	109
6.6.9	Timing of Fare Review	110
6.7	CONCLUSION	111

CHAPTER 0 INTRODUCTION

Fare policy, as defined by American public transportation association, is to develop principles and long-term goals to support and guide decision making related to the fare level. Fare Policy is understood in accordance the overall scope to include: one side is technology, type of fare collection and vehicles/payment technology, and the other side is fare structure, fare strategies, payment options, and fare level.

In Hanoi, fare policy has been studied or proposed for each part in study reports related to urban railway development, from transport planning studies, the feasibility studies of each urban railway investment project to study on establishment of operations and maintenance company for metropolitan railway lines in Hanoi City. Fare policy can be considered not only a basis and a means to identify and ensure investment effectiveness for public transport system in Hanoi in general, and also as a basis for decision making for each urban railway project in particular, as well as cooperation on urban railway operation in the future.

With such a wide and important scope, a comprehensive study on fare policy is required, especially when the first urban railway Line 2A was estimated to put into operation in 2015 (estimation at the time of preparation for the TA Project). Therefore, within the framework of the Technical Assistance Project "to strengthen the capacity of regulator and to establish operation and maintenance company for metropolitan railway lines in Hanoi", on one hand, a study on clarification of functions and responsibilities of the urban railway regulator is conducted and on the other hand, fare policy study is performed comprehensively as presented herein.

In the framework of the TA Project, this study shall focus on proposal for fare structure, fare level, regulatory mechanisms based on recommendations of main goals of fare policy consistent with Hanoi's public transport development strategy in particular and socio-economic development strategies in general. The report includes has six chapters as follows:

- Chapter 1. Legal basis and background
- Chapter 2. Objectives and scope
- Chapter 3. Fare policy goals
- Chapter 4. Fare structure
- Chapter 5. Fare regulation framework
- Chapter 6. Implementation scheme.

The first draft of the report was made in Apr. 2014, and was held to obtain comments from the relevant authorities, completed and submitted HPC in March 2015. After that, the report was continued to be sent by DOT for obtaining the comments from the relevant agencies. Accordingly, it has been completed as described herein. This report, compared to the one drafted in March 2015, has been updated with information of implementation status of urban railway projects and the relevant data, explanation for application of the relevant regulation of Vietnam in making assumptions, proposals as shown in the report and updates from the other results of the TA Project.

Urban railway development needs a long journey with gradual self-improvement, including a single development of investment and operation, and integral development of institution and development of regulations on management.

Fare policy report partially has strategic and institutional features, showing some methods and plans consistent with the current situation and forecast of development of urban railway system in Hanoi and related conditions. Therefore, consideration of this document should be long term oriented; the exploitation, usage and application should be flexible and appropriate to each stage.

Construction of urban railway system is itself a strategy investment with the ambition to change the basic conditions for Hanoi development, to absolutely deal with traffic problem in the long run. Policies and their associated implementations have breakthroughs, satisfying management requirements of modern public transport system, and ensuring sustainable development. Therefore, several contents proposed in the fare policy herein are not such a small challenges to be put into practical application. However, if these basic recommendations are not initiatively applied, it is difficult to say that the urban railway system will be able to develop smoothly in long term in the future.

CHAPTER 1 LEGAL BASIS AND BACKGROUND

1.1 LEGAL BASIS

Law on Budget No. 01/2002/QH11 dated 16/12/2002;

Railway Law No. 35/2005/QH11 dated 14/6/2005;

Law on Insurance Business No. 24/2000/QH10; Law on amendment and supplement of Law on Insurance Business No:

Law on Price No. 11/2012/QH13 dated 20/6/2012;

Capital City Law No. 25/2012/QH dated 21/11/2012)

Law on Bidding No. 43/2013/QH13 dated 26/10/2013;

Law on Anti-terrorism No. 28/2013/QH13 dated 12/6/2013

Law on Science and Technology No. 29/2013/QH13 dated 18/6/2013;

Law on Natural Disaster Prevention and Control No. 33/2013/QH13 dated 19/6/2013

Law on Fire Prevention and Fighting No. 27/2001/QH10; Law on Amending and supplementing a number of articles of Law on Fire Prevention and Fighting No. 40/2013/QH13 dated 22/11/2013;

Law on Public Investment No. 67/2014/QH13 dated 26/11/2014;

Law on Enterprise No. 68/2014/QH13 dated 26/11/2014;

Decree 109/2006/NĐ-CP dated 22/9/2006 of Government – Detailing and Guiding the implementation of some articles of Railway Law;

Decree 09/2009/NĐ-CP dated 05/02/2009 promulgating the Regulation on financial management of state companies and management of state capital invested in other enterprises;

Decree 99/2012/NĐ-CP dated 15/11/2012 of the Government on assignment, decentralization of the implementation of the rights, responsibilities and obligations of state owner for the state-owned enterprises and state capital invested in the enterprises

Circular no. 25/2014/TT-BTC dated 17/2/2014 of Ministry of Finance prescribing common valuation methods for goods and services;

Decision no. 490/QĐ-TTg dated 05/5/2008 by the Prime Minister to approve for the Master Plan of construction of Hanoi capital area till 2020 and vision to 2050;

Decision 90/2008/QĐ-TTg dated 09/7/2008 by the Prime Minister to approve for the Master Plan of Transport development in Hanoi till 2020;

Decision 1436/QĐ – TTg dated 10/9/2009 by the Prime Minister regarding approval of the adjusted master plan on development of Vietnam's railway transportation up to 2020, with a vision toward 2030;

Decision no. 1259/QĐ-TTg dated 26/7/2011 by the Prime Minister to approve for the Master Plan of construction of Hanoi till 2030, vision to 2050.

Decision 222/QĐ-TTg dated 22/02/2012 by the Prime Minister to approve for the Socio-Eco development strategy of Hanoi City till 2030, vision to 2050.

Decision No. 214/QĐ-TTg dated 10/02/2015 of the Prime Minister on approval for adjustment of Vietnam railway transport development strategy to 2020, vision to 2050;

Official Letter 968/VPCP-KTTH dated 10/02/2010 of Government Office regarding “financial scheme for Hanoi – Ha Dong Railway Project”;

Letter No 908/VPCP-KTTH dated 17/02/2012 of Government Office regarding “Financial scheme and implementation of Financial Agreement for Subway project in Vietnam”;

Official Letter No 2152/VPCP-KTTH dated 03/04/2012 of Government Office regarding “Financial scheme and implementation of Financial Agreement for Subway project in Vietnam”;

Decision 61/2007/QĐ-BGTVT dated 24/12/2007 of the Ministry of Transport promulgating the Regulation on types of railway business enterprises required to have safety certificates and conditions, order and procedures for the grant of safety certificates;

Notice No182/TB-BGTVT dated 29/3/2013 of Ministry of Transport regarding the information of Minister Dinh La Thang’s conclusion at the meeting on the implementation status of urban railway projects in Hanoi Capital and Ho Chi Minh City;

Letter No 3734/BGTVT-TCCB dated 26/04/2013 of Ministry of Transport regarding “the establishment of operation and maintenance for Cat Linh – Ha Dong Urban Railway”

Letter No 3155/BGTVT dated 24/4/2012 of MOT regarding “the items related to exploitation, operation of urban railway applied the form of re-lending”

Letter No 1044/CĐSVN – KHĐT dated 01/08/2012 of Railway Bureau regarding “ giving comments on some items in the study of establishment of Operation and Maintenance Company for Urban Railways in the area of Hanoi City and Ho Chi Minh city”

Letter No 11766/BTC-QLN dated 15/12/2011 of Ministry of Finance regarding “financial scheme and implementation Financial Agreement for Subway Construction Project in Vietnam”

Letter 3542/BTC – QLN dated 16/03/2012 of Ministry of Finance regarding “ adjustment of contents of Letter No 11766/BTC-QLN dated 15/12/2011

Resolution No. 03/2013/NQ-HĐND dated 12/7/2013 of HPC giving priority for development of public mass rapid transit; incentives for investment and operation of stations, parking yards of cars and other motor vehicles; application of high technology to transport management and control;

Memorandum of understanding dated 03/12/2012 between JICA Vietnam and Hanoi People Committee regarding “strengthening the capacity of Hanoi Metropolitan Railway Management Board

(MRB) and establishment of an organization for the Operation and Maintenance of Metropolitan Railway Lines in Hanoi City”;

Decision No. 1971/QĐ-UBND dated 04/03/2013 of HPC on approval of the Technical Assistance Project “To strengthen the capacity of Regulator and establish operation and maintenance company for metropolitan railway lines in Hanoi City”; Decision No. 6642/QĐ-UBND dated 12/12/2014 of HPC regarding approval for adjustment of TA Project;

Decision 3136/QĐ-GTVT dated 15/10/2008 of Ministry of Transport regarding approval of construction investment project “Hanoi urban railway: Cat Linh – Ha Dong Line”

Decision no. 2054/QĐ-UBND dated 13/11/2008 by HPC to approve for FS report of Line 2 Project (Nam Thang Long – Tran Hung Dao section);

Decision 1970/QĐ-UBND dated 27/4/2009 to approve for the FS report of pilot UR construction project, Nhon – Hanoi Station;

Decision No. 3978/QĐ-UBND dated 13/08/2015 of HPC promulgating regulations on management and application of e-ticket technology of public transport network in Hanoi City;

Decision No. 08/2015/QĐ-UBND dated 14/04/2015 of HPC promulgation of some regulations on governmental management of prices in Hanoi City

1.2 BACKGROUND

1.2.1 Socio-Economic Growth of Hanoi City

Hanoi City is the capital of Vietnam, center of politics, economy, and culture of the nation. Annual GDP average growth rate of Hanoi in period of 1991-2010 had reached more than 10%. The Government has targeted the GDP of Hanoi at 12.0-13% per year in period of 2011-2020 and at 9.5-10% in 2021-2030.

The development of Hanoi City has strong mutual connectivity and boosting with cities, provinces and areas nationwide, especially in the Capital Economic Zone including 6 provinces with area of around 13,436km², total population is forecasted to increase from around 13,5 million in 2010 to around 18 million in 2050 (Decision no. 490/QĐ-TTg dated 05/5/2008).

Together with the recent socio-economic achievements, Hanoi has witnessed the high urbanization speed and is estimated to higher level in the next 30 years. The high speed of urbanization, except for advantages, also results in a series of problems, especially the transport system.

1.2.2 Transport Development Master Plan

The Master Plan for Hanoi City till 2020 in 1998 affirmed the “priority for the construction of Urban Railway (UR) system to create main axis of the City’s public transport” (Decision no. 108/1998/QĐ-TTg dated 20/6/1998).

In 2008, the Prime Minister approved for master plan to develop the transport in Hanoi till 2020, as specifying the Master Plan in 1998 in terms of transport. In this 2008 Master Plan of Transport, the UR network was planned with 6 lines.

On the other hand, on 29/5/2008, the Vietnamese National Assembly issued Resolution to adjust the administrative boundary of Hanoi City and some related provinces, accordingly, the area of Hanoi City has been tripled (to more than 3300km²), population has been doubled (to about 6,4 million) . On 26/7/2011, PM approved for Master Plan of Construction of Hanoi Capital City till 2030, vision to 2050 (Decision 1259/QĐ-TTg); in which, the population of Hanoi City in 2030 will increase to around 9.2 million; however, the population in the city center will be around only 4.6 million. To achieve the re-allocation of population, the Master Plan ascertained that “Enhance the development of public transport in order to mostly satisfy the travelling demand of the city such as BRT, UR, etc.”

1.2.3 Urban Railway Projects

According to the Hanoi master plan to 2030 with the vision of 2050, the public transport of Hanoi city will be developed with the three main components. As one of those, it is clearly stated that Hanoi will strongly promote urban railway development to mitigate traffic congestion and air pollution, problems that are becoming more critical each day.

Hanoi realized the importance of a longer perspective for transport infrastructure development including urban railways, defining 8 urban railway lines will be developed by 2030.

Out of these 8 lines, 4 lines are currently being implemented, namely Line 1 (Yen Vien – Ngoc Hoi), Line 2 (Nam Thang Long – Tran Hung Dao), Line 2A (Cat Linh – Ha Dong), and Line No 3 (Nhon – Hanoi Railway Station) with the target completion before 2020. Among these lines, 3 lines including Line 2A, Line 2 and Line 3 will be managed by HPC, As the first step, Line 2A is expected to go into operation in 2015.

1.2.4 Necessity of Fare Policy Study

With target to complete the first line construction and commencement of commercial operation within few years time, little attention has been paid on the institutional development of the operating company and the regulating authority. In this connection, a technical assistance (from 2011) project to provide assistance for establishment and capacity building of these organizations were initiated with the joint effort of HPC and JICA (JICA TA Project).

In fact, in Hanoi there are two main public transport means including bus and taxi; fare systems of the two means operate independently. While fare setting and fare management is basically undertaken by the taxi brands themselves but without any specific combination, fare system for bus is more closely regulated by the Government thru mechanism of order and subsidy.

For future urban railway system, up to now, there are some studies and study on e-ticket technology, after long time study, is approved by HPC in Decision No. 3978/QĐ-UBND dated 13 August 2015 regarding promulgation of regulations on management and application of e-ticket technologies of public transport system in Hanoi City.

Other studies relating to fare policy are mainly proposed in F/S report of urban railway projects. However, these studies are incoherent, not unified. Therefore, it is lacked of applicable basis for evaluation of investment effectiveness, preparation for operation of urban railway lines as well as it is not yet possibly basis for proposing other urban railway investment projects.

Because of this reason, it is necessary to have an overall and completed study on fare policy relating to purpose, regulation framework, and fare strategy, as a basis for preparation and investment effectiveness and as a basic for study and implementation of other urban railway projects as planned.

1.3 Word Interpretation

In this material, main words and terminologies are understood as follows:

1. Fare policy: is defined as the principles, goals, and constraints that influence on the management of a public transport agency in setting and collecting fares (TCRP 10).
2. Fare strategy: Fare strategy, as used in this study, refers to a general fare collection and payment structure approach; possible approaches include flat fare, differential pricing (by distance traveled, time of day or type of service), market-based or discounted payment options, and transfer pricing.
3. Fare system: Fare system is the basic fare collection and distribution approach, as well as the specific equipment and payment media; the basic types of fare collection approaches are barrier, payment on entry, and proof of payment (POP) (TCRP 10).
4. Fare structure: The fare structure is the combination of one or more fare strategies with specific fare levels (TCRP 10)

The term fare structure is used to describe the overall fare system used by a transit operator, including (TCRP 95-2004):

- The relationships among the fares (prices) charged for each fare category.
- The types of fare categories offered.
- The basis on which fares are calculated ~ flat, zonal, or distance-based.

CHAPTER 2 OBJECTIVES AND SCOPE OF THIS STUDY

2.1 OBJECTIVE OF THE REPORT

The objective of this report is to provide HPC with guidance in process of making decisions related to fare policies, objectives, structures and regulatory frameworks needed to be established in order to make effective use of Hanoi Metro network and infrastructures as well as to promote additional investment in urban railway.

Also, this report supports the development of regular, systematic and sophisticated fare review and adjustment mechanisms that will make it possible to sustain the provision of metro services and enhance quality, while keeping services affordable.

2.2 METHOD OF THIS STUDY

The objective of this study is to review existing fare policies in Vietnam and overseas, and eventually to propose a comprehensive fare policy that can achieve at least but not limited to the following goals.

- To safeguard passengers' interest by ensuring adequate services at affordable fares
- To ensure the long term viability and financial sustainability of Hanoi Metro Company
- To encourage the passenger to use urban railway network provided by Hanoi Metro Company

2.3 SCOPE OF THIS STUDY

This study covers the following scopes;

- (1). Summarize popular concepts of fare policies in urban railway/public transport
- (2). Review existing application related to fare policies in Hanoi city
- (3). Review existing policy goals of fare policy in urban railway/public transport system in overseas
- (4). Review existing fare level, fare structure and type of fares of urban railway/public transport in overseas cities
- (5). Review existing fare regulatory frameworks of urban railway/public transport in overseas
- (6). Review existing institutional frameworks of urban railway/public transport fare regulation in overseas
- (7). Propose new fare policy for sustainable development of Hanoi Metro Company/ urban railway/public transport system in Hanoi
- (8). Liaise with key stakeholders for finalization of final report on fare policy

2.4 STRUCTURE OF FARE POLICIES

This study adopted fare policy includes four (4) factors that must be assessed for determination of metro fares, namely fare policy goals, fare system, fare regulation framework, and institutional organization.

Table 2.1: Structure of Fare Policies

Fare Policy Goals	<ul style="list-style-type: none"> • Economic goals/objectives • Financial goals/objectives • Social (customer-related) goals/objectives
Fare System	<ul style="list-style-type: none"> • Fare level • Fare structure • Type of fare (ticket)
Fare Regulation Framework	<ul style="list-style-type: none"> • Fare Pricing regulation • Fare adjustment mechanism • Subsidy system
Implementation Scheme	<ul style="list-style-type: none"> • Institutional development scenario • Decision-making process • Timing of fare review • Public involvement

2.5 WORK PLAN

Pursuant to the terms of reference of the JICA TA Project, Table 2.2 illustrates the work plan for fare policy development with the timeline as per the agreed Plan of Operation (PO). This work plan sets forth milestones to be addressed by the key stakeholders during the course of this study.

Table 2.2: Work Plan

	Activity	Timeline/Milestone
1.	Documentation - First Draft	Sep. 2013
2.	Initial Distribution to Line Departments	Nov. 2013
3.	Additional Research ¹	Nov. 2013 – Jan. 2014
4.	Joint Coordination Committee Meeting (3)	Mar. 2014
5.	Documentation – Draft Final	Apr. 2014
6.	Inter-departmental Review	May. 2014
7.	Documentation - Final	Jun. 2014

¹ See Chapter 4, Section 4.2

8.	Final Approval by HPC	Jun. 2014
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December 2014, Hanoi People's Committee issued Decision 6642/QĐ-UBND on approval for adjustment of the Technical Assistance Project to extend to the end of February. Study on fare policy is extended for further update of urban railway conditions in Hanoi and related information. The final report is estimated to be completed in Quarter IV of 2015.

CHAPTER 3 FARE POLICY GOALS

3.1 GENERAL

3.1.1 Overview

Clear, consistent, and fair fare policies are critical to the success of the Hanoi urban railway system. In developing fare policy, structure, and regulation framework, key concern is to ensure its fare recovery ratio while gradually attracting ridership to use urban railway system.

The study defines overall objective of fare policy “to support Hanoi City’s strategic mission to provide quality public transportation and great attraction to the community, in order to increase ratio of using public transport that meet the requirements of sustainable development ò the city”. To accomplish this goal, Hanoi city should develop and use its resources, and should develop and apply related policy and regulation framework, which will be a foundation to ensure sustainable development.

This chapter will propose appropriately fare policy goals urban railway system in Hanoi City, which have been invested in relatively diversifying manner.

3.1.2 Establishing Fare Policy Goals

Fare policy is crucial to achieve the overall goal, identifying an appropriate set of fare policy goals is essential to making decisions relating to operation and development of urban railway system. The specific fare policy goals will lead decisions related to fare structure, fare regulation framework, and also fare technology. The basic types of fare policy goals and their importance within the urban railway services are presented below.

It should be noted that there is some overlap among these specific goals because some goals address more than one area of concern (e.g. increasing ridership and securing financial viability for the Operator often conflict each other). Thus, the decision-makers are required to well balance the different set of goals.

3.2 FARE POLICY GOALS

3.2.1 Goal 1: Ensuring Affordability of Fares

- Fare price of the urban railway in particular and of public transport system in general should be within the affordability of passengers, particularly when compared to fares of bus and taxi, private vehicle use and the general cost of living, is a key component of increasing ridership.
- Hanoi urban railway system will be promoted for use of urban railway services by setting fares that are accessible to the widest possible range of potential rider groups.

3.2.2 Goal 2: Increasing Ridership

- Increasing public transport ridership is a priority objective for Hanoi urban railway system. Increased fare revenue, decongestion and friendly cities are the key benefits of increased public transport usage.
- Ridership will be changed in response to a range of factors such as public transport service levels, service reliability, the relative affordability of fares compared to other transport options, levels of car ownership, and petrol prices.
- In addition to provision with the affordability of fares, Hanoi urban railway system will enhance the perceived value for fares, including ease of use of public transport, and ease of the payment systems.

3.2.3 Goal 3: Increasing Fare Options

- Hanoi urban railway system orients development of fare option that best meets their needs. A range of options will be offered (e.g., individual tip ticket, multiple-ride ticket, seasonable ticket, valued added ticket, prepaid and other discounted options).

3.2.4 Goal 4: Reducing Complexity

- Complexity in a Fare Structure may arise from the nature of the basic structure itself as well as the number of products. Reducing complexity increases ridership through making the public transport system easier to use and improving the transparency of the fare structure, and is important for the first urban railway system in Hanoi.
- Hanoi urban railway system enhances the convenience through its fare strategy. For instance, the system avoids an "inconvenient" cash fare (e.g., VND 7,500) and makes prepaid options available.

3.2.5 Goal 5: Increasing Social Equity (Rewarding Target Behaviours)

- Hanoi urban railway system specifies to ensure equity in traveling equivalent to fares and those riders who have much demand of traveling are not adversely affected by a change in the fare levels. These will be addressed by a combination of i) setting fares on the basis of either the costs of the service or on the benefit received and ii) offering discounted fare instruments with a low price.
- Fare products used to orient and reward particular behaviours which support the broader aims for public transport. These target behaviours include:

- Encouraging frequent and regular use of public transport system (e.g. the number of journeys made in a day, week or year) to increase ridership,
- Encouraging greater use of the smartcard system to shrink the use of cash fares in the system,
- Encouraging non users to use public transport to increase ridership,
- Encouraging users to shift their time of travel from the peak to off peak period to alleviate capacity issues in peak times (perhaps it should be future option).

3.2.6 Goal 6: Meeting Farebox Recovery Targets

- Hanoi urban railway system orients to attains the target farebox recovery ratio through the fare structure, by time when urban railway system is invested in relatively perfect manner and has closely attachment between urban railway system and other public transport modes, it is possible to strive to achieve recovery of operating costs through fare revenue provided that investment cost of E&M systems (including future reinvestment) is recovered from non-fare revenue.
- At first fares set unreasonably low should be prevented, it aims to secure fare revenue at an appropriate level and eventually ensure financial sustainability for Hanoi urban railway system.

3.2.7 Goal 7: Enabling Regular Adjustment of Fare Price

- Any change to the fare level will positively or negatively impact on ridership. The acceptability of any change can be increased by a gradual adjustment of fare level, allowing users to adjust their travel patterns in response to the changes of fare price.
- Allowing fare reviews also enables HPC to adjust their funding levels and budgets to match the changes in predicted fare revenue.

3.2.8 Goal 8: Maximizing Political Acceptability

- Public transportation is one of several key factors that influence the quality of life of Hanoi residents. This suggests that urban railway fare policies should support broader social and economic issues.
- Hanoi urban railway system proposes fare structure or system acceptable to the public and the decision makers accept on the basis of such factors as equity, complexity, potential, or impact on revenue (TCRP 10).

3.3 CONCLUSION

- Fare policy goals of Hanoi urban railway system are proposed as follows.
 - Goal 1: Ensuring Affordability of Fares
 - Goal 2: Increasing Ridership
 - Goal 3: Increasing Fare Options
 - Goal 4: Reducing Complexity
 - Goal 5: Increasing Social Equity (Rewarding Target Behaviours)
 - Goal 6: Meeting Farebox Recovery Targets
 - Goal 7: Enabling regular adjustment of fare price
 - Goal 8: Maximizing Political Acceptability
- Fare policy is crucial to achieve these general goals and making decisions. However these specific goals often conflict with each other. Thus, fare shall be determined by balancing the maximization of net social benefit and financial soundness of the operator.
- Fare policy goals should be spelled out in a fare policy statement or may be indicated in the other formal policies and actions to promote the transparency and accountability to the general public. Finally, a comprehensive policy statement may specify guidelines or procedures for determining and implementing fare adjustments.

CHAPTER 4 FARE LEVEL, FARE STRUCTURE AND TYPE OF FARE

4.1 GENERAL

4.1.1 Overview

Chapter 3 described the fare policy goals which give the criteria for the Regulator to decide fare strategies. In line with these specific goals, this chapter develops the basis for initial fare setting, fare structure, and type of fare options for the actual implementation of the fare policy.

4.1.2 Existing Fare Level, Fare Structure and Type of Fare

Traditionally, Hanoi's fare structure has been comprised of two basic fare strategies: flat fares and distance-based differential fares.

Bus Flat fares are applied. Tariff for bus service of Hanoi People's Committee, ticket for bus service are currently applied as follows:

Table 4.1: Existing Fare System (Bus)

No	Type of fare	Time-based rate (VND)		
		35/2005/QĐ-UB	23/2012/QĐ-UBND	18/2014/QĐ-UBND
	Common passengers			
1	Flat fare for distance shorter than 25km	3,000	5,000	7,000
2	Flat fare for distance from 25km to 30km	4,000	6,000	8,000
3	Flat fare for distance longer than 30km	5,000	7,000	9,000
4	Monthly pass of 1 line	50,000	90,000	100,000
5	Monthly pass of interoperable lines	80,000	140,000	200,000
	Concession			
1	Monthly pass of 1 line	25,000	45,000	55,000
2	Monthly pass of interoperable lines	50,000	90,000	100,000
	Group >= 30 people			
1	Monthly pass of 1 line			70,000
2	Monthly pass of interoperable lines			140,000

Taxi Distance-based fares are applied. Fare price varies depending on the type of vehicle and service companies, typically understood as follows:

Transport rate = 11.000*transport km (at least 8.000 (Opening rate))

Table 4.2: Existing Fare System (Taxi)

Taxi branch	Opening rate (VNĐ)	Rate of first 30 km (VNĐ/km)	Rate from 31km and longer (VNĐ/km)
Ba Sao	6,000	11,000	8,000
Thanh Nga	6,000	11,000	9,000
Van Xuan	8,000	10,000	9,000
Song Nhue	6,000	10,500	9,000
Huong Lua	6,000	10,000	9,000
Vic Group	6,000	10,500	8,500
Thanh Cong	8,000	11,000	9,000
Sao Ha Noi	5,000	11,000	9,000
Morning	6,000	11,000	9,000
ABC	5,000	11,000	9,000
My Dinh	6,000	11,000	9,000
Thang Long	6,000	12,500	10,500
Mai Linh Taxi	6,000	11,000	9,000
Taxi Group	12,000	14,400	11,500
Taxi Phu Dong	6,000	10,800	8,800
Vina Taxi	10,500	15,000	11,000
Taxi The Ky Moi	8,000	11,000	9,000
Vina Sao Taxi	8,000	11,000	8,000
Taxi Hoan Kiem	6,000	11,000	9,000
Taxi Thu Do Sao	6,000	10,500	8,500
Taxi Ha Dong	7,000	9,500	8,500
Taxi Sao Mai	5,000	11,000	9,000

Taxi branch	Opening rate (VNĐ)	Rate of first 30 km (VNĐ/km)	Rate from 31km and longer (VNĐ/km)
Taxi Au Lac	5,000	10,500	9,000
Taxi Bac Á	6,000	11,000	9,000
Taxi Me Kong	10,000	11,800	9,800
Taxi Song Hong	8,000	11,000	8,000
Taxi Trieu Quoc Dat	8,000	10,800	8,800

Source: Websosanh June 2015

4.2 PROPOSED FARE LEVEL

4.2.1 Initial Fare Setting and Subsequent Fare Adjustments

In practical, in order to differentiate between the two separate stages of fare setting: the initial fare setting and the subsequent fare adjustments². Focuses in this chapter is on initial fare setting, while fare adjustment policies are discussed in the next chapter.

4.2.2 Importance Basis for Fare Setting

Fare setting is considered based on the important bases as follows:

- Railway Law No. 35/2005/QH11 dated 14/6/2005;
- Law on Price No. 11/2012/QH13 dated 20/6/2012;
- Decree No. 177/2013/ND-CP dated 14/11/2013 of the Government providing detail regulations and guidelines a number of articles of Law on Price;
- Decree No. 215/2013/ND-CP dated 23/11/2013 of the Government providing regulations on functions, responsibilities, power and organizational structure of Ministry of Finance;
- Decree No. 130/2013/ND-CP dated 16/10/2013 of the Government providing regulations on production and provision of public utility products and services;
- Decree No. 14/2015/ND-CP dated 13/02/2015 of the Government providing detail regulations on implementation of several articles of Law on railway;
- Circular no. 25/2014/TT-BTC dated 17/2/2014 of Ministry of Finance prescribing common valuation methods for goods and services;
- Decision No. 1259/QD-TTg dated 26/7/2011 of the Prime Minister regarding approval for general construction plan of Hanoi Capital to 2030 and vision to 2050;
- Decision No. 222/QD-TTg dated 22/02/2012 of the Prime Minister on approval for Socio-economic development strategy of Hanoi City to 2030, vision to 2050;
- Decision No. 335/QD-TTg dated 25/02/2013 of the Government on approval for adjustment of Vietnam Transport development strategy to 2020, vision to 2030;
- Decision No. 214/QD-TTg dated 10/02/2015 of the Prime Minister on approval for adjustment of Vietnam Railway transport development strategy to 2020, vision to 2050;
- Circular No. 56/2014/TT-BTC dated 28/4/2014 of Ministry of Finance for guidance of Decree No. 177/2013/ND-CP dated 14/11/2013;
- Decision No. 08/2015/QD-UBND dated 14/04/2015 of HPC regarding issuance of several regulations on governmental management of price in Hanoi City

4.2.3 Related policies of Hanoi City

Principle, basis and method for pricing

Based on Railway law, the Government shall mobilize resources for development of urban railway to become one of the main transport modes in large urban area. Urban railway investment and business is the type estimated as follows: priority (Article 56). Urban railway fare is decided by

² This is partly because the process of initial fare setting has already taken into account property development profits, whereas future fare adjustments do not.

provincial people committee. Subsidy for urban railway is implemented in accordance with a contract between provincial people committee and urban railway business enterprise (Article 62).

Accordingly, the Government shall stipulate principle, method to define price consistent with principle market economy (Article 5, Law on Price); ensuring principle (Article 20, Law on Price; Article 3, Circular 25/2014/TT-BTC):

Table 4. 1 Principle for pricing

No.	Description	Way to apply
1	a) Ensure to offset production costs, practically reasonable business, with profits in line with market price level, guidelines and policies of socio-economic development of the Government in each period.	Comply with regulations of order and plan assignment
2	b) Timely adjust fare policy when fare component factors change.	To be proposed in detail in this Report

Legal basis for pricing includes Article 21 of Law on Price; Article 4 of Circular 25/2014/TT-BTC:

Table 4. 2 Basis for pricing

No.	Description	Way to apply
1	a) Total cost, quality of product of goods and services at time of pricing; estimated profit;	This content is a base for preparation of order/plan assignment contract between operator and regulator/HPC
2	<i>b) Demand- supply relation of goods and services and purchasing power of money; solvency of the consumer;</i>	This is important contents for development of fare policy, particularly fare price and fare structure (and other contents like train operation plan).
3	c) Prices of domestic market, world market and competitiveness of goods and services at the time of valuation;	In this report, fares of some countries and cities are referred inherent with appropriate socio-economic condition while analyzing competition between other transport modes and urban railway.

Pricing method:

Circular 25/2014/TT-BTC provides guidelines for 2 pricing methods, namely comparison method and cost method:

TT	Description	Way to apply
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1	- Comparison method: A method of pricing goods and services based on analysis results, a comparison between prices and economic, technical characteristics greatly that affect prices of goods and services need to be valued with similar goods and services that are traded on the domestic market; with reference to the market price on the region and the world (if any).	Comparison method can be used in proposals for urban railway fare policy; however, there is no absolute similarity between the products/ services in Hanoi and future urban railway transport services. Therefore, cost/price of the main services expected to convert to use urban railway services will be considered; simultaneously comparison among cities will be made. In addition, other criteria such as urban transport development strategy applied to the City, social policies, etc. will be taken into consideration as the basis for determining the strategy fares and fare price.
2	- Cost method is a method of pricing goods and services based on practically and legally reasonable production and business cost, and expected profits (if any) in accordance with the market price level and government's policies that affect prices of goods and services.	This content is an important part in calculating urban railway operation and maintenance costs of the operation company and is to incorporate into contracts for defining responsibilities/ financial interests between management agencies and companies operate.

Government's policies on transport

In the world, economic cost for transport currently occupies from 9% (Copenhagen) to 28% (Lagos-Nigeria) of average per capita income.

Table 4. 3 Leading cities regarding economic cost for transport

Well set-up city		City with high density		New emergent city	
Copenhagen	8.6%	Singapore	8.9%	Santiago	10.8%
Madrid	8.7%	Hong Kong	9.2%	Mexico	12.2%
Vienna	9.7%	Beijing	11.0%	Bangkok	12.6%
Range	9-19%	Range	9-16%	Ranger	11-28%

Source: Siemens, 2014

Transport cost includes expenses of the Government (central government and local governments) and the expense of the people. Regarding the Government's investment, Decision No. 318/ QD-TTg dated 04/03/2014 of the Government on Approval for adjustment of transport service

development strategy by 2020, with a vision to 2030), identified increasing investment amount (entire society) for transport infrastructure to achieve 7-8% of GDP.

Regarding expenses of the people, the Government defined to achieve transport costs by 12% of average income. With the policy of converting methods of urban traffic in city from personal motorized modes to public transport system, the study will refer to the current traveling expense people. With main object of passengers that is expected to be primarily low-income, average and above average, calculation of average cost for motorized transport is as follows:

4.2.4 Past Studies on Fare Level

Several studies were carried out to propose the initial fare level and assess financial viability of entire urban railway network or a single project. Such exercises are summarized in the following table, wherein different approaches were applied by each study;

Table 4.6: Past Studies on Fare Level

SAPI Study	<u>Rail fare based on comparison with other modes</u> <ul style="list-style-type: none"> Rail fare is set at the midpoint between the min. bus fare (5,000 VND) and base fare of a taxi (12,000 VND) (i.e. affordable fare price = 9,000 VND). Price of a monthly pass is set as 10 to 17 times that of a single line ticket, and 16 to 27 times for a common path on multiple lines (same as Hanoi's bus system) The initial fare, to be applied in the year of Line 2A opening, is adjusted to reflect the price escalation (thereby average fare price = 10,500 VND). Single Ticket: $6,800 + 680 \times (\text{travel distance})$ VND (in 2015) Monthly Pass (one line): 130,000 VND Monthly Pass (multiple lines): 220,000 VND
Line 2	<u>Rail fare based on demand elasticity studies and revenue maximization</u> <ul style="list-style-type: none"> Fare price is assessed through demand elasticity studies with respect to price and levels of service for urban railway use based on the HAIDEP transport models. Optimum fare price is specified at max. revenue point, where recommended formula is set as $(\text{Fare}) = 0.2 + (\text{Distance} - 2) \times 0.05$ USD Average travel distance is estimated as 6.3 km. Thus, average fare in this assumption is 0.415 USD (or 8,300 VND)
Line 5	<u>Rail fare based on comparison with other modes and international benchmarking</u> <ul style="list-style-type: none"> Rail fare is set with reference to bus fare (5,000 VND) (i.e. affordable fare price = 0.5 USD or 10,000 VND). The fare against GDP per capita is cross-checked by international benchmarking

4.2.5 Fare Level based on Total Cost (to Meet Farebox Recovery Target)

In line with the Fare Policy Goal 6 and principle and basis for pricing prescribed by Law on Price and Circular 25/2014/TT-BTC: Meeting Farebox Recovery Targets, fare level should take cost and revenue structures into account to secure the financial viability for the Operator.

Farebox recovery ratios are calculated by dividing fare revenues by direct and indirect service operation and maintenance costs. It is the goal of Hanoi Metro Company to continuously seek the highest possible farebox recovery ratio while maintaining fares at levels consistent with fare policy.

Hanoi Metro Company's policy is to recover from fare revenues at least the specified percentage of total operating expenditures (including costs of service operations, maintenance and administration) from the entire urban railway network. In the meantime, future reinvestment (capital expenditure for replacement and renewal) will be borne by non-fare revenues.

Consistent with the policy of HPC, minimum farebox recovery ratio threshold are established in the Hanoi Metro's financial plan. However, actual operation of 3-5 years is needed to obtain data as a basis to make Plan and make appropriate decision. This criterion is not possible to apply in the current stage.

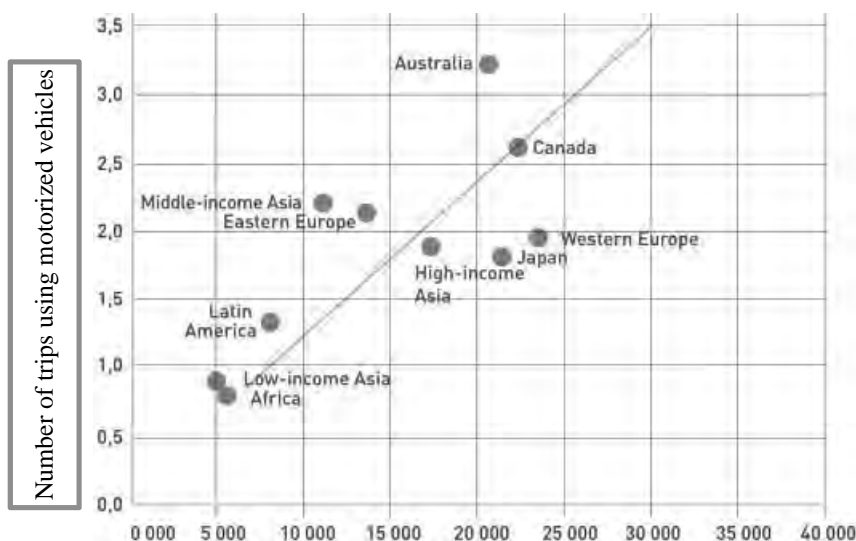
4.2.6 Fare Level based on Willingness-to-Pay (WTP)

In line with the Fare Policy Goal 1: Ensuring Affordability of Fares and Goal 2: Increasing Ridership and basis for pricing prescribed by Law on Price and Circular 25/2014/TT-BTC (affordability of the consumers) fare level should reflect the riders' Willingness-to-Pay.

The General Consultant of Line 2 proposed fare price through demand elasticity studies with respect to price and levels of service for urban railway use based on the HAIDEP transport models, where the optimum fare was specified in such a way to maximize fare revenue. However, the model needs update as the latest mass transit network, socio-economic conditions, and some other elements are different from the original assumptions.

Willingness-to-Pay of passengers is partially determined in accordance with strategy set for the City (in which, cost for oriented transport occupies of 12% of average income), defining expense of people for transport in general and urban railway service in particular as follows.

Bảng 4. 4 Relation between income and traveling demand



Source: CODATU 2014

Providing that one person takes two trips in a day and number of travelling days in a month is 26 days, it accounts for 52 rides in a month (note that as the above data, traveling demand depends on several factors, from culture to income, etc. Therefore, this data needs to be continuously updated/forecasted in each applicable stage). Accordingly, willingness-to-pay for traveling services in compliance with Hanoi City's policy can be estimated as follows:

Table 4.8: Average Income of Residents in Hanoi

No.	Income Group	VND/Month	VND/Hour
1	High income	> 9,000,000	> 46,875
2	Fair income	6,000,000 – 9,000,000	31,250 – 46,875
3	Medium income	3,500,000 – 6,000,000	18,250 – 31,250
4	Low income	< 3,500,000	<18,229

Source: The Study

Table 4.9: Maximum Willingness to Pay for Travelling Service

No.	Income Group	Willingness to pay for travelling service	
		VND/Month	VND/Trip
1	High income	> 1,080,000	> 20,769
2	Fair income	720,000 - 1,080,000	13,846 - 20,769
3	Medium income	420,000 - 720,000	8,076 - 13,846
4	Low income	< 420,000	< 8,076

** Note: trip is understood to be from a place (home) to other place and vice versa. The journey can consist of several lines and several modes.*

According to the result of interview survey with the residents in the catchment areas of Line 1 and Line 2, later explained later on, average willingness-to-pay for access and egress modes are VND 3,500³ approx. After deduction of this amount from the above table, maximum willingness to pay for urban railway service is estimated as in the following table.

While the target income group of public bus service is “3. Medium Income”, the same of urban railway service should be higher than that as urban railways require more intensive cost of service for carrying one passenger in the same distance and can offer better level of service in terms of speed, frequency, riding comfort, etc. For this reason, the preliminary target group is set at the midpoint of “2. Fair Income” and “3. Medium Income”.

³ In the future, this cost will gradually decrease when public transport system covers more in the city (and surrounding areas).

Table 4.10: Estimated Maximum Willingness to Pay for Urban Railway Service

No.	Income Group	Maximum willingness to pay for urban railway service
2	Fair income	10.348 – 17.269
3	Medium income	5.076 – 10.348
	Midpoint of 2. & 3.	7.712 – 13.808

4.2.7 Fare Level based on Comparison with other Modes

In line with the Fare Policy Goal 1: Ensuring Affordability of Fares and Goal 2: Increasing Ridership, fare level should be set strategically as the demand of urban railways.

Alternatively, fare level should be developed consistent with the transport development strategy for Hanoi, in which urban railway is determined to be the backbone of the public system with other public transport modes like bus, BRT to become attractive public system, making change from private mode, especially motorbikes, to public transport system.

In this connection, JICA SAPI Study set the preliminary rail fare at the midpoint between the minimum bus fare and base fare of a taxi for the purpose to assess the financial viability of Hanoi Railway Company.

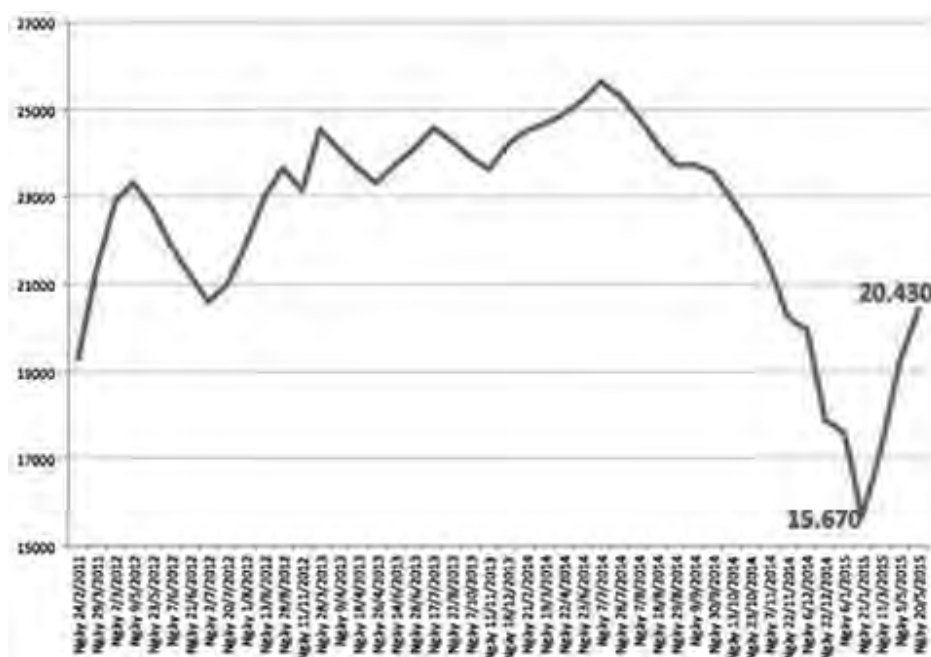
According to the actual and the target passengers are people with average incomes, who currently and mainly use motorbikes, actual costs of using motorcycles may be considered important basis for comparison to determine cost/fare for urban railway services in particular and for public transport in general. In the study, monthly average cost of people actually paid is around 426,000 VND, corresponding fare is 5,100 VND, which is shown in detail in the table below. The level of expenditure in line with the strategic targets applied to the City (matched with those who have medium income).

Table 4. 11 Average traveling expense of Hanoi citizens using motorcycles

Unit: VND

Traveling	Cost
Gasoline, oil cost	2,660,850
Other cost	532,170
Fuel and operation cost	3,193,020
Annual vehicle fee	1,916,667
Total annual traveling cost	5,109,687
Total monthly traveling cost	425,807

Source: the study

Table 4. 12 Gasoline price 2011-2015Source <http://baodatviet.vn>, 20/5/2015

4.2.8 Fare Price Benchmarking

Setting urban railway fare is the first attempt in Vietnam; therefore, fare price benchmarking is not yet possible to apply in Vietnam. The Feasibility Study on Line 5 performed a brief benchmarking on rail fare. To strengthen the result, a research on public transport pricing (including the fare comparison between different modes) in Asian mega cities is conducted (See Table 4.5).

4.2.9 Important Note

Each approach has uncertainty when defining fare level.. Also, subsequent theoretical researches will give an indication of overall public transportation demand, shares of urban railways ridership, and the likely market shares in a variety of fare structure/fare scenarios.

Table 4.13: Issues of Each Approach for Setting Initial Fare Level

Fare based on Total Cost cover ratio target (Farebox Recovery Target)	<ul style="list-style-type: none"> As ridership is hard to forecast accurately and often overstated for political reasons, estimated breakeven fare level may be set too low, this may eventually lead the financial loss. This method can be reviewed and applied in the future with total cost cover ratio target when actual data is available.
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Fare based on Willingness-to-Pay	<ul style="list-style-type: none"> • Respondents may be unable to state the accurate WTP fare, as they are hard to understand the actual level of service of the first ever urban railway service in the nation and quality improvement of public transport system after urban railway line is put into operation. Benefits from quality improvement of public transport service normally are difficult to convey to people in quantitative manner.
Fare based on Comparison with other Modes	<ul style="list-style-type: none"> • As the current bus fares in Hanoi are underpriced mainly due to political reasons, rail fare may be set much low compared to the price to meet farebox recovery target. Cost of using motorbikes may be a suitable criterion to define fare for urban railway when public transport system is relatively perfect and satisfies basic quality.
Fare Price Benchmarking	<ul style="list-style-type: none"> • International benchmarking is useful tool for reference, but it should be understood that the lifestyle and composition of income and expenditures varies in each country/city. • When Vietnam in general and Hanoi city in particular develops nearly equal to other cities, this method can be applied more specifically.

Table 4.14: Fare Price Benchmarking in Selected Asian Cities

		Tokyo		Singapore	Hong Kong	Delhi	Hanoi
GDP	Population	37.7 mil.		5.3 mil.	9.2 mil.	18.9 mil.	6.5 mil.
	GDP per capita	USD 46,000		USD 44,000	USD 31,500	USD 4,200	USD 4,000
Average Wage	Public (Teacher)	USD 59,800			USD 47,800	USD 3,900	
	Private (Banker)	USD 60,400			USD 21,000	USD 6,000	
Railway		Tokyo Metro	Toei	SMRT	MTR	Delhi Metro	Hanoi Metro
	Network Length	195 km	109 km	149 km	91 km	190 km	12.6 km
	Base Fare	USD 1.6	USD 1.7	USD 0.867	USD 0.452	USD 0.124	USD 0.3
		(JPY 160)	(JPY 170)	(SGD 1.1)	(HKD 3.5)	(INR 8)	(VND 6,000)
		first 6 km	first 4 km	first 3.2 km	first 3 km	first 2 km	first 2 km
	Variable Fare	USD 0.056/km	USD 0.080/km	USD 0.016/km	USD 0.129/km	USD 0.008/km	USD 0.03/km
	Fare (6km Ride)	USD 1.60	USD 1.86	USD 0.91	USD 0.84	USD 0.15	USD 0.42
Bus	Base Fare	USD 2.0		USD 0.284	USD 0.516-10.29	USD 0.155	USD 0.25
		(JPY 200)		(SGD 0.36)	(say 4-10)	(INR 10)	(VND 5,000)
		flat		first 3.2 km	Varies	first 4km	flat
	Variable Fare	n.a.		USD 0.0394	n.a.	USD 0.0194	n.a.
				(SGD 0.05/km)		(INR 1.25/km)	
	Fare (6km Ride)	USD 2.0		USD 0.394	USD 0.774	USD 0.194	USD 0.25
	Rate against Rail	1.25	1.08	0.43	0.92	1.25	0.60
Taxi	Base Fare	USD 7.10		USD 2.36	USD 2.58	USD 0.388	USD 0.6

		(JPY 710)		(SGD 3.0)	(HKD 20)	(INR 25)	(VND 12,000)
		first 2 km		first 1 km	first 2 km	first 2 km	first 2 km
	Variable Fare	USD 3.18/km (JPY 318 /km)		USD 0.173/km (SGD 0.22 /km)	USD 0.194/km (HKD 1.5 /km)	USD 0.217/km (INR 14 /km)	USD 0.6/km (VND 12,000/km)
	Fare (6km Ride)	USD 19.8		USD 3.23	USD 3.35	USD 1.26	USD 3.00
	Rate against Rail	12.4	10.7	3.5	4.0	8.1	7.1

Table 4.15: Fare Price Benchmarking in Selected Asian Cities (Continued)

		Seoul	Taipei	Bangkok		Kuala Lumpur	Manila	Jakarta
	Population	22.7 mil.	8.5 mil.	10.1 mil.		8.0 mil.	20.6 mil.	19.2 mil.
	GDP per capita	USD 23,304	USD 35,059	USD 25,941			USD 7,476	USD 11,719
Average Wage	Public	USD 44,300	USD 23,100	USD 8,000		USD 8,700	USD 2,300	USD 2,600
	Private	USD 26,200	USD 18,800	USD 13,900		USD 9,700	USD 2,600	USD 5,100
Railway		Seoul Metro	Taipei MRT	BTS	MRT	RapidKL	LRT	Jabedetabek
	Network Length	138 km	116 km	33 km	21 km	27 km	13.8 km	235 km
	Base Fare	USD 0.921	USD 0.674	USD 0.467	USD 0.498	USD 0.214	USD 0.274	USD 0.264
		(KRW 1,000)	(TWD 20)	(THB 15)	(THB 16)	(RM 0.7)	(PHP 12)	(IDR 3,000)
		first 10 km	first 5 km	first 2 km	first 2 km	first 2 km	first 4 km	first 4 km
	Variable Fare	USD 0.02/km	USD 0.065/km	USD 0.042/km	USD 0.039/km	USD 0.038/km	USD 0.007/km	USD 0.019/km
	Fare (6km Ride)	USD 0.84	USD 0.74	USD 0.63	USD 0.65	USD 0.36	USD 0.29	USD 0.30
Bus	Fare	USD 1.059	USD 0.506	USD 0.373		USD 0.305	USD 0.251	USD 0.308
		(KRW 1,150)	(TWD 15)	(THB 12)		(RM 1.0)	(PHP 11)	(IDR 3,500)
		first 10 km	flat	flat		flat	first 5km	flat
	Variable Fare	USD (KRW 20 /km)	n.a.	n.a.		n.a.	USD (PHP 2.2 /km)	n.a.
	Fare (6km Ride)	USD 1.06	USD 0.506	USD 0.373		USD 0.305	USD 0.301	USD 0.308
	Rate against Rail	1.26	0.68	0.59	0.57	0.84	1.05	1.02

Taxi	Fare	USD 2.210 (KRW 2,400)	USD 2.359 (TWD 70)	USD 1.089 (THB 35)		USD 0.915 (RM 3)	USD 0.912 (PHP 40)	USD 0.616 (IDR 7,000)
		first 2 km	first 1.25 km	first 2 km		frist 1 km	first 0 km	first 0 km
	Variable Fare	USD 0.639 (KRW 694 /km)	USD 0.674 (TWD 20 /km)	USD 0.156 (THB 5 /km)		USD 0.265 (RM 0.87 /km)	USD 0.456 (PHP 20 /km)	USD 0.317 (IDR 3,600/km)
	Fare (6km Ride)	USD 4.77	USD 5.56	USD 1.71		USD 2.24	USD 3.65	USD 2.52
	Rate against Rail	5.7	7.5	2.7	2.6	6.1	12.7	8.3

Figure 4.1: Rail Fare (6km Ride) against GDP per Capita in Selected Asian Cities (x1,000,000)

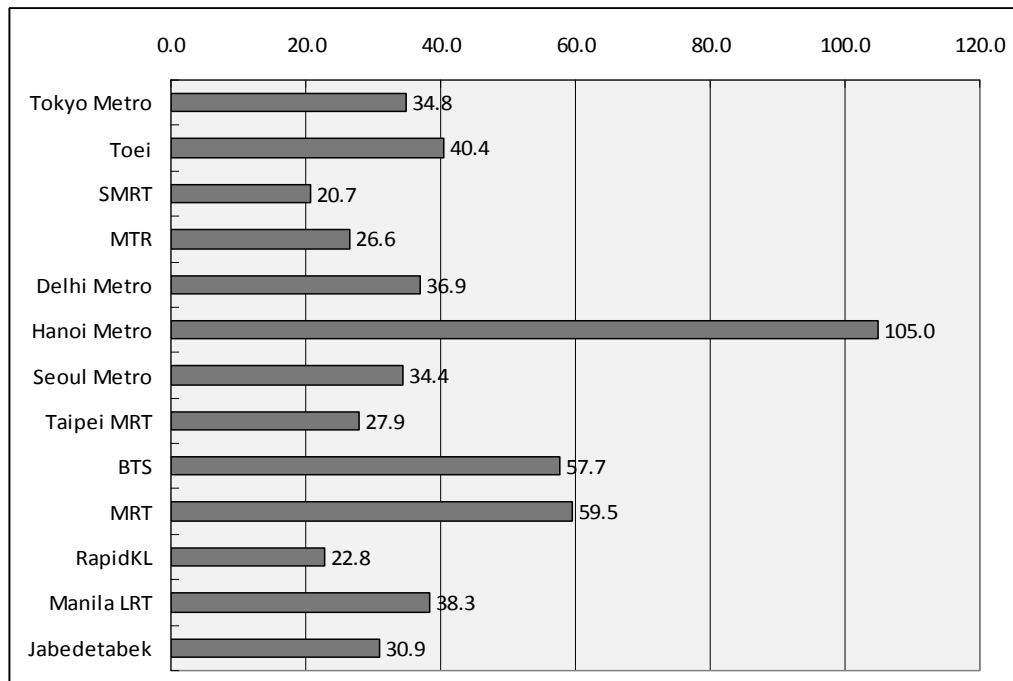
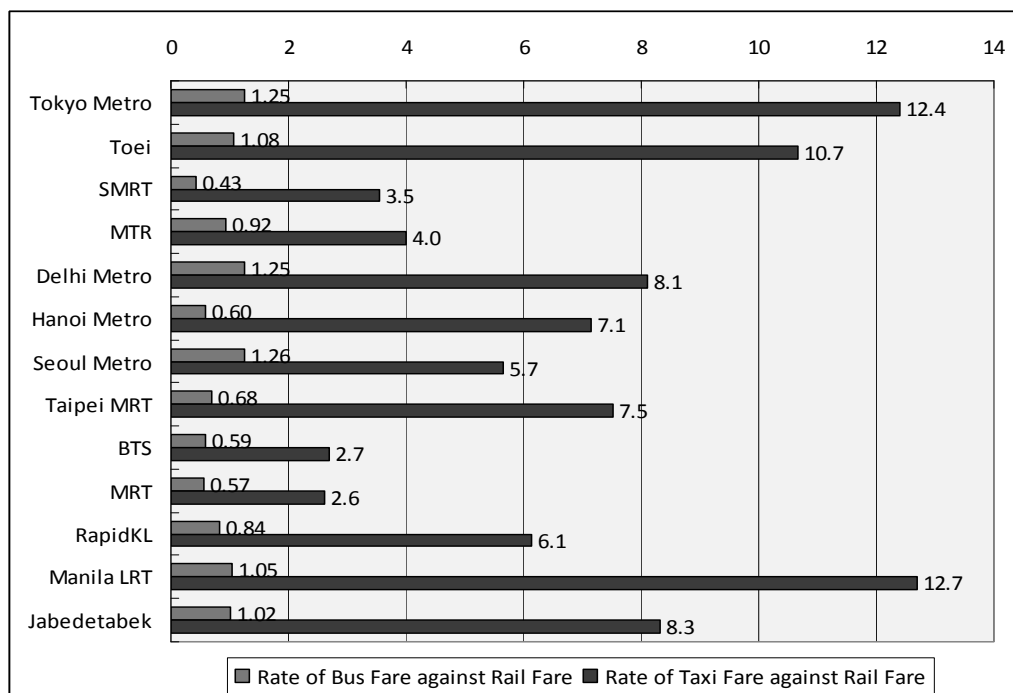


Figure 4.2: Rate of Bus and Taxi Fare against Rail Fare (6km Ride)



4.2.10.Result of Estimate and Proposed Initial Fare

Result of each estimate is summarized in the following table.

Table 4.16: Result of Estimate

	Initial Fare	Detail
Fare based on Willingness-to- Pay	VND 9,051	Appendix 1
Fare based on Total Cost	VND 7,735 – 10,314	Appendix 2
Fare based on Comparison with other Modes	VND 7,808 – 9,594	Appendix 3
Fare Price Benchmarking	VND 6,534 – 12,112	Appendix 4

From the results of estimate, the proposed initial fare is illustrated in the following table.

Table 4.17: Result of Estimate

Year	Fare Calculation Formula	Average lead	Average fare
2016	$6,000 + 600 \times (\text{distance [km]})$ [VND]	5.3 km	VND 9,200

4.2.10 Proposed Fare Table

With the above fare calculation formula and the preliminary assumptions below, the initial fare of Line 2A is proposed as in the following table.

- Fraction of distance between stations : Round-up to 1 decimal place
- Fraction of fare price : Round-up to the nearest thousands VND

Table 4.18: Proposed Fare Table of Line 2A (at the time of opening in 2017)

(Left Bottom: Distance [km], Right Up: Fare [x VND1000])

Sta.1	7	8	8	9	9	11	11	12	12	14	14
0.7	Sta.2	7	8	9	9	10	11	12	12	13	14
1.6	0.9	Sta.3	8	8	9	9	10	11	12	12	13
2.7	2.0	1.1	Sta.4	8	8	9	9	11	11	12	12
3.9	3.2	2.3	1.2	Sta.5	8	8	9	9	11	11	12
5.0	4.3	3.4	2.3	1.1	Sta.6	8	8	9	9	11	11
6.4	5.7	4.8	3.7	2.5	1.4	Sta.7	8	8	9	9	11
7.5	6.8	5.9	4.8	3.6	2.5	1.1	Sta.8	8	8	9	9
8.8	8.1	7.2	6.1	4.9	3.8	2.4	1.3	Sta.9	8	8	9
10.0	9.3	8.4	7.3	6.1	5.0	3.6	2.5	1.2	Sta.10	8	8
11.4	10.7	9.8	8.7	7.5	6.4	5.0	3.9	2.6	1.4	Sta.11	8
12.5	11.8	10.9	9.8	8.6	7.5	6.1	5.0	3.7	2.5	1.1	Sta.12

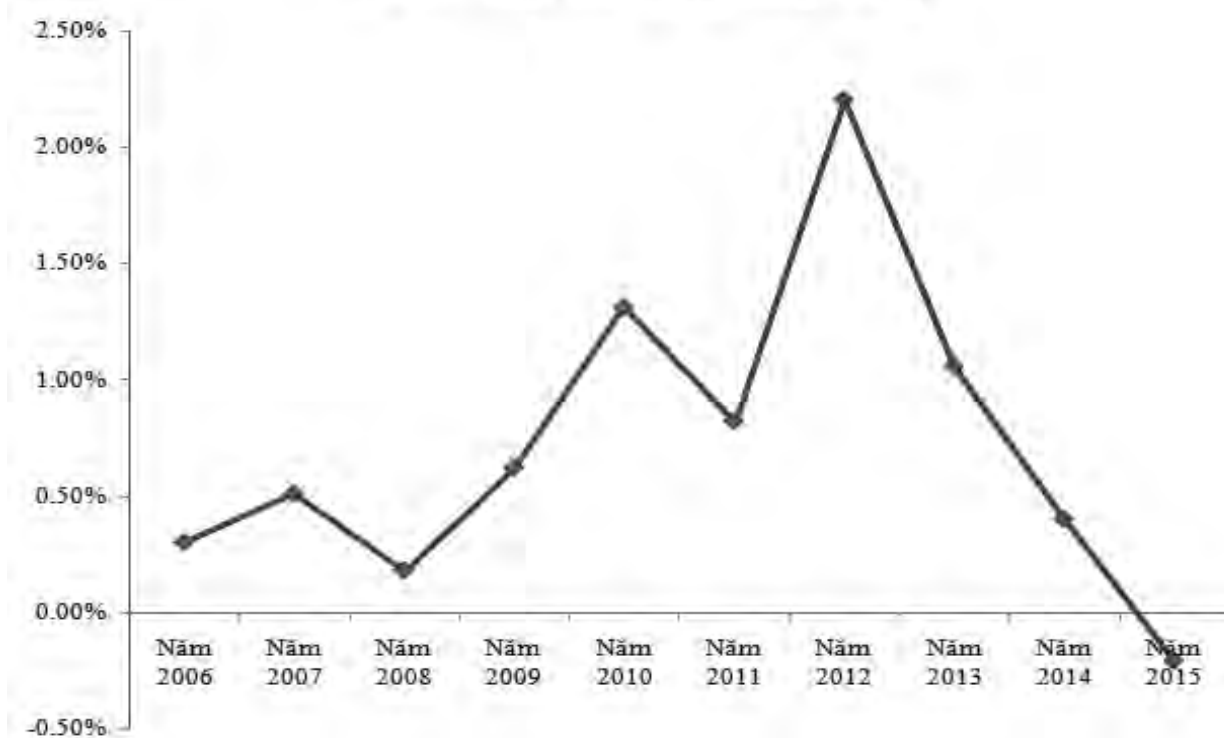
Appendix 1 : Fare Estimated from Willingness-to-Pay Survey

For the estimate of Hanoi Metro fare from willingness-to-pay, relevant survey data was collected and analyzed. The survey targeted the residents in the catchment areas of Line 1 and Line 2. About 30% of the total respondents showed their willingness to use of MRT with the average desired travel distance of 5.7 km.

Study	Feasibility Study for Institution of By-lateral Offset Credit
Executing Agency	Ministry of Environment, Japan
Objective of Study	<ul style="list-style-type: none"> To understand the choice of transport modes (and modal share) before shifting to MRT To understand energy efficiency of 2-wheelers & cars, and ave. boarding passengers To understand the choice of access and egress modes for the ride of MRT
Study Period	October 2012
Target	Residents in catchment areas of MRT Line 1 and Line 2 (5,000 persons)
Survey Method	Face-to-face interview survey 1. Profile of the trips made a day before the date of survey 2. Willingness or no-willingness to use of MRT 3. Whether or not the trips made may be shifted to the use of MRT 4. Desired section to use MRT 5. Willingness-to-pay fare for the use of MRT by range
Effective Distribution #	5,000
Effective Response	576 specified willingness-to-pay fare for MRT out of about 1,500 respondents who stated wiliness to use of MRT.

Fare calculation formula estimated by data analysis	$Y = 4966.4 + 410.53x(\text{distance})$ [VND] (2012 price level)
Average fare (adjusted to 5.3 km ride)	VND 7,162 (2012 price level)
Adjusted to 2016 price level according to the change in CPI (6.7% for 2013, 7.0% for onwards)	VND 8,723 (2016 price level)
Updated in Sept. 2015; adjusted fare in 2017. CPI 9/2013 6.83%; CPI 9/2014 4.61%; CPI 9/2015 0.64%; 6% of following years:	VND 9,051 (fare level 2017)

CPI of September within recent 10 years



Appendix 2 : Fare Estimated from Total Cost

Total cost of urban railway service was once estimated by SAPI Study and preliminarily revised in the course of this TA Project. It should be noted that the fare estimated from total cost differs if use of season pass is taken into consideration or assuming all passengers to use single journey ticket. In fact, earlier SAPI Study assumed 70% of all passengers to use season pass and resultantly actual fare revenue should become lowered (it means estimated break-even fare should be raised to meet the total cost). On other hand, when fare price increases, passenger flow reduces. To a certain threshold, fare increase will not offset reduction in passenger flow.

O&M Cost

(Unit: USD)	2016	2017	2018	2019	2020
Personnel	4,174,456	4,256,308	4,338,160	4,420,012	4,463,511
Energy	2,232,420	2,402,886	2,579,187	2,761,319	2,949,285
Tools, spare parts	1,293,710	1,411,320	1,528,930	1,646,540	1,764,150
Others	2,310,176	2,421,154	2,533,883	2,648,361	2,753,084
Total Cost (1)	10,010,762	10,491,669	10,980,160	11,476,232	11,930,029
TA Revised	8,260,000	11,040,000	35,860,000	37,710,000	39,670,000
Updated (Sep2015)	3,239,254	12,745,751	17,740,633	33,509,886	38,024,518

O&M Cost + Depreciation Cost (E&M)

(Unit: USD)	2016	2017	2018	2019	2020
Total Cost (1)	10,010,762	10,491,669	10,980,160	11,476,232	11,930,029
E&M Depreciation	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
Total Cost (2)	13,510,762	13,991,669	14,480,160	14,976,232	15,430,029
TA Revised	15,550,000	18,320,000	105,210,000	107,060,000	109,010,000
Updated (Sep2015)	3,239,254	19,777,128	24,772,010	61,849,268	66,608,177

Demand Forecast

	2016	2017	2018	2019	2020
Annual Ridership	16,569,000	29,503,000	35,336,000	41,168,000	52,641,000
Daily Average	45,395	80,830	96,811	112,789	144,222
Annual: TA Revised	25,375,000	36,405,000	90,094,000	119,091,000	143,555,000
Updated (Sep2015)		22,605,000	26,297,000	50,833,000	68,257,000

Estimate of Break-even Fare (i.e. fare revenue = fare x ridership = total cost)

(Total Cost (1) or Total Cost (2)) / (Annual Ridership)	2016 – 2018	2016 – 2020
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	(first 3 years)	(first 5 years)
SAPI : Average fare to become break-even to O&M cost	VND 7,735	VND 6,265
SAPI : Average fare to become break-even to O&M cost + E&M depreciation cost	VND 10,314	VND 8,263
TA Revised : Average fare to become break-even to O&M cost	VND 10,252	VND 9,703
TA Revised : Average fare to become break-even to O&M cost + E&M depreciation cost	VND 22,799	VND 23,614

** Proposed calculation by TA is based merely on fare adjustments, not yet taking reduction in demand when fare increases into consideration.*

Appendix 3 : Fare Estimated from Comparison with Other Modes

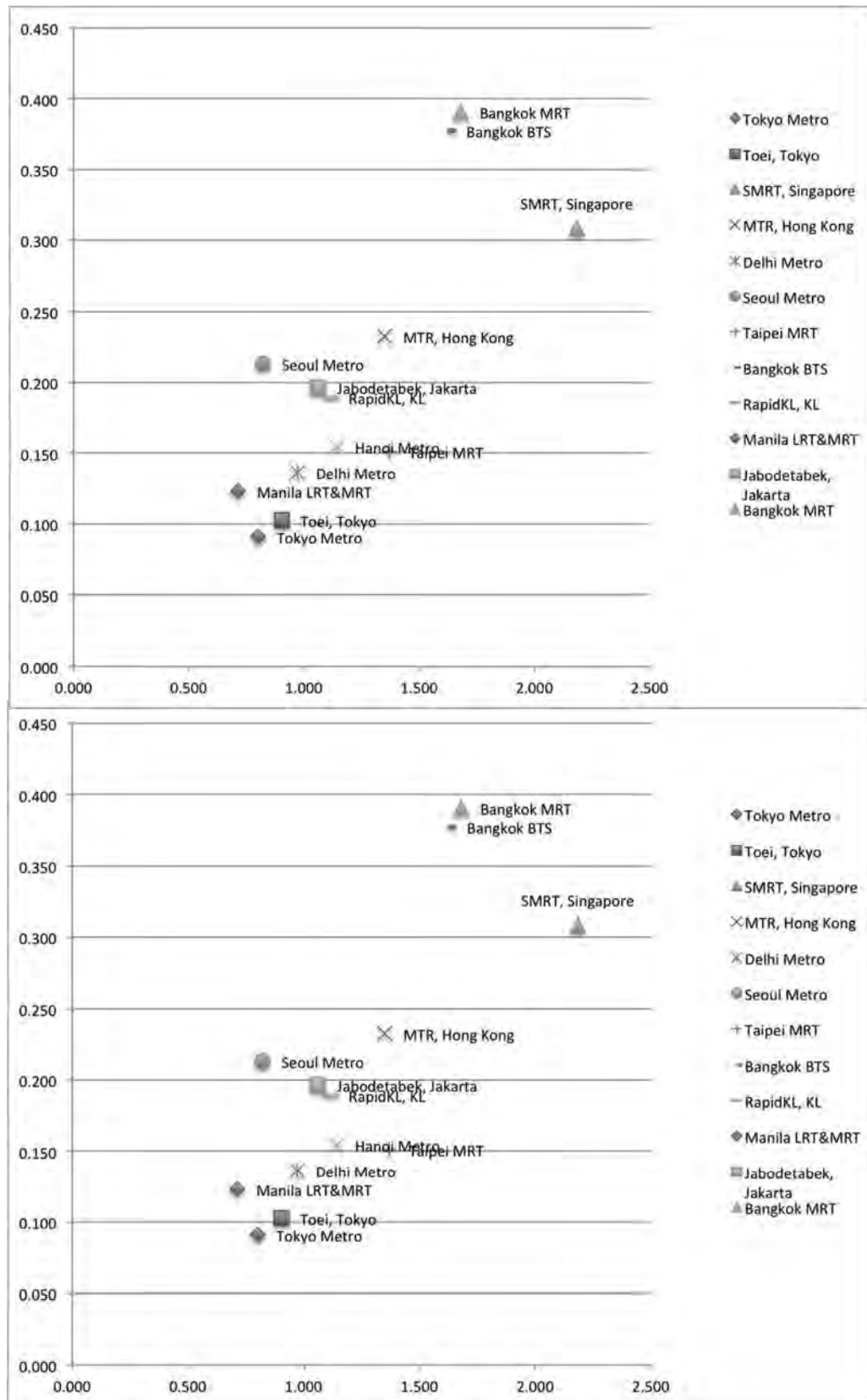
Rate of urban railway fare against fare of other modes (bus and taxi) in Hanoi and selected Asian cities were analyzed and compared. The comparable cases were picked up with the following conditions:

- At the average travel distance of 5.3 km, fare of urban railway must be higher than bus fare (as O&M cost per passenger kilometer for urban railway service is generally higher than that for bus, but quality is generally better).
- At the average travel distance of 5.3 km, fare of urban railway must be significantly lower than taxi fare (in order to effectively promote the modal shift to urban railways).

For the above reasons, the cases of Taipei, Kuala Lumpur, Jakarta, and Hong Kong were selected for determination of appropriate range of fare rates between public transportations.

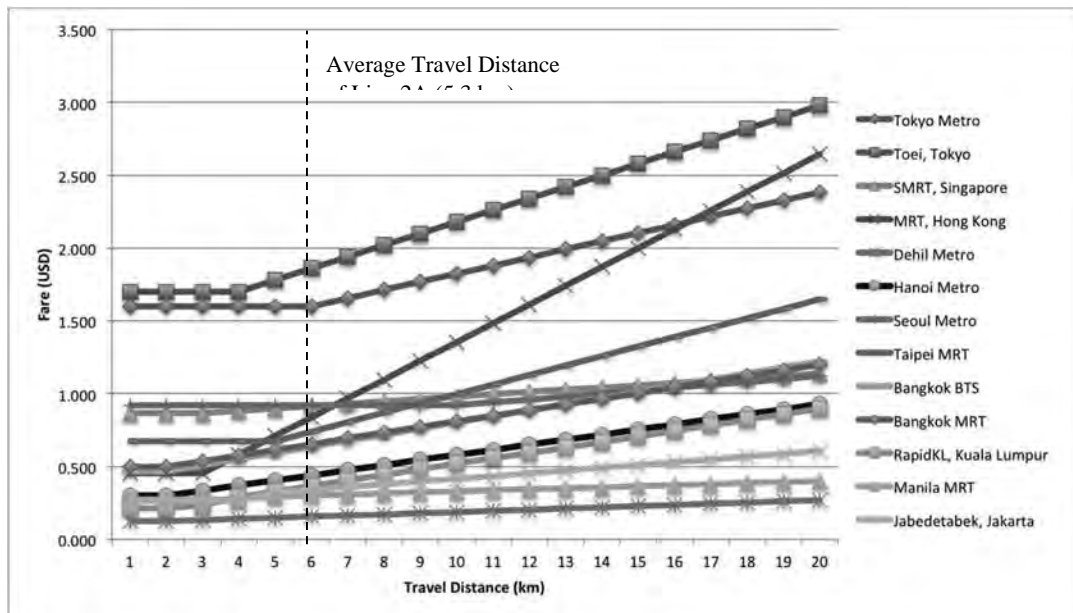
Public Transport Fare in Hanoi	Bus	Taxi
As of 2017 (assumed)	VND 7,000 (flat)	VND 12,000 + 12,000 x distance
5.3 km ride	VND 7,000	51,600

Appropriate Fare Ratio	Lower Limit	Upper Limit
Rate of urban railway fare against bus fare	1.061 (VND 7,425)	1.371 (VND 9,594)
Rate of urban railway fare against taxi fare	0.151 (VND 7,808)	0.233 (VND 11,997)



Appendix 4 : Fare Price Benchmarking with Selected Asian Cities

Fare prices of urban railways in selected Asian cities were studied and compared uniformly in the same currency (USD). As the result, it is suggested that the range of fare price (5.3 km ride) between Jabodetabek Railway in Jakarta and BTS in Bangkok should be suitable for the fare price of Hanoi Metro.



Fare Price of Urban Railways in Selected Asian Cities (5.3 km ride)

Tokyo		Singapore	Hong Kong	Delhi	Hanoi (proposed)
Tokyo Metro	Toei	SMRT	MTR	Delhi Metro	Hanoi Metro
USD 1.600 (VND 32,000)	USD 1.804 (VND 36,080)	USD 0.9038 (VND 18,076)	USD 0.7487 (VND 14,974)	USD 0.1504 (VND 3,008)	USD 0.460 (VND 9,200)
Seoul		Bangkok		Kuala Lumpur	Manila
Seoul Metro	BTS	MRT	RapidKL	MRT & LRT	Jabodetabek
USD 0.921 (VND18,420)	USD 0.6056 (VND 12,112)	USD 0.6267 (VND 12,534)	USD 0.3394 (VND 6,788)	USD 0.2971 (VND 5,942)	USD 0.3267 (VND 6,534)

4.3 PROPOSED FARE STRUCTURE

Fare strategies fall into two basic categories: flat and differentiated.

- With the flat fare, riders are charged the same fare, regardless of the length of trip, time of day, or speed or quality of service.
- With the differentiated fare, fares vary according to one or more of those parameters.

The different types of strategies are summarized as follows:

4.3.1 Flat Fare

The simplest, most common fare strategy is one based on a flat fare.

Under the flat fare structure, riders are charged the same fare for a one-way, one-ride trip regardless of their trip length or the time-of-day. This type of fare structure was adopted as a customer convenience given its simple interpretation and payment method, and is applied to all system routes, regardless of mode type.

In Hanoi, a flat fare is employed for all local bus routes, TRANSERCO bus routes.

4.3.2 Distance-based Fare

Distance-based fares (surcharges beyond a certain distance) are often considered on the theory that people should pay more for longer trips. Travel distance, which may be determined by actual travel distance – charges based upon actual kilometers or general ranges of kilometers.

In Hanoi, a distance-based fare is employed for taxi services.

4.3.3 Zonal Fare

Zonal fares are, in general, on the same theory as distance-based fares. Under this method, the operator/regulator defines service zones (geographic zones) within its service area and determines fares based upon the number of zones crossed.

4.3.4 Time-based (e.g. peak/off-peak) Fare

A time-based method of charging is often considered because: i) the peak period market is generally less sensitive to and has a greater ability to pay for fare increases; and ii) the costs of providing service and accommodating additional riders are significantly higher in peak than in off-peak hours.

On the other hand, time-based pricing further complicates the fare structure. The peak/off-peak differential may involve all off-peak hours or, alternatively, a late-night, weekend, or Sunday-only discount.

4.3.5 Service-based (e.g., bus or rail) Pricing

Differentiating fares by mode (i.e., a higher fare for rail than for bus) or by "speed" (i.e., an express bus surcharge) is often contemplated as a means to reflect i) the higher level of service provided on rail, ii) the longer trip distances typically traveled by rail riders, and iii) the higher operating costs of rail service.

Moreover, because rail riders typically display lower elasticities to fare increases, they may be considered good candidates for higher fares than bus riders. This concept is generally provisioned for most of the urban railway services in comparison with bus transits.

4.3.6 Assessment

The distribution of the flat and basic differentiated fare strategies (distance-based, time-based, and service-based) and the advantages and disadvantages of these strategies are discussed below and in the Table 4.6.

Flat v.s. Differentiated

The principal arguments for differentiation have focused on efficiency and equity considerations and are summarized as follows:

- The higher operating costs associated with serving longer trip service should be reflected in the fare charged. Otherwise, the users of long-distance service are cross-subsidized by the users of shorter-distance service. Also, the former tends to be in higher income brackets than the latter and that flat fares, therefore, essentially result in a regressive transfer of income from the lower to higher income groups. In this connection, differentiated fare should be offered to be inline with the Goal 5: Maximizing Social Equity.
- The users of the higher-cost services (e.g. long-distance) have tended to display lower elasticities than those using the lower-cost services. Therefore, the differentiated fares have a higher revenue-generating potential than do flat fares. This satisfies the Goal 6: Meeting Farebox Recovery Targets.

For the above reasons, differentiated fare scheme is selected for Hanoi Metro Company.

Zonal v.s Distance-based v.s. Time-based

- Goal 2: Increasing Ridership
 - Time-based fare may reduce the ridership when peak hour demand is not significant.
- Goal 4: Reducing Complexity
 - Firstly, the major argument against differentiated pricing in particular was the ease of implementation and administration. In this context, zonal structure is the easiest, distance-based is the next easiest, and time-based is the most difficult to implement and administer. However, electronic fare technology made it easier to introduce these strategies.
 - Secondly, differentiated schemes add to the overall complexity of the fare structure. Zonal fare is the easiest for users to comprehend among three options. Also there is very little complexity in understanding distance-based fare particularly after the introduction of IC smartcard and modern AFC equipment. In the case of time-based fare, there is a potential for conflicts between riders and the Operator regarding the changeover between peak and off-peak periods (this can be addressed technically, but frequent complaints may arise from the users).
- Goal 5: Maximizing Social Equity

- Zonal fare is less equitable than distance-based fare especially for those making short trips and accrossing zones during their short journeys. As time-based fare is equitable only when peak-hour ridership becomes significant, this strategy is not recommendable to be practiced from day 1 of commercial operation, it is an option for the future when the ridership becomes excessive. Thus, distance-based fare is the most equitable and practical alternative among the three.
- Goal 6: Meeting Farebox Recovery Targets
 - Distance-based fare should produce greatest revenue as those making longer trip have higher cost elasticity, while revenue from zonal fare should be less. The potential for time-based differential pricing is unclear, but experiences show that time-based pricing is not likely to generate as much revenue as a distance-based alternative. Especially, the option has very little advantage at the initial years of commercial operation,
- Goal 7: Enabling Incremental Charge
 - There is little difference in efforts required for fare adjustment between zonal and time-based fare unless urban railway network is wide and complicated.

From the above discussion, “Distance-based Fare” is selected for Hanoi Metro Company.

Table 4.19: Advantages and Disadvantages of Alternative Strategies

	Fare Structure Options			
	Flat Fare	Zonal Fare	Distance-based Fare	Time-based Fare
Pros	<ul style="list-style-type: none"> - Easiest to understand (especially when large urban railway network is in operation) - Simplest and least expensive to implement and administer (particularly at the time of fare adjustment) 	<ul style="list-style-type: none"> - Easiest to understand (especially when large urban railway network is in operation) - More equitable than Flat Fare - Should produce more revenue than Flat Fare 	<ul style="list-style-type: none"> - Should produce greatest revenue as those making longer trip have higher cost elasticity - Considered equitable; (especially for those making longer trip) 	<ul style="list-style-type: none"> - Should increase ridership - Allows management of railcar usage through shift to off-peak - Considered equitable as peak hour commuters pay more
Cons	<ul style="list-style-type: none"> - Places inequitable burden on those making short trips - Increase will cause greatest loss of riders - Should produce least revenue 	<ul style="list-style-type: none"> - Less equitable than Distance-based Fare for those making short trips (especially for the short trip riders accrossing zones) - Should produce less revenue than Distance-based Fare - Less popular among riders with long trips compared to Flat Fare 	<ul style="list-style-type: none"> - Difficult to implement and administer without modern AFC equipment (particularly at the time of fare adjustment under large urban railway network) - Less popular among riders with long trips compared to Flat Fare and Zonal Fare 	<ul style="list-style-type: none"> - Difficult to understand (unless majority of riders use IC smartcard) - Little advantage unless peak-hour ridership is excessive - Most complex system and expensive to implement and administer - Potential for modal shift-back to private transports
City Applied	New York, MTA	European Metros	Tokyo Metro, JR Toei, Singapore SMRT, Hong Kong MTR, Delhi Metro, Seoul Metro, Taipei MRT, Manila LRT & MRT, Jabodetabek Railways, European Metros	London Underground Seoul Metro

4.4 TRANSFER PRICING AND DISCOUNT

4.4.1 Transfer Pricing

Transfer pricing policy is a key element in which transferring between routes or modes takes place in the city's public transport network. As Hanoi Metro service is structured so as to encourage extensive transferring between routes or modes, the convenience of free transfers and the loss of revenue under such a policy must be carefully balanced.

4.4.2 Type of Transfer Pricing

In order to meet the requirements to promote public transport network in Hanoi, arrangement of transfer within and between modes is an important issue. For transfer between Hanoi Metro, VNR Line 1, BRT and TRANCERCO bus, 3 alternatives may be considered.

Free Transit	Regardless of the modes to transfer, riders pay for the distance travelled without paying at each transfer.
Transfer Discount	At each transfer, riders are offered with a certain amount of discount.
Full Transfer Charge	Riders pay base fare at any transfer (do nothing).

In consideration of the transfer, following must be considered.

- **IC Card and Non-IC Card** Free transit or transfer discount should be offered for the riders using IC card. Instead no discount will be offered for non-IC users and non-IC route.
- **Fare Structure** Free transit should be offered between the modes introducing differentiated fare structure (e.g. distance-based or zonal), while discount (discounting a certain amount, say VND 1000) may be offered for the transfer between flat fare and differentiated fare structure and between flat fare structures.
- **Operator (Operating Company)** Any transfer fare (either free transit, transfer discount or full transfer charge) may be employed for the transfer between the routes of different operators (i.e. Cross Operator). However, in the case of free transit or transfer discount, sharing scheme must be considered, which may be either i) revenue loss from the discount is equally shared between the operators, or ii) no adjustment is made (do nothing) as transfer between one operator to another and vice versa should be nearly equal.

4.4.3 Choice of Transfer Pricing and Discount Alternatives

Providing that i) Hanoi Metro is a different company from TRANCERCO, ii) the operator of BRT and public buses are the same (i.e. TRANCERCO), and iii) fare structure of BRT is distance-based, transfer fare and discount system is proposed as follows (note that two tables, i.e. IC card option and non-IC card option for public bus, are prepared since the existing public bus service is expected to introduce IC card system at some priority routes).

Table 4.20: Choice of Transfer Fare and Discount System (Non-IC Card Option for Bus Service)

Before and After Transfer	Hanoi Metro Company	VNR Line 1	BRT	Bus (TRANCERCO)
Hanoi Metro Company	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Same Operator 	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Full Transfer Charge</u> <ul style="list-style-type: none"> IC-Non IC Distance-Flat Cross Operators
VNR Line 1	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	No transfer opportunities	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Full Transfer Charge</u> <ul style="list-style-type: none"> IC – Non IC Distance-Flat Cross Operators
BRT	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	No transfer opportunities	<u>Full Transfer Charge</u> <ul style="list-style-type: none"> IC – Non IC Distance-Flat Same Operator
Bus (TRANCERCO)	<u>Full Transfer Charge</u> <ul style="list-style-type: none"> Non IC - IC Flat-Distance Cross Operators 	<u>Full Transfer Charge</u> <ul style="list-style-type: none"> Non IC - IC Flat-Distance Cross Operators 	<u>Full Transfer Charge</u> <ul style="list-style-type: none"> Non IC - IC Flat-Distance Same Operator 	<u>Full Transfer Charge</u> (existing system)

Table 4.21: Choice of Transfer Fare and Discount System (IC Card Option for Bus Service)

Before and After Transfer	Hanoi Metro Company	VNR Line 1	BRT	Bus (TRANCERCO)
Hanoi Metro	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Same Operator 	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Transfer Discount</u> <ul style="list-style-type: none"> IC-IC Distance-Flat Cross Operators
VNR Line 1	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	No transfer opportunities	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Transfer Discount</u> <ul style="list-style-type: none"> IC – IC Distance-Flat Cross Operators
BRT	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	<u>Free Transit</u> <ul style="list-style-type: none"> IC - IC Distance-Distance Cross Operators 	No transfer opportunities	<u>Transfer Discount</u> <ul style="list-style-type: none"> IC – IC Distance-Flat Same Operator
TRANCERCO	<u>Transfer Discount</u> <ul style="list-style-type: none"> IC - IC Flat-Distance 	<u>Transfer Discount</u> <ul style="list-style-type: none"> IC - IC Flat-Distance 	<u>Transfer Discount</u> <ul style="list-style-type: none"> IC - IC Flat-Distance 	<u>Transfer Discount</u>

	• Cross Operators	• Cross Operators	• Same Operator	
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4.4.4 Proposed Transfer Pricing and Discount System

Taking into account the number of transfers, charging scheme, and sharing of discounts between public transport operators, transfer fare and discount system is proposed.

Table 4.22 : Proposed Transfer Fare and Discount System

Hanoi Metropolitan Area	Item	Description
	Qualification	Riders traveling with IC Card
	Transfer fare system ⁴	<ul style="list-style-type: none"> Between Hanoi Metro Lines – Free transit Between Hanoi Metro and VNR Line 1 – Free transit Between Hanoi Metro and BRT – Free transit Between Hanoi Metro and TRANCERCO Bus - Full transfer charge (non IC), - Transfer discount of VND 1,000 (IC)
	Transfer time	Free transit and transfer discounts are offered for the riders completed transfer within 30 minutes
	Number of transfers	Free transit and transfer discounts are offered for unlimited number of transfers.
	Charging Scheme	Discontinue and reset travel distance at each transfer station (separate fare collection method)
	Sharing of Transfer Discount between Operators	<ul style="list-style-type: none"> Between Hanoi Metro Lines – Incurred by Hanoi Metro Company (and not distributed to each line) Between Hanoi Metro and VNR Line 1 – Cancel out between the operators (and not adjusted/distributed to each operator by performed passenger kilometers, etc.) Between Hanoi Metro and BRT - Cancel out between the operators (and not adjusted/distributed to each operator by performed passenger kilometers, etc.) Between Hanoi Metro and TRANCERCO Bus - Cancel out between the operators (and not adjusted/distributed to each operator by performed passenger kilometers, etc.)

⁴ "Free Transit" will result in deduction of base fare of connecting route/mode. Study cannot indicate the exact amount of fare deduction associated with this "Free Transit" because base fares of other routes/modes are yet to be determined at this moment.

4.5 TYPE OF FARE

4.5.1 General

Research on type of fare indicates that most urban railway systems in overseas have varieties of fare categories. The primary reason for the various fare categories is to offer choices of purchase methods. This also meets the Fare Policy Goal 3: Increasing Fare Options.

While many variations exist, there are six basic types of purchase methods, i.e. Individual Trip Ticket, Multiple-ride Ticket, Unlimited-ride Ticket, Group Ticket, Multi-modal Ticket, and Concession Ticket. Given the result of research, Hanoi Metro should select the type of fare, balancing the Goal 3: Increasing Fare Options and Goal 4: Reducing Complexity.

4.5.2 Individual Trip Ticket

In this category, a single fare is charged every time a transit rider takes a trip. Generally, each time a trip is made the transit rider pays the single trip fare or is deducted from a contactless smartcard or stored-value card. This ticket is essential for any transit services.

4.5.3 Multiple-ride Ticket

This type of fare is sold for a specified number of rides, typically over 10 rides. Often, a discount is provided when tickets or tokens are purchased in bulk, offering savings over making individual trip payments.

Offering this ticket or not for Hanoi Metro depends on the priority of the Goal 3: Increasing Fare Options and Goal 4: Reducing Complexity. Perhaps, unlimited-ride ticket as explained below would better satisfy the Goal 2: Increasing Ridership. Alternatively, just a 10-ride ticket may be offered for trial.

4.5.4 Unlimited-ride Ticket

This type of fare allows the transit rider unlimited travel within a specific time period, typically one week or one month. The passes often are priced to provide a discount to frequent riders, if they chose a pass over making individual trip payments.

One-Day Pass is valid for unlimited Metro rides from first use until the end of service on a single day. It is only valid for one passenger each time. The price of a One-Day Pass does not generally include a refundable deposit and cannot be value-added.

In line with the Goal 3: Increasing Fare Options and given Hanoi's objective to promote tourism, one day, 3 days tickets should be offered for Hanoi Metro Company. Meanwhile, perhaps one-month ticket or unlimited tickets for longer durations may be not required from day 1 as not much people would like to pre-pay the fare of one-month or above until they understand the benefits to use the service.

4.5.5 Group Ticket

There is a certain discount for groups of typically 10 or more passengers. No refunds can be given once issued. This type of ticket is useful for school trips, tourists from overseas, and other community events.

In line with the Goal 3: Increasing Fare Options and given Hanoi's objective to promote tourism, an ordinary group ticket should be offered for Hanoi Metro Company.

4.5.6 Multi-Modal Ticket

This is often combined with unlimited-ride ticket, where the riders can enjoy the service of different rail lines or modes (e.g. rail and bus, sometimes plus ferry). In some cases, transfer discount is offered for the riders to transfer from rail-to-rail or rail-to-bus (or vice versa) within a specific time limit.

This promotes the use of public transport and eventually addresses Goal 2: Increasing Ridership and Goal 6: Meeting Farebox Recovery Targets. However, it may take some time until introduction of multi-modal fare since i) second urban railway line will start commercial operation several years later, and ii) fare integration is difficult as the existing bus yet to use electronic ticketing technology. Perhaps, paper transfer tickets may be provided for the riders purchase multiple or unlimited-ride tickets (this is currently exercised in Bangkok).

4.5.7 Concession Ticket

Main legal basis:

- Law on the Disabilities No. 51/2010 / QH12 dated 17/6/2010;
- Law on Elderly No. 39/2009 / QH12 dated 23/11/2009;
- Decree No. 28/2012/ND-CP dated 24/09/2012 of the Government detailing and guiding the implementation of some articles of the Law on the Disabilities;
- Decree No. 06/2011/ND-CP dated 14/01/2011 of the Government detailing and guiding the implementation of some articles of the Law on the Elderly;
- Decree No. 14/2015/ND-CP of the Government dated 02/13/2015 Detailing and guiding the implementation of some articles of the Law on Railways

Based on the above regulations, organizations, individuals, and business enterprises that run railway business, besides providing priority services, are also responsible to provide regulations on priority level, but not less than the prescribed limit.

Various concession tickets are generally offered for target and reward particular behaviors which support the broader aims for public transport. These include, passenger with disabilities, child, elderly (adult), student, tourist, military (and military veteran) and others. This often requires ID to prove that a person is in such categories.

Hanoi Metro Company should offer necessary concession tickets as this supports the Goal 1: Ensuring Affordability of Fares and Goal 5: Maximizing Social Equity.

4.5.8 Proposed Ticket Types

Fare types (tickets and passes) for Hanoi Metro Company are proposed as follows. Details of each fare type are described in the Table X.

- Single Journey Ticket
- Stored Value Ticket 100,000、 200,000、 500,000 (VND)
- 1 Day Ticket, 3 Days Ticket, Monthly Ticket

- Fare for public transport network (Hanoi Pass)
- Group Ticket
- Single Journey Concession Ticket (Child, Elder, Student, Military, Disabled, etc.)
- Concession Pass (Child, Senior, Student, Military, Disabled, Motorist, etc.)

Table 4.23: List of Fare Types in Selected Asian Cities

	Tokyo		Singapore	Hong Kong	Delhi	Seoul	Taipei	Bangkok		Kuala Lumpur	Manila	Jakarta	Hanoi (Proposed)
	Tokyo Metro	Toei	SMRT	MTR	Delhi Metro	Seoul Metro	Taipei MRT	BTS	MRT	RapidKL	LRT & MRT	Jabodetabek	Hanoi Metro
Individual Trip Ticket													
Single Journey	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Round Journey ⁵													
Stored Value ⁶			✓					✓			✓		
IC Smartcard	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Multiple Ride Ticket													
10 Rides	✓ ⁷	✓ ⁸											✓
15 Rides								✓ ⁹					
25 Rides								✓					
40 Rides								✓					
50 Rides								✓					
60 Rides						✓ ¹⁰							
Unlimited Ride Ticket													

⁵ Some Japanese Railway Companies (e.g. Tokyu Railway) offer this type of ticket.

⁶ This confines to the magnetic card type of tickets

⁷ Offering additional rides

⁸ Offering additional rides

⁹ Offering discounts

¹⁰ Offering discounts

	Hanoi (Proposed)	Hanoi Metro	Jakarta	Jabodetabek	Manila	LRT & MRT	Kuala Lumpur	RapidKL	Bangkok	BTS	MRT	Taipei	Taipei MRT	Seoul	Seoul Metro	Delhi	Delhi Metro	Hong Kong	MTR	Singapore	SMRT	Tokyo	Toei	Tokyo Metro
1 Day	✓						✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
2 Days												✓	✓	✓	✓					✓				
3 Days	✓						✓		✓		✓	✓	✓	✓	✓	✓				✓				
5 Days												✓	✓	✓	✓									
7 Days							✓							✓	✓									
15 Days							✓	✓			✓													
1 Day Multi-Modal	△						✓															✓	✓	✓
Monthly	△	✓							✓													✓	✓	✓
3 Monthly																						✓	✓	✓
6 Monthly																						✓	✓	✓
Group Ticket/Bulk																								
Bulk									✓	✓	✓	✓	✓	✓	✓									
Group (Ordinary)	✓											✓	✓									✓	✓	✓
Group (Student)																						✓	✓	✓
Group (Child/Elderly)																								
Multi-Modal Ticket																								
Rail-Rail	△						✓							✓	✓			✓	✓	✓	✓	✓	✓	✓
Rail-Bus	△						✓							✓	✓			✓	✓	✓	✓			
Concession Ticket																								
Disabled	✓						✓					✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
Child/Elderly	✓								✓		✓	✓	✓	✓	✓			✓	✓	✓	✓			
Student	✓						✓		✓		✓	✓	✓	✓	✓			✓	✓	✓	✓			

	Hanoi (Proposed)	Hanoi Metro	Jakarta	Manila	Kuala Lumpur	Bangkok	Taipei	Seoul	Delhi	Hong Kong	Singapore	Tokyo	
			Jabodetabek	LRT & MRT	RapidKL	MRT BTS	Taipei MRT	Seoul Metro	Delhi Metro	MTR	SMRT	Toei Tokyo Metro	
Employee						✓							
Co-branded						✓	✓						
Charity							✓						
Weekend												✓	
Tourist		✓								✓	✓		
Business Traveler						✓							
Foreign Student					✓								
Cyclist							✓						
Motorist													△
Military Person											✓		△
Military Veteran		✓											

Overseas Cases: ✓: Type of ticket being offered

Hanoi Metro: ✓: Proposed type of ticket to be offered from day 1

△ : Type of ticket may be offered in a subsequent stage (as and when deemed appropriate)

Table 4.24: Proposed Ticket Types for Hanoi Railway Company

The fare price and discount rates are preliminary proposal and for reference only.

Type of Ticket	Description
Single Journey Ticket (one way)	<ul style="list-style-type: none"> Eligibility : ordinary passengers Availability : for sale at ticket counter or ticket vending machines Fare Price : As in fare table Validity : on the day of issue Ticket Collection : upon exit at AFC gate

	<ul style="list-style-type: none"> • Ticket Validation Method : Fare Amount Judgment Type • Value addition : unable. • Ticket Media : IC token (or IC card)
Stored Value 100 (VND100,000)	<ul style="list-style-type: none"> • Eligibility : ordinary passengers • Availability : for sale at ticket counter or ticket vending machines • Fare Price : VND 100,000 + Deposit VND 20,000 (total consumable value of VND 105,000) • Validity : unlimited • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit) • Free Transit : Between Hanoi Railway Company lines, VNR Line 1 and BRT • Transfer Discount : Discount of VND 1000 upon transfer between Hanoi Railway Company lines and TRANCERCO bus within 30 minutes (IC card only) • Media : IC card
Stored Value 200 (VND200,000)	<ul style="list-style-type: none"> • Eligibility : ordinary passengers • Availability : for sale at ticket counter or ticket vending machines • Fare Price : VND 200,000 + Deposit VND 20,000 (total consumable value of VND 215,000) • Validity : unlimited • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit) • Free Transit : Between Hanoi Metro lines, VNR Line 1 and BRT • Transfer Discount : Discount of VND 1000 upon transfer between Hanoi Railway Company lines and TRANCERCO bus within 30 minutes (IC card only) • Media : IC card
Stored Value 500 (VND500,000)	<ul style="list-style-type: none"> • Eligibility : ordinary passengers • Availability : for sale at ticket counter or ticket vending machines • Fare Price : VND 500,000 + Deposit VND 20,000 (total consumable value of VND 550,000) • Validity : unlimited • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit) • Free Transit : Between Hanoi Railway Company lines, VNR Line 1 and BRT • Transfer Discount : Discount of VND 1000 upon transfer between Hanoi Railway Company lines and TRANCERCO bus within 30 minutes (IC card only) • Media : IC card
1 day Pass	<ul style="list-style-type: none"> • Eligibility : ordinary passengers (only valid for one passenger at a time) • Availability : for sale at ticket counter or ticket vending machines • Fare Price : (upon opening of first line) VND 30,000 + Deposit VND 20,000 • Validity : from first use until the end of service on a single day (unlimited use of Hanoi Metro lines within the validity period) • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit) • Value Addition : unable • Free Transit : not available • Transfer Discount : not available • Media : IC card
3 days Pass	<ul style="list-style-type: none"> • Eligibility : ordinary passengers (only valid for one passenger at a time) • Availability : for sale at ticket counter or ticket vending machines • Fare Price : (upon opening of first line) VND 90,000 + Deposit VND 20,000 • Validity : from first use until the end of service on the expiry day (unlimited use of Hanoi Metro lines within the validity period) • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit)

	<ul style="list-style-type: none"> • Value Addition : unable • Free Transit : not available • Transfer Discount : not available • Media : IC card
Monthly Pass	<ul style="list-style-type: none"> • Eligibility : ordinary passengers (only valid for one passenger at a time) • Availability : for sale at ticket counter or ticket vending machines • Fare Price : (upon opening of first line) VND 130,000 + Deposit VND 20,000 • Validity : from first use until the end of service on the expiry day (unlimited use of Hanoi Metro lines within the validity period) • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit) • Value Addition : unable • Free Transit : not available • Transfer Discount : not available • Media : IC card
Hanoi Pass (1 day, 3 days, and Monthly)	<ul style="list-style-type: none"> • Eligibility : ordinary passengers (only valid for one passenger at a time) • Availability : for sale at ticket counter or ticket vending machines • Fare Price : 1 day pass : VND 60,000 + Deposit VND 20,000 3 days pass : VND 180,000 + Deposit VND 20,000 Monthly pass : VND 600,000 + + Deposit VND 20,000 • Validity : from first use until the end of service on the expiry day (unlimited use of Hanoi Metro lines within the validity period) • Ticket Collection : at ticket counter or ticket vending machines (with return of deposit) • Value Addition : unable • Media : IC card
Group Ticket (Single journey, one way)	<ul style="list-style-type: none"> • Eligibility : group passengers • Availability : for sale at ticket counter or ticket vending machines • Fare Price : Group over 10 passengers – 10% discount from standard fare Group over 40 passengers – 20% discount from standard fare • Validity : On the day of issue (no refund) • Ticket Collection : upon exit at AFC gate • Ticket Validation Method : Fare Amount Judgment Type • Value addition : unable • Media : IC token (or IC card)
Single Journey Student (etc.) Concession	<ul style="list-style-type: none"> • Eligibility : Student, police, and military personnel • Availability : for sale at ticket counter on presentation of valid ID • Fare Price: 30% discount from standard fare • Ticket Collection : upon exit at AFC gate • Ticket Validation Method : Fare Amount Judgment Type • Free Transit : Between Hanoi Metro lines, VNR Line 1 and BRT • Transfer Discount : Discount of VND 1000 upon transfer between Hanoi Metro lines and TRANCERCO bus within 30 minutes (IC card only)

	<ul style="list-style-type: none"> Media : IC token (or IC card)
Single Journey Disabled Resident (etc.) Concession	<ul style="list-style-type: none"> Eligibility : Residents with disabilities, military veteran Availability : for sale at ticket counter on presentation of valid ID Fare Price : 70% discount from standard fare Ticket Collection : upon exit at AFC gate Ticket Validation Method : Fare Amount Judgment Type Free Transit : Between Hanoi Metro lines, VNR Line 1 and BRT Transfer Discount : Discount of VND 1000 upon transfer between Hanoi Metro lines and TRANCERCO bus within 30 minutes (IC card only) Media : IC token (or IC card)
Single Journey Child and Elder Concession	<ul style="list-style-type: none"> Eligibility : residents at the age of 12 and below or 60 and above Availability : for sale at ticket counter on presentation of valid ID Fare Price : 50% discount from standard fare Ticket Collection : upon exit at AFC gate Ticket Validation Method : Fare Amount Judgment Type Free Transit : Between Hanoi Metro lines, VNR Line 1 and BRT Transfer Discount : Discount of VND 1000 upon transfer between Hanoi Metro lines and TRANCERCO bus within 30 minutes (IC card only) Media : IC token (or IC card)
Student (etc.) Concession Pass (Monthly)	<ul style="list-style-type: none"> Eligibility : Student, military Availability : for sale at ticket counter on presentation of valid ID Fare Price : 30% discount from standard fare of Monthly Pass or Hanoi Pass (monthly) Media : IC card (with photograph of the passenger printed on card) Others : same as the conditions of Monthly Pass or Hanoi Pass (monthly)
Disabled Resident (etc.) Concession Pass (Monthly)	<ul style="list-style-type: none"> Eligibility : residents with disabilities, military veteran Availability : for sale at ticket counter on presentation of valid ID Fare Price : 70% discount from standard fare of Monthly Pass or Hanoi Pass (monthly) Media : IC card (with photograph of the passenger printed on card) Others : same as the conditions of Monthly Pass or Hanoi Pass (monthly)
Child and Elder Concession Pass (Monthly)	<ul style="list-style-type: none"> Eligibility : residents at the age of 12 and below or 60 and above Availability : for sale at ticket counter on presentation of valid ID Fare Price : 50% discount from standard fare of Monthly Pass or Hanoi Pass (monthly) Media : IC card (with photograph of the passenger printed on card) Others : same as the conditions of Monthly Pass or Hanoi Pass (monthly)
Motorist Concession Pass (Monthly)	<ul style="list-style-type: none"> Eligibility : Motorist (Park & Ride users) Availability : for sale at ticket counter on presentation of valid ID and motorbike license Fare Price : Same as the standard price of Monthly Pass or Hanoi Pass (monthly). The pass holder may use motorbike parking (Park & Ride facility) managed by Hanoi Metro at free of charge. Media : IC card (with photograph of the passenger printed on card) Others : same as the conditions of Monthly Pass or Hanoi Pass (monthly)

4.6 CONCLUSION

The study summarizes the experiences of some countries in the world based related strategies, policies and regulations in Vietnam, including the transport service development strategy, social policies and regulations on pricing for goods and services, to propose fare strategy, the fare, the fare type suitable for conditions of initial development of urban railway transport services in Hanoi. The specific proposals are shown below:

4.6.1 Fare Strategy

comparative analysis is carried out between i) flat fare, ii) zonal fare, iii) distance-based fare, and iv) time-based fare. The Study concluded that the distance-based fare system should be selected as this can maximize social equity and fare revenue.

4.6.2 Proposal for Fare Prince in 2017

- From the results of estimate, the proposed initial fare is illustrated in the following table.

Year	Fare Calculation Formula	Average lead	Average fare
2017	$6,000 + 600 \times (\text{distance [km]})$ [VND]	5.3 km	VND 9,200

(Left Bottom: Distance [km], Right Up: Fare [x VND1000])

Sta.1	7	8	8	9	9	11	11	12	12	14	14
0.7	Sta.2	7	8	9	9	10	11	12	12	13	14
1.6	0.9	Sta.3	8	8	9	9	10	11	12	12	13
2.7	2.0	1.1	Sta.4	8	8	9	9	11	11	12	12
3.9	3.2	2.3	1.2	Sta.5	8	8	9	9	11	11	12
5.0	4.3	3.4	2.3	1.1	Sta.6	8	8	9	9	11	11
6.4	5.7	4.8	3.7	2.5	1.4	Sta.7	8	8	9	9	11
7.5	6.8	5.9	4.8	3.6	2.5	1.1	Sta.8	8	8	9	9
8.8	8.1	7.2	6.1	4.9	3.8	2.4	1.3	Sta.9	8	8	9
10.0	9.3	8.4	7.3	6.1	5.0	3.6	2.5	1.2	Sta.10	8	8
11.4	10.7	9.8	8.7	7.5	6.4	5.0	3.9	2.6	1.4	Sta.11	8
12.5	11.8	10.9	9.8	8.6	7.5	6.1	5.0	3.7	2.5	1.1	Sta.12

4.6.3 Application of Transfer Fare

- Transfer fare and discount system for travelling across the public transport network in Hanoi Metropolitan Area is proposed as follows.

Item	Description
Qualification	Riders traveling with IC Card
Transfer fare system	<ul style="list-style-type: none"> Between Hanoi UR Lines – Free transit Between Hanoi UR and VNR Line 1 – Free transit Between Hanoi UR and BRT – Free transit Between Hanoi UR and TRANSERCO Bus - Full transfer charge (non IC), - Transfer discount of VND 1,000 (IC)
Transfer time	Free transit and transfer discounts are offered for the riders completed transfer within 30 minutes
Number of transfers	Free transit and transfer discounts are offered for unlimited number of transfers.
Charging Scheme	Discontinue and reset travel distance at each transfer station (separate fare collection method ¹¹)
Sharing of Transfer Discount between Operators	<ul style="list-style-type: none"> Between Hanoi UR Lines – Incurred by Hanoi UR Company (and not distributed to each line) Between Hanoi UR and VNR Line 1 – Cancel out between the operators (and not adjusted/distributed to each operator by performed passenger kilometers, etc.) Between Hanoi UR and BRT - Cancel out between the operators (and not adjusted/distributed to each operator by performed passenger kilometers, etc.) Between Hanoi UR and TRANSERCO Bus - Cancel out between the operators (and not adjusted/distributed to each operator by performed passenger kilometers, etc.)

4.6.4 Proposal for Fare Types

- Fare types (tickets and passes) for Hanoi UR are proposed as follows. Details of each fare type are described in 4.5.8 of the fare policy report.
 - Single Journey Ticket
 - Stored Value Ticket 100, 200, 500 thousand VND
 - 1 Day Ticket, 3 Days Ticket, Monthly Ticket

- Hanoi Pass
- Group Ticket
- Single Journey Concession Ticket (Child, Elder, Student, Military, Disabled, etc.)

References:

Siemens 2014, The Mobility Opportunity;

baodatviet.vn 20/5/2015, <http://baodatviet.vn/kinh-te/thi-truong/gia-xang-tiep-tuc-tang-1200-dong-3269110/#slideshow>;

CHAPTER 5 FARE REGULATION FRAMEWORK

5.1 GENERAL

The purpose of this Chapter is to support the development of regular, systematic and sophisticated fare regulation mechanisms that will make it possible to sustain the provision of urban railway services and enhance quality, while keeping services affordable.

Hanoi Metro Company will face increasing significance to meet growing demand, higher quality expectations from customers, and rising costs of production factors, particularly labour and energy. The innovation required to improve quality and environmental performance is also costly.

Fare regulation shall, therefore, meet and balance all of these requirements for the sustainable development of urban railways.

5.2 FARE REGULATION PRINCIPALS

Principles of fare regulation include the following:

In line with the Goal 1: Ensuring Affordability of Fares

- Hanoi Urban Railway shall safeguard public interest on all aspects of fares charged by the Operator, ensuring those riders most in need of the service are not adversely affected by fare adjustment.
- Fare regulation shall be, through regulated prices, envisaged to limit the degree of monopolistic abuse of a particular urban railway and thereby avoid unreasonable escalation of fare price.

In line with the Goal 6: Meeting Farebox Recovery Targets

- Fare regulation should envisage the operations to meet the farebox recovery target.
- Fare regulation shall help generate the necessary margins to innovate and to invest in order to meet the needs of the future, notably by providing high quality services and achieving productivity improvements.

In line with the Goal 7: Enabling Incremental Charge

- The Operator should be allowed to increase fare at a rate above inflation if passenger expectations are to be met as low or falling fares and insecure funding regimes lead to a long term decline in service quality.
- The Operator should be provided with some freedom to set fare price within the context of fare policy. Some commercial freedom should be given to the regulated party for the Operator to improve quality and promote innovations.

In line with the Goal 8: Maximizing Political Acceptability

- Social and political pressures to keep fares low usually involve price interventions. Hanoi Metro Company should, through its fare regulation framework, seek social / political acceptability and the informational requirements from the general public.

- For this purpose, pricing principles must be put in practice by means of concrete rules.

5.3 PREMISES

For designing of fare regulation framework, following assumptions were made.

1) Establishment of O&M Company

Hanoi Metro Company was established in November 2014 and has officially operated since July 2015

2) Full Functioning of PTA

According to the discussion with PTA Project under the initiative of World Bank, full functioning of PTA will take place in around 2022.

3) Company Model

The O&M Company is anticipated to start with a utility company under planning assignment scheme, and later transform to a business company under order scheme.

- From 2017 to 2021 Planning Assignment method is applied
- From 2022 onward Order method, direct contracting , bidding to be applied when appropriately

4) Opening of Each Line

Each line is anticipated to become operational with the period indicated as follows.

- Opening of Line 2A 2017
- Opening of Line 3 2019
- Opening of Line 2 2021

5.4 EXISTING REGULATORY FRAMEWORK

The public transportation is generally regulated by local municipalities in Vietnam. This section describes the existing regulatory framework of public transport services in Hanoi.

5.4.1 Bus

- In Hanoi, bus service regulations are made on the basis of the official documents including laws, Decrees, Circulars, and Decisions of the central government and Decisions of the local government.
- Currently new decision on fare of a single journey ticket is 7,000, 8,000 and 9,000VND by distance while it also presents that the fare of a monthly ticket is 100,000VND/ticket/month for a single route and 200,000 VND/ticket/month for a multiple routes respectively. The fare level is regulated politically and socially low. Rigid fare regulation discourages the private investment, and rather shrinks the bus services to catch up with requirements.
- Hanoi's existing fare regulation is characterized as unclear and complicated procedures: The fare adjustment proposals are assessed throughout the relevant authorities including DOT, DOF, HAPI/DPI, People's Committees, and TRAMOC, but the regulations on criteria are not clearly defined.

5.4.2 Vietnam National Railways

- Prime Ministerial Decision 34/2003/QĐ-TTg (March 2003) established the state-owned Vietnamese Railway Corporation (VNR) to operate the national railways. Decree 34/2003/ND-CP (April 2003) and Decision No. 1891/2003/QĐ-BGTVT dated 01/7/2003 of MOT to assign the Vietnam Railway Administration (VNRA), to perform governmental management function about railway transport. VNRA is responsible to advise in development of the rail sector and also assist in overseeing the performance of VNR.
- Whenever there were cost increases, VNR would apply to the government to adjust fares to cover their costs. Fares are reviewed by VNRA, MOT, MOF and other line agencies of the Central Government. This facilitated a representation of views aimed at making decisions more acceptable to the Government, yet the regulations don't strictly define who evaluates what with what criteria.
- In accordance with Decree 107/2012/ND-CP of the Government dated 20/12/2012 prescribing functions, responsibilities, powers and organizational structure of the Ministry of Transport, Decree No. 175/2013/ND-CP dated 13/11 / 2013 of the Government regarding charters of the organization and operation of the Vietnam Railways, Decree 130/2013/ND-CP of the Government providing regulations on production and supply of public utility products and services, decision on selling price of products and services of Vietnam Railways is regulated by Vietnam Railways.

5.5 FARE PRICING REGULATION

5.5.1 General

In practice, the most common (in the world) alternatives to control prices in railways are rate of return regulation and price cap mechanisms. The former and the latter regulation conceptually sit at opposite ends of a control mechanisms.

5.5.2 Rate of Return Regulation

$$\text{Revenue Requirement} = \text{Total Cost} = (\text{Variable Cost}) + (\text{Rate Level}) \times (\text{Rate Base})$$

where;

Rate Level: the relation of overall revenues to costs

Rate Base: the investments that are allowed to earn a rate of return

Principle

- The principle is to constrain prices so that the regulated operator earns only a fair rate of return on its capital investment.

Method

- The Regulator determines a revenue requirement based on the Operator's total costs during a test year, according to the total costs, given by a reasonable rate level multiplied by a rate base. The actual procedures are,
 - i) the Operator's costs are reviewed, and unnecessary costs are eliminated,
 - ii) a rate-of-return judged to be fair for the Operator is specified and,
 - iii) prices and their structure are set to generate enough revenues to cover costs and provide a fair rate of return.

Features

- Ridership will not affect the Operator's earnings, since the Operator is entitled to adjust its prices so as to earn its allowed rate of return. Thus, rate of return regulation can offer the Operator full insurance against changes to demand and to income from one period to the next.
- For costs beyond the control of the Operator, the Regulator shall agree to make an adjustment to future revenues to allow recovery of cost escalation, while controllable costs should be under the responsibility of the Operator. Therefore, the Regulator's clear recognition of costs is important. The close tracking of the Operator's profit is essential under this form of regulation.
- The Regulator shall determine the Operator's total revenue requirement. With assumptions about demand, the regulator approves the regulated price(s) on a service-by-service basis. This process necessarily involves some decision about how to allocate the costs of service.

- The price remains fixed until the next scheduled regulatory review. However, the Operator, customers, or the regulator can request a review when prices are inadequate to recover costs or if the realised rate of return appears to be significantly above the regulated rate of return.

5.5.3 Price Cap Regulation

$$CPI - X + K \text{ (or } RPI - X + K)$$

where;

CPI: Customer Price Index (RPI: Retail Price Index)

X: factors related to expected efficiency savings

K: factors related to capital investment requirements

Principle

- In this regulation, the Regulator imposes a price limit, or cap, and the Operator is free to charge any price at, or below, the ceiling. There can be multiple services subject to the cap, and it is the resulting weighted average of prices that is subject to the cap.

Method

- The price cap is based on expected future cash flows and demands with minimal reference to historical costs. Once the price cap is set, the (average) rate of growth in prices is determined by two factors, namely an inflation-based index (i.e. the ‘CPI-factor’) and a total factor productivity (TFP) (i.e. the ‘X-factor’).

Features

- Under a pure price cap, the only element of the Operator’s profit subject to regulatory control is the Operators’ output price(s).
- The idea behind regulating price rather than profit is that capping the price should give the Operator the incentive to produce in a cost-efficient manner and to promote innovation, as the Operator retains any cost reductions until the next review.
- This regulatory objective is in contrast to that of rate-of-return regulation, under which the Regulator effectively reimburses the firm for its realised costs.
- To safeguard the quality, fare regulation may be accompanied by strict licence requirements that set explicit service levels that the regulated operator must meet the required standard. The regulator should also introduce a process whereby performance levels are monitored on a regular basis and both the performance targets established for the Operator as well as its compliance with those targets are reported.
- Consequently, there is scope for the Operator to increase or decrease individual prices as long as the constraint on the average price is satisfied. The weighted average price changes each period, with the weight on a given fare price being the quantity produced in the previous year.
- Under price cap regulation, the Operator tends to transfer certain costs to customers. Specifically, costs that the regulator deems to be “uncontrollable” by the firm are subject to automatic pass-through to customers, where price adjusts immediately to reflect the revised costs.

5.5.4 The Elements Controlled by the Form of Regulation

- Table 5.1 lists the two forms of regulation and the coverage of profit components by the Regulator, where P is the regulated price, Q is quantity, C is controllable cost, and C' is uncontrollable cost. As seen in the table, under the rate-of-return regulation, the Regulator shall be able to assess all elements of profit components, hence high capacity of the Regulator is required to implement and administer the regulation.
- While under the price cap regulation, the Regulator controls price only. Therefore, the required capacity of the Regulator may be lower, but instead in order to safeguard the quality, fare regulation may be accompanied by strict licence requirements that set service levels that the Operator must meet the required standard. The Regulator should also introduce a process whereby performance levels are monitored on a regular basis and both the performance targets established for the Operator as well as its compliance with those targets are reported.

Table 5.1: Elements Controlled by the Form of Regulation

Regulation Type	Regulated Elements	Unregulated Elements
Rate-of-Return	P, Q, C, C'	
Price Cap	P	Q, C, C'

5.5.5 Regulatory Lag and Timing of Review by the Form of Regulation

- “Regulatory lag” refers to the length of time between a significant economic change in a regulated market and the regulator’s reset of regulatory parameters in response to that change.
- With rate-of-return regulation, it is the time between a change in the Operator’s costs and the Regulator’s change in prices to reflect the change in costs. In the context of price cap regulation, it is the time between the reset of the price cap (i.e. the time between formal reviews).
- In either case, the length of regulatory lag is directly proportional to the Operator’s risk exposure. The shorter the fixed period between reviews, the lesser is the Operator’s exposure to risk.
- Under rate-of-return regulation, the timing of reviews can be initiated by the Operator or customers, the Operator has rights to seek reviews prior to the next scheduled review in the event of adverse cost movements against it. Meanwhile under price cap regulation, it can be initiated only by the Operator and is set in advance.
- Therefore, when price cap regulation is employed, the Regulator shall carefully set the timing of review before commencement of regulation as it will determine the Operator’s exposure to the risk.

5.5.6 Assessment

- Although one of the two forms is being applied for urban railways in the world; they are not yet able to be applied directly to urban railway system in Hanoi.

- The main reason is, at first, urban railway lines are fully invested by the Government; like buses and most of the other cities (see Attachment 5.2), urban railway operation in Hanoi will need a substantial subsidy while the Government (HPC) continues to regulate fare price.
- In the long term, within the two forms of regulation, "price cap" regulation can be considered applying effectively for Hanoi urban railway system corresponding to mechanism of placing order (or later direct contracting, bidding) which is being applied.
- "Rate of return" regulation can be considered adopting initially corresponding to the mechanism of planning assignment that is being applied in Vietnam - Decree 130/2013/ND-CP.
- Whether "price cap" regulation or "rate of return" regulation is applied, additional provisions should be incorporated into the contract to be consistent with the framework of Vietnam administration and practical conditions in Ha Noi.
- In particular, PPP investment method is applied to urban railway line, specific additional provisions should be applied flexibly, depending on the characteristics of each line and its operation plan (presented in feasibility study report).

Table 5.2: Comparison of Regulatory Systems – Rate of Return Regulation v.s Price Cap Regulation

	Rate of Return Regulation	Price Cap Regulation
Pros	<ul style="list-style-type: none"> • Relatively simple and easily understandable by both the Regulator and the Operator • Able to maintain financial viability of the Operator by reviewing the costs on an annual basis and allowing for justified cost increases • More certain about profits of the Operator 	<ul style="list-style-type: none"> • More incentives for the Operator to cut costs since any reduction in costs allows them to receive a higher profit. • Allows the Regulator to set fare prices reflecting best practice in Vietnam or international benchmarking. • Less regulatory costs since control items are little and relatively easier to implement and administer
Cons	<ul style="list-style-type: none"> • Less incentives for the Operator for cost reductions or the improvement of service as they are guaranteed revenue plus a certain profit. • Difficult to determine a “fair” rate of return. (difficult to reach agreement between the Regulator and the Operator) • More incentive for the Operator to overstate its costs and its asset base. • More likely to promote unnecessary boosts of the additional investments as any costs may be passed on to the riders. • Greater regulatory costs due to many elements to control. • Less incentive for the operator to cut costs. 	<ul style="list-style-type: none"> • Potential to set the price control too loosely. If the cap is too high, then too little of the surplus is transferred to consumers. • Potential to set the price control too tightly. If they are set too low, the Operator may be unable to break even. It may result in possible lowering of service levels. • In need of establishing the way of quality assessment to safeguard the level of service.
Countries Applied	Japan, Canada, United States	Singapore, Hong Kong, UK
Assessment	<ul style="list-style-type: none"> • May be suitable for the country/city with extensive experience of controlling price, cost, and quality • Difficult to incentivize the Operator without special incentive system, such as Yardstick Regulation with horizontal separation in Japan. 	<ul style="list-style-type: none"> • Relatively easier to implement and administer under the limited capacity of the Regulator • To safeguard the quality, fare regulation may be accompanied by strict licence requirements. • A process is required where performance levels are monitored on a regular basis.

5.6 IMPLEMENTATION OF FARE REVIEW

5.6.1 Types of Fare Adjustment

- Fare adjustment involves the increase or decrease of the fare charged to a rider. While simple in concept, this definition is complicated in application because most urban railway systems have a large number of fare categories.
- The following general types of fare adjustment (fare level, fare structure, and type of fare) are summarized in Table 5.3. Hanoi Metro Company should strategically employs fare adjustment schemes and seek to meet the Fare Policy Goals (i.e. Goal 1: Ensuring Affordability of Fares, Goal 2: Increasing Ridership, Goal 3: Increasing Fare Options, Goal 4: Reducing Complexity, Goal 5: Maximizing Social Equity, Goal 6: Meeting Farebox Recovery Targets, Goal 7: Enabling Incremental Charge, and Goal 8: Maximizing Political Acceptability).

Table 5.3: Types of Fare Adjustment

Changes in General Fare Level	<ul style="list-style-type: none"> • This type of change involves increases or decreases in adult fares that are accompanied by corresponding changes in the other fare categories. • The percent changes in fare levels among fare categories are kept generally the same, except for differences that occur because of rounding fares.
Changes in Pricing Relationships	<ul style="list-style-type: none"> • This strategy involves altering the pricing relationships among current fare categories. In other words, it does not keep the percent changes in fare levels among fare categories the same, but instead seeks to deliberately modify them. • An example is the “Deep Discount Fare” approach, in which the discounts for multiple-ride tickets are increased from smaller discounts to 20 to 30 percent off of cash fares. • Also covered in this category are the charging of different fare levels for different hours of the day and days of the week, and provision of discounts for senior citizens.
Changes in Fare Categories	<ul style="list-style-type: none"> • A common form of this type of change is introduction or withdrawal of a particular fare purchase method. Payment methods typically include individual payment, multiple-ride tickets, and unlimited-ride passes. • Alternatively, a fare category change may be defined in terms of rider characteristics, such as with school fares; or trip characteristics, as with express bus fares.
Changes in Fare Structure Basis	<ul style="list-style-type: none"> • This type of fare structure change is concerned with the basis on which fares are calculated. (i.e. flat, zonal and distance-based).
Free Transit	<ul style="list-style-type: none"> • This type of change eliminates the charging of fares to transit riders altogether. This strategy has been applied to either specific areas, selected services, or all services during all operating periods.

5.6.2 Decision Making Procedure

- Rail fare increases are always unpopular. In the experience in Asian mega cities, there are five typical mechanisms of decision making, namely i) Mandating quasi-governmental bodies with independent decision making power, ii) Consultation with legislative council, iii) Consultation with general public, iv) Verification by third party, and v) Direct government regulation.
- The procedure for adjustment of the fare levels varies significantly according to the regulatory environment. The decision may be entirely in the hands of the government. It may fall to the legislative council / committee, either with independent power to make decision or just consultation / notification.
- They take different approaches, but most of these cities introduce a system which involves a wide range of stakeholders for consultation in the fare decision-making process to ensure compliance with the vision for urban mobility.
- Learning from such experience, Hanoi Metro Company should promote cooperation between a range of stakeholders in setting out and adjusting fare levels. This has played a major role in enabling public transport networks to implement good fare review practices in the interest of passengers, the Operators, the Regulator alike (actual institutional proposal is made in Chapter 6).

Table 5.4: Fare Adjustment Procedure in Selected Asian Mega Cities

Decision Making Procedure Involved	Application
Mandating Quasi-governmental Bodies with Independent Decision Making Power	<ul style="list-style-type: none"> • Public Transport Council (with reps. of community), Singapore • Fare Fixation Committee, India
Consultation with Legislative Council	<ul style="list-style-type: none"> • Legislative Council for Transport, Japan • Panel of Transport of Legislative Council, Hong Kong
Consultation with General Public	<ul style="list-style-type: none"> • Public Consultation, Japan • Public Consultation, Hong Kong • Public Comment, US
Verification by Third Party	<ul style="list-style-type: none"> • Independent Third Party Verifier, Hong Kong
Direct Government Regulation	<ul style="list-style-type: none"> • Department of Transportation, Taipei City Government, Taiwan • Transportation Bureau (TB) of Seoul Metropolitan Government, Korea

5.6.3 Fare Adjustment Criteria

- Community for Metros (CoMET)¹² presented, in UITP Fare Management Conference 2013, the practices of fare adjustment criteria and ranked in the order as illustrated in the Table 5.5.
- Establishing and using a price adjustment formula is widespread practice, as it can increase transparency and reduce uncertainty. On the other hand, circumstances not foreseen in the formula may arise and could affect negatively any of the involved stakeholders.
- Therefore, successful use of a fare adjustment formula in public transport thus depends on striking a balance between transparency and flexibility. Otherwise, mandating independent regulator to set efficient price, perhaps with the involvement of community members, can be a good alternative for Hanoi Metro Company.
- For the actual formulae to be practiced for fare adjustment, CoMET introduces the one currently used in Hong Kong (see Appendix), where overall fare adjustment rate is linked to CPI, Wage Index, and productivity factor. This formula may be proposed for Hanoi Metro Company.

Table 5.5: Alternatives of Fare Adjustment Criteria

	Fare Adjustment Criteria	Feature
Better Regulation	Fare formulae are applied	<ul style="list-style-type: none"> Establishing and using a price adjustment formula enhances transparency and reduces uncertainty in fare adjustment.
	Independent regulator to set efficient price	<ul style="list-style-type: none"> Fare set by an independent regulator, perhaps with the involvement of community members, can balance efficiency, transparency and flexibility.
	Inflation adjusted + X (above inflation)	<ul style="list-style-type: none"> Fare increases at a rate slightly above inflation effectively reduces risk of the Operator, while keeping general affordability of the customers.
	Inflation adjusted – X (below inflation)	<ul style="list-style-type: none"> Annual increase at a rate lower than the inflation rate to ensure that consumers have benefited, thus facing less public pressures
	General principle followed (In line with inflation)	<ul style="list-style-type: none"> Fares to rise basically in line with inflation to meet uncontrollable cost increase, while keeping some flexibility as unforeseeable risk may arise
	Fare formulae but NOT rigidly applied	<ul style="list-style-type: none"> Fares formulae applied, while keeping some flexibility as unforeseeable risk may arise. This may result in making the fare regulation impractical.
	Farebox recovery target	<ul style="list-style-type: none"> Initial fare level should be designed to meet farebox recovery goal. Fare adjustment to recover farebox means cost-pass through to the customers.
	Deficit funding / net cost adjustment (ad hoc)	<ul style="list-style-type: none"> This would result in huge pressures on the government's budget and lacking of transparency to the customers.

¹² CoMET is a programme of international railway benchmarking. It is made up of a consortium of large metro systems from around the world to build measures to establish metro best practice. (<http://www.comet-metros.org/>)

	No explicit principles	<ul style="list-style-type: none">• No explicit principle underlying fare adjustment means no regulatory control is enforced to the Operator.
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5.6.4 Timing of Reviews

- CoMET suggests that fare reviews should be regular and progressive (ideally yearly) to secure the sustainable development of urban railways and services. In the event of abrupt and steep fare increases, the drop in ridership could be significant. From a public acceptance point of view, small regular variations obviously generate fewer reactions than large increments.
- Therefore, Hanoi Metro Company should envisage a relatively short review, ideally yearly, period as current inflation rate in Vietnam shows high record. Meanwhile, to avoid frequent increase of fare, 2 or 3 yearly fare adjustment would be proposed.
- With the current condition of Hanoi public transport, orientation of general development strategy, including determination to develop public transport, the Study recommends that a combination of fare adjustment and/corresponding to other changes in the urban transport system, such as improvement of scale, capacity, scope of public transport system; improvement of public transport service quality frequency increases, rises in parking fees, etc should be practiced to maintain development of public transport passengers, avoiding heavy ridership drop.

5.6.5 Theoretical Studies

- As fare adjustment decisions may sometimes be based on misperceptions, theoretical studies of public transport demand elasticities should be conducted on a local basis for all modes and the results conveyed to decision-makers.

5.6.6 The General Public

- To enhance transparency and ensure social equity in fare adjustment, Hanoi Railway Company should involve general public in the review process, for instance, i) setting up public comment period for proposed fare adjustment, ii) inviting representatives of community members to the council/committee in charge of fare adjustment, or other ways as appropriate.
- It is necessary to raise awareness of the general public about the actual cost of urban railways and show that: i) passengers pay for only a fraction of the actual cost of their journeys and that the remainder is supported by public (i.e. the tax payers), ii) private car users often underestimate the real cost of using their vehicles, and iii) urban railway services externalities which also have a cost for tax payers.

Table 5.6: Administrative Procedures and Institutional Framework of Rail Fare Regulation in Selected Asian Countries

Country	Administrative Procedure	Institutional Framework
Japan	<ul style="list-style-type: none"> Railway Bureau of Ministry of Land Infrastructure and Transport and Tourism (MLIT) regulates fare, which is capped at cost-related formula. 	<ul style="list-style-type: none"> The regulator, Railway Bureau of MLIT, is not independent from the ministry but a government entity, having the mandates of policy making, regulating, and giving subsidies. (Railway Business Law)
Singapore	<ul style="list-style-type: none"> SMRT proposal subject to approval by Public Transport Council (PTC), a statutory body under Land Transport Authority (LTA) of Ministry of Transport (MOT) 	<ul style="list-style-type: none"> Mandating PTC as a public agency with independent decision making power, composed of members from the society including professionals, businessmen, academics, trade union leaders, NGOs and grassroots community members. (PTC Act)
Hong Kong	<ul style="list-style-type: none"> Fare autonomy of KCRC and MTRC (MTRC is required to consult LegCo) Railway Inspector under the Environment, Transport and Works Bureau regulates safety Transport Department monitors passenger service 	<ul style="list-style-type: none"> Fare Adjustment Mechanism (FAM) Operating Agreement (OA) exchanged between the Regulator and the Operator
India	<ul style="list-style-type: none"> The Central Government constitutes a Fare Fixation Committee for recommending fare review. Fare Fixation Committee reports to the Government and takes approval from the Cabinet Committee on fare revisions. 	<ul style="list-style-type: none"> FFC consisting of a Chairperson (a Judge of a High Court) and two other members (nominated by Central Gov't and the Local Gov't) with a sitting Judge of a High Court (Delhi Metro O&M Act)
Taiwan	<ul style="list-style-type: none"> Fares controlled by Taipei City Government. Department of Transportation (DOT) co-ordinates fares with other transport modes. 	<ul style="list-style-type: none"> The regulator, Taipei City Government, is not independent from the Local Government but a government entity.
Korea	<ul style="list-style-type: none"> Fares controlled by Seoul Metropolitan Government Transportation Bureau (TB) of Seoul Metropolitan Government. 	<ul style="list-style-type: none"> The regulator, Transportation Bureau of Seoul Metropolitan Government, is not independent from the Local Government but a government entity.

5.6.7 Proposed Fare Fixation and Adjustment Mechanism by Period

In consideration of the existing regulatory regime and good practices in Asia as well as the premises explained in 5.3, following mechanisms are proposed for Hanoi Railway Company.

Table 5.7: Proposed Fare Fixation and Adjustment Mechanisms

Period	2017 - 2021	2022 onwards
Company Model	Utility company	Utility company
Urban railway transport service form	Planning assignment	Order (after that, depending on situation, possible to apply mechanism of direct contracting, bidding)
Fare fixation and adjustment mechanism	Cost-of-service method (*) Reasonable cost	Price cap method (approving upper limit)
Fare fixation and adjustment mechanism	WTP, total cost, competitiveness, fare benchmarking	Linked to CPI, WI, Energy Cost Indicator etc.
Fare assessment/review	Once a year	Once a year
Fare adjustment interval (standard)	Every 3 years	Every 3 years (It is possible to shorten the duration corresponding to review result, but not excess once a year)

Note: WTP – Willingness to Pay, CPI – Customer Price Index, WI – Wage Index

* Cost of service is a form specifying type of “Rate of return” regulation; it is possible to apply appropriately with the planning assignment prescribed in Decree 130/2013/ND-CP (there would be some minor adjustments when applying policies, specific mechanisms applied to Hanoi Railway Company and the urban railway system development strategy in each specific stage)

5.6.8 Proposed Fare Adjustment Formula

Learning from the good practice of selected Asian countries, following fare adjustment formula is proposed. It is suggested that the formula is for reference only during the Cost-of-Service Regulation, while it will be strictly applied once the Price Cap Regulation is employed.

$$(\text{Rate of Fare Adjustment}) = \alpha (\Delta\text{CPI}) + \beta (\Delta\text{WI})$$

where,

ΔCPI : change in Consumer Price Index over the preceding year

ΔWI : change in Wage Index defined as national (or transport sector) average monthly earnings

$\alpha + \beta = 1$ (α is share of non-personnel cost over O&M cost, β is share of personnel cost over O&M cost of the corresponding year. These figures must be figured out from the result of operational benchmarking during the period from 2017 to 2021.)

Alternatively, utility (i.e. energy) cost may be separately assessed with the following formula.

$$\text{(Rate of Fare Adjustment)} = \alpha (\Delta \text{CPI}) + \beta (\Delta \text{WI}) + \gamma (\Delta \text{EPI})$$

where,

ΔEPI : change in Energy Price Index (i.e. electricity cost) over the preceding year

$\alpha + \beta + \gamma = 1$ (α is share of non-personnel non-energy cost over O&M cost, β is share of personnel cost over O&M cost, and γ is share of energy cost of the corresponding year. These figures must be figured out from the result of operational benchmarking during the period from 2017 to 2021.)

In addition, a factor related to the development of Hanoi public transport system is proposed to put into fares within the period of 30 coming years of Hanoi public system in which will have many significant developments; step by step to meet the demand and standards of travel in the city and surrounding areas.

5.7 SUBSIDY SYSTEM

5.7.1 Subsidy Framework Proposed by SAPI Study

- The fare standard calculated from the accumulation of the costs is compared with the one derived from passenger affordability. If the fare standard derived from passenger affordability is higher than the one calculated from the costs, the fare price is set as the fare standard derived from passenger affordability and the difference of two prices is to be saved as fund for future investment.
- When the fare standard derived from passenger affordability is lower than the one calculated from the costs, the fare price is to be set lower and the Hanoi City will render the appropriate amount of subsidies to the company as an operational subsidy.

5.7.2 Subsidy System Proposed by TA Study

(1) Proposed Subsidy System

Fare setting depends heavily on subsidy framework to be established by HPC. The Degree 130/2013/ND-CP prescribes the terms and conditions of subsidy scheme by type of business model. According to the legislation and the assumptions made in Section 5.3, the subsidy scheme for Hanoi Railway Company is proposed as follows:

Table 5.6: Proposed Subsidy System

Period	2017 - 2021	2022 - onwards
Subsidy Scheme	Gap filling between total operation cost and fare revenue payment is in Accordance with reasonable costs in Article 26,27 of Decree 130/2013/ND-CP	Gap filling between total operation cost paid to the Company and fare revenue: payment in accordance with volume and quality of the public services; pre-determined unit price. It is considered to add provisions of reward/penalty relating to scale of passengers actually using the services (compared to the estimation)

(2) Estimated Subsidy Amount

Subsidy amount for the first 6 years of Line 2A commercial operation is indicated in the following table.

Table 5.6: Estimated demand of Subsidy Amount

	2016	2017	2018	2019	2020	2021
Human resource	2,273,803	6,505,487	8,969,394	12,435,546	15,007,565	18,586,337
Electricity	0	1,727,522	2,559,291	5,374,512	5,758,406	8,701,591

	2016	2017	2018	2019	2020	2021
Material, spare parts	332,565	1,766,898	2,449,016	8,668,336	9,064,866	19,452,431
Other cost	632,886	2,745,844	3,762,931	7,031,492	8,193,681	12,821,553
Cost without depreciatio n	3,239,254	12,745,751	17,740,633	33,509,886	38,024,518	59,561,911
Depreciatio n	0	7,031,377	7,031,377	28,339,383	28,583,659	32,893,028
Total cost with depreciatio n	3,239,254	19,777,128	24,772,010	61,849,268	66,608,177	92,454,939
Fare revenue	0	6,714,264	8,261,873	17,359,718	23,011,429	38,938,164
Subsidy (USD)	3,401,216	14,051,721	17,748,737	47,582,014	46,927,157	58,139,522

Note: Above calculation already updated the opening schedule of Line 2A, Line 3 and Line respectively in 2017, 2019 and 2021. However, it has not yet updated much other information, for example total investment amount and fund structure of the line, etc., other large additional investment and training that are not directly incorporated in the cost yet.

5.8 CONCLUSION

- In consideration of the existing regulatory regime and good practices in Asia as well as the general assumptions made, following mechanisms are proposed for Hanoi UR.

Period	2017 - 2021	2022 onwards
Company Model	Utility company	Utility company
Urban railway transport service form	Planning assignment	Order (after that, depending on situation, possible to apply mechanism of direct contracting, bidding)
Fare fixation and adjustment method	Cost-of-service method Reasonable cost (*)	Price cap method (approving only upper limit by Government)
Fare fixation and adjustment mechanism	WTP, total cost, competitiveness, fare benchmarking	Linked to CPI, WI, Energy Cost Indicator etc.
Fare assessment	Once a year	Once a year
Fare adjustment interval (standard)	Every 3 years	Every 3 years

Note: Based on reviewing result, fare adjustment frequency can be decided to be shortened by the competence agency, but not excess once a year.

* Cost of service is a form specifying type of “Rate of return” regulation; it is possible to apply appropriately with the planning assignment prescribed in Decree 130/2013/NĐ-CP (there would be some minor adjustments when applying policies, specific mechanisms applied to Hanoi Railway Company and the urban railway system development strategy in each specific stage)

- Learning from the good practice of selected Asian countries, following fare adjustment formula is proposed. It is suggested that the formula is for reference only during the Cost-of-Service Regulation, while it will be strictly applied once the Price Cap Regulation is employed.

$$(\text{Rate of Fare Adjustment}) = \alpha(\Delta\text{CPI}) + \beta(\Delta\text{WI})$$

where,

ΔCPI : change in Consumer Price Index over the preceding year

ΔWI : change in Wage Index defined as national (or transport sector) average monthly earnings

$\alpha + \beta = 1$ (α is share of non-personnel cost over O&M cost, β is share of personnel cost over O&M cost of the corresponding year. These figures must be figured out from the result of operational benchmarking during the period from 2016 to 2021.)

Please note that, for few first urban railway lines, urban railway fares may be undervalued because the quality of urban railway transport services have not been fully established (operation quality is not good yet; connection with the other transport modes is not good yet; public transport system is uncompleted, and the auxiliary system development for public transport is not focused). Step by step,

when the public transport system is developed to be relatively perfect, it is not necessary to use personal vehicles, fare level can be evaluated to be higher (beyond adjustments of CPI and WI)

. Therefore, *In addition, a factor related to the development of Hanoi public transport system is proposed to put into fares within the period of 30 coming years of Hanoi public system in which will have many significant developments; step by step to meet the demand and standards of travel in the city and surrounding areas.*

- Alternatively, utility (i.e. energy) cost may be separately assessed with the following formula.

$$(\text{Rate of Fare Adjustment}) = \alpha(\Delta\text{CPI}) + \beta(\Delta\text{WI}) + \gamma(\Delta\text{EPI})$$
 where,
 ΔEPI : change in Energy Price Index (i.e. electricity cost) over the preceding year
 $\alpha + \beta + \gamma = 1$ (α is share of non-personnel non-energy cost over O&M cost, β is share of personnel cost over O&M cost, and γ is share of energy cost of the corresponding year. These figures must be figured out from the result of operational benchmarking during the period from 2016 to 2021.)
- Draft of subsidy depends heavily on current information and assumption. The Degree 130/2013/ND-CP prescribes the terms and conditions of subsidy scheme by type of business model. According to the legislation and the assumptions made above, the subsidy scheme for Hanoi UR is proposed as follows:

Period	2016 - 2021	2022 - onwards
Subsidy Scheme	Gap filling between total cost and fare revenue	Offering preferential interest rate for the borrowing of the Company

- Subsidy for the first 4 years of Line 2A commercial operation is indicated in the following table:

Year	Fare + Non-Fare Revenue (bil. VND)	O&M Cost (bil. VND)	E&M Depreciation Cost (bil. VND)	O&M Cost + E&M Depreciation (bil. VND)	Subsidy Amount (bil. VND)
2016	245	259	118	377	132
2017	302	299	118	417	115
2018	360	503	118	621	261
2019	689	890	539	1,429	740

APPENDIX: CASE STUDY ON FARE REGULATION

City	Hong Kong
Latest Reform	2000: MTRC was restructured from being a government-owned statutory corporation to a public-listed company with the government shareholding of about 75%. Feb 2004: HKSARG asked two railways to negotiate a merger
Overall Model	Vertical integration, horizontal separation
Infrastructure Ownership	MTRC: government company, KCRC: fully government-owned statutory corporation
Infrastructure Financing	Mixed: government equity, market borrowings, MTRC / KCRC internal reserves, property financing
Operation (RST O&M)	MTRC (MTR, AR, etc.) KCRC (ER, WR, LR, etc.)
Regulation	Fare autonomy of KCRC and MTRC (MTRC is required to consult LegCo) Railway Inspector under the Environment, Transport and Works Bureau regulates safety Transport Department monitors passenger service
Legal Framework	Fare Adjustment Mechanism (FAM) Operating Agreement (OA)
Fare Adjustment Procedure	<ul style="list-style-type: none"> MTRCL has autonomy in setting their fares in accordance with commercial principles, having regard to economic conditions, competition from other public transport modes and whether the service is value for money. In accordance with OA between the Government and MTRCL, MTRCL is required to provide the Government with two independent third party certificates certifying that the fare adjustments are in compliance with the FAM. MTRCL is also required to formally notify the Panel on Transport of the LegCo and the Transport Advisory Committee three weeks prior to implementation of the new fares in June each year.
Timing of Fare Review	Annually implemented
Fare Adjustment Criteria	<p><i>Annual Δ Fare Adjustment = $\Delta[\text{Cost Index}] - P$</i></p> <p><i>Overall Fare Adjustment Rate = $0.5 \times \Delta\text{CCPI} + 0.5 \times \Delta\text{WI} - \text{Productivity Factor}$</i></p> <ul style="list-style-type: none"> Cost Index is mainly a function of unit price of wages and energy P = Productivity Factor: Recognizes the need/ability to reduce inputs over time through technology or other means Fare adjustment rate for the prevailing year is determined in accordance with a formula linked to the percentage changes in both the Composite Consumer Price Index ("CCPI") and the Nominal Wage Index (Transportation Section) ("Wage Index") in December of the previous year, as well as a productivity factor.

	<ul style="list-style-type: none"> The Census and Statistics Department publishes the CCPI and Wage Index. With reference to these indices, the computation results of the FAM indicate an adjustment rate for next year.
Involvement of General Public	<ul style="list-style-type: none"> Transport and Housing Beureau invites views from the public on the fare review. Any views should be addressed in writing to the Transport Department.

City	Singapore
Latest Reform	1995: Former MRT Corporation (MRTC) and other agencies were restructured into Land Transport Authority (LTA) 2000: Singapore MRT Ltd (SMRT, state-owned company) was public-listed; government shares reduced to 62%
Overall Model	Vertical separation, mainly horizontal integration (limited degree of horizontal separation)
Infrastructure Ownership	LTA (formerly MRTC): statutory board appointed by Ministry of Transport (MOT)
Infrastructure Financing	Mainly government (through LTC or former MRTC)
Operation (RST O&M)	– SMRT and subsidiary operates most of MRT and Singapore LRT (LRT). — SBS Transit (private company) operates MRT NE Line and feeder LRT
Regulation	SMRT proposal subject to approval by Public Transport Council (PTC), a statutory body under MOT LTA responsible for safety, operational standards
Legal Framework	Public Transport Council Act (Cap 259B)
Fare Adjustment Procedure	<ul style="list-style-type: none"> • The PTC has put in place a framework to cap overall fare increases in small, regular steps. The annual fare adjustment is based on a formula recommended by the Government-appointed Fare Review Mechanism Committee (FRMC) in 2005. • As fare affordability is one of the key factors considered by PTC in deliberating on the operators' applications for fare increase, a robust indicator to track fare affordability is needed. Until the review in 2005, fare affordability had been monitored through the 5-yearly Household Expenditure Survey (HES) conducted by the Department of Statistics (DOS).
Timing of Fare Review	Annually implemented
Fare Adjustment Criteria	$Price\ Index = 0.5(\Delta CPI) + 0.5(\Delta WI)$ Fare cap = Price Index – Productivity Factor
Involvement of General Public	Mandating PTC as a public agency with independent decision making power. It comprises members from a wide cross-section of the society: union representatives, academia, grassroots leaders, and professionals from the public and private sectors. This facilitated a wide representation of views aimed at making PTC's decisions more acceptable to the public.

City	Japan
Latest Reform	<p>In 2004, The Tokyo Metro (a private company jointly owned by the Japanese government and the Tokyo metropolitan government) replaced the Teito Rapid Transit Authority, commonly known as Eidan or TRTA (administered by the MLIT, and jointly funded by the national and metropolitan governments).</p> <p>The other major subway operator is Tokyo Metropolitan Bureau of Transportation (Toei) which is owned solely by the government of Tokyo.</p>
Overall Model	Vertical integration, horizontal separation
Infrastructure Ownership	Tokyo Metro: Tokyo Metro Co., Ltd. / Toei: Tokyo Metropolitan Bureau
Infrastructure Financing	Mixed public-private financing: primarily by the operators, government subsidies for municipal subways
Operation (RST O&M)	Inhouse (Tokyo Metro and Toei)
Regulation (Fare)	Railway Bureau of Ministry of Land Infrastructure and Transport — Fares capped at cost-related formula
Legal Framework	Railway Business Law
Fare Adjustment Procedure	<ul style="list-style-type: none"> • Railway companies are required to obtain approval from MLIT prior to establishing or adjusting the upper limit on basic railway fares. • Prior notification is only required to be submitted to the Minister of the MLIT when newly establishing or adjusting basic railway fares, other express train services, or other train services if the amount of the fare or charge after its establishment or after its adjustment is below the upper limit. • Prior to giving approval for establishing or adjusting the upper limit on basic railway fares, the Minister of the MLIT must confirm that the new upper limit does not exceed “total cost,” which is the sum of the proper operating costs incurred by the relevant railway companies if it were to carry out efficient management and the proper profit calculated pursuant to specified methods.
Timing of Fare Review	As appropriate
Fare Adjustment Criteria	Total cost scheme with Yard-stick method
Fare Adjustment Formula	<p>Revenue Requirement = Total Cost = (Variable Cost)+ (Rate Level) x (Rate Base)</p> <p>Total cost = Operating costs, etc. + Operational return</p> <ul style="list-style-type: none"> • Operating costs, etc. = Optimal cost calculated by “Yard-stick formula” + Taxes, depreciation, etc.

	<ul style="list-style-type: none"> Operational return = Assets utilized in railway business operations (rate base) × Operational return rate
Involvement of General Public	<p>Consultation with legislative council for transport</p> <p>Public consultation as and when required</p>

City	India
Latest Reform	None
Overall Model	Vertical integration
Infrastructure Ownership	Government
Infrastructure Financing	Central Government: 50%, Local Government 50%
Operation (RST O&M)	DMRC
Regulation (Fare)	Through Fare Fixation Committee, consisting of a Chairperson (a Judge of a High Court) and two other members (nominated by Central Government and the Local Government) with a sitting Judge of a High Court
Legal Framework	Delhi Metro O&M Act
Fare Adjustment Procedure	The Central Government constitutes a Fare Fixation Committee for recommending fare review. Fare Fixation Committee reports to the Government and takes approval from the Cabinet Committee on fare revisions.
Timing of Fare Review	As appropriate
Fare Adjustment Criteria	Unknown
Fare Adjustment Formula	Unknown
Involvement of General Public	None

Attachment 5. 1 EXPERIENCE OF SUBSIDY TRANSPORT FOR PUBLIC TRANSPORT IN THE WORLD

Public transport in the developed countries like the United States, Japan and Europe with a long history of development, many institutional models and policies have been implemented and adjusted.

In general, for development of large cities, investment and operation of public transport system plays a key role, including subsidy. In which, due to the specific characteristic of society and urban development, the scale of subsidies in the United States and Europe is relatively large, meanwhile, public transport in the Asia's cities like Tokyo, Hong Kong, Singapore, and Taipei may gradually offset operation costs.

Table 5. 1 Operation cost offset ratio for public transport (%)

Public transport	Ratio	Fare system	Fare rate	Year
<u>Hong Kong (MTR)</u>	186%	Distance base	HKD 3.50+ (cash) HKD 3.50+ (<u>Octopus card</u>)	2012
<u>Taipei (MRT)</u>	119%	Distance base	TWD 20+ (cash) TWD 16+ (<u>Easy Card</u>)	2012
<u>Singapore (SMRT)</u>	125%	Distance base	SGD 1.10+ (cash) SGD 0.73+ (<u>EZ-Link</u>)	2008
<u>Beijing Subway</u>	59.5%	Distance base	CNY 3.00+	2012
<u>Amsterdam</u>	73.6%	Distance base		2014
<u>Berlin</u>	70.3%	Zonal base	EUR 2.60+	2010
<u>London Underground</u>	90%	Zonal base		2014
<u>Prague (DPP)</u>	53.2%	Flat	CZK 24+	2013
<u>Paris (STIF)</u>	30.4%	Zonal based for car; distance base for ticket		2013

Public transport	Ratio	Fare system	Fare rate	Year
<u>Stockholm</u>	37%	Zonal base	SEK 44–88 (selling ticket) SEK 25–50 (SL Access)	2007
<u>Helsinki</u>	49% ^[20]	Zonal base; each city /zone in a region	EUR 2.80– 7.00 (cash) EUR 1.90– 5.60 (travel pass)	2011
<u>Atlanta (MARTA)</u>	31.8%	Flat	USD 2.50	2012
<u>Boston (MBTA)</u>	43.7%	Flat	USD 2.65 (cash) / USD 2.10 (<u>CharlieCard</u>)	2014
<u>Chicago (CTA)</u>	43.0%	Flat	USD 2.25 (cash) USD 2.00 (<u>ChicagoCard</u>)	2012
<u>Los Angeles (LACMTA)</u>	25.5%	Flat	USD 1.75,	2015
<u>New York City (MTA)</u>	51.2%	Flat	USD 2.25	2013
<u>Philadelphia (SEPTA)</u>	40.7%	Flat	USD 2.00 (cash) / USD 1.55 (hard ticket) /	2013
<u>Quebec City (RTC)</u>	39%	Flat	CAD 3.00	2011
<u>San Francisco Bay Area (Caltrain)</u>	51.3%	Zonal base	USD 2.75+	2011
<u>Toronto (TTC)</u>	73%	Flat	CAD 3.00	2013
<u>Vancouver (TransLink)</u>	51.9%	Zonal base	CAD 2.50+	2010
<u>Washington, DC (WMATA)</u>	62.1%	Distance base	USD 1.95+	2010
<u>Canberra</u>	21%	Flat	AUD 4.20	2007

Public transport	Ratio	Fare system	Fare rate	Year
<u>Sydney</u>	20%	Distance base	AUD 0.15 / km	2014
<u>Melbourne</u>	~30%	Zonal base and time base	From 3.76 AUD / time /zone	2014

Source: Each Transit Operator

CHAPTER 6 IMPLEMENTATION SCHEME

6.1 GENERAL

As described in Chapter 1, urban railway network in Hanoi is being developed in a phased manner, opening the first line (Line 2A) in 2017 and subsequent lines (Line 3-1, 2-1) in 2019 and 2021, respectively.

Currently, Hanoi uses institutional model in which Department of Transport is responsible for transport management in Hanoi, mainly for roadways and waterways. The agency does not actually have enough authority to make decisions on planning, organizing, financing and developing transportation. Furthermore, this agency also has no experiences to operate a large-scale public transport system. With assistance of the World Bank in developing BRT systems, Hanoi is studying institutional model of new traffic institution, orienting to form a public transport management authority - PTA. Institutional arrangement should, therefore, revolve from the opening of the first urban railway line till the full functioning of Public Transport Authority (PTA), which eventually enforce control over an overall public transportation systems in Hanoi City.

In developing such an institutional framework, fare policy goals prescribed in Chapter 3 are taken into account as the basis for the development scenario. Chapter 4 and Chapter 5 presents good practices of fare strategies in the selected Asian mega cities and made recommendations for the actual institutions for Hanoi urban railway system.

Based on the conclusions of previous chapters, this chapter aims to develop a roadmap for implementation scheme to address an efficient and effective fare regulation. With this exercise, it is made clear how the existing fare regulation system over public bus transportation in Hanoi will be enhanced to more publically acceptable and socially equitable mechanism.

In particular, this chapter addresses the following questions:

- What is the suggested institutional framework to regulate urban rail fare?
- Why the existing system needs to be improved?
- What are the necessary arrangements for better fare regulation?
- When is the right timing of such arrangements?
- How urban rail fare regulation should relate to bus fare regulation?

6.2 DEVELOPMENT SCENARIO

Given the actuality of urban railway constructions and institutional development in Hanoi, the following four stages are identified. It should be noted that Phase 2 and Phase 3 may take place at the same time depending on the timing of each event.

- | | |
|------------------------|---|
| (1) Preparatory Period | time now (2013) till the end of TA Study (2015) |
|------------------------|---|

- | | |
|--|--|
| (2) Initial Arrangement (Phase 1) | Early years of Line 2A operation (2016 – 2018) |
| (3) Integrated Management (Phase 2) | integrated management of multiple lines (2019 – 2021) |
| (4) New Regulatory Institution (Phase 3) | full functioning of Public Transport Authority (2022-) |

The summary of the development scenario is illustrated in the Table 6.1. Under this scenario, Hanoi Urban Railway should build on synergies and resolve the most important trade-offs between financial viability of the Operator and affordability of urban rail fare, supporting the fulfillment of the fare policy goals, envisaged at the full organization of fare regulation across public transport systems in the City.

Table 6.1: Institutional Development Scenario

Period	Time now (2013) till the end of TA Study (2015)	Early years of Line 2A operation (2016 – 2018)	Integrated management of multiple lines (2019 – 2021)	Full functioning of Public Transport Authority (2022-)
Phase	Preparatory Period	Initial Arrangement (Phase 1)	Integrated Management (Phase 2)	New Regulatory Institutions (Phase 3)
Implementation method	Proposal for initial fare policy	<ul style="list-style-type: none"> - Actual application of initial fare - Payment of Cost-of-Service (full reimbursement for reasonable by the city) 	<ul style="list-style-type: none"> - Re-determination of fare price, fare policy to suit with the actual context. - Payment of cost-of-service (<i>full reimbursement for reasonable by the city</i>) 	<ul style="list-style-type: none"> - Order (after that, it is possible to apply mechanism of direct contracting, bidding) - Price cap regulation of PTA in combination of some related provisions in the Contract
Main activities and targets	<ul style="list-style-type: none"> - Willingness-to-pay (WTP) survey - Fare competitiveness study (service quality, other modes, modal share) - Economic study (economic growth, inflation, purchasing power) - Financial study (revenue, capital expenditure, operating cost) 	<ul style="list-style-type: none"> - HMC to receive full reimbursement by HPC (Cost-of-Service) - Benchmarking total cost - Benchmarking service quality/Level-of-Service (LOS) - Check the suitability of fare policy and initial fare; - Setting up farebox recovery goal - Determination of subsidy - Development of economic-technical benchmark for operation of Line 2A. 	<ul style="list-style-type: none"> - HMC to receive full reimbursement by HPC (Cost-of-Service) - Designing farebox recovery target - Deciding amount of subsidy - Preparation to issue price cap regulation - The public participation thru period of public consultation - Integrating fare across urban railway lines (free transit) - Completion of economic-technical benchmark for operation and maintenance of urban railway lines which already put into operation 	<ul style="list-style-type: none"> - Introducing price-cap regulation - Mandating PTA with independent power to set public transport fare - Involving general public through public comment period - Integrating reasonable fare of public transport system in general across urban railway lines, BRT and buses (free transit) to meet the target of public transport ratio in Hanoi City

			-	
Decision Making process - Urban Rail Fare	TA Project (proposal) DOT, DOF (appraisal) HPC (decision)	HMC (proposal) DOT, DOF (appraisal) HPC (decision)	HMC (proposal) DOT, DOF (appraisal) HPC (decision)	HMC(notification/proposal) PTA (evaluation/ acknowledgement/concurrence/ approval)
Decision Making process - Bus/BRT Fare	TRAMOC/TRANCERCO (proposal) DOT, DOF (appraisal) HPC (decision)	TRAMOC/TRANCERCO (proposal) DOT, DOF (appraisal) HPC (decision)	TRAMOC/TRANCERCO (proposal) DOT, DOF (appraisal) HPC (decision)	TRANCERCO (notification/proposal) PTA (evaluation/ acknowledgement/concurrence/ approval)

6.3 PREPARATORY PERIOD

6.3.1 Initial Fare Setting

In the framework of TA Project, study and initial proposal for framework of urban fare policy has been made and asked for endorsement from HPC, the supreme decision making body for urban rail fare. Based on a series of reviews and analysis, preliminary initial fare is proposed in 4.2 of this report.

6.3.2 Theoretical Research

Within the scope of TA Project, a number of important researches mainly are inherited from the previous studies. However, conditions in the city of Hanoi in particular and Vietnam in general have been changed dramatically and in fact, become increasingly obvious. In the future, in order to develop and apply more effectively fare policy, a range of theoretical models should be implemented, covering competition/shifting/support between bus and urban rail service. These models take several factors into account, including i) service levels provided by operators, ii) quality of service and iii) fare levels. Such specific researches may include:

- Willingness-to-pay (WTP) survey
- Fare competitiveness/reciprocal/coordination study (service quality, other modes, modal share) to achieve public transport development target of the City
- Economic study (economic growth, inflation, purchasing power)
- Financial study (revenue, capital expenditure, operating cost)

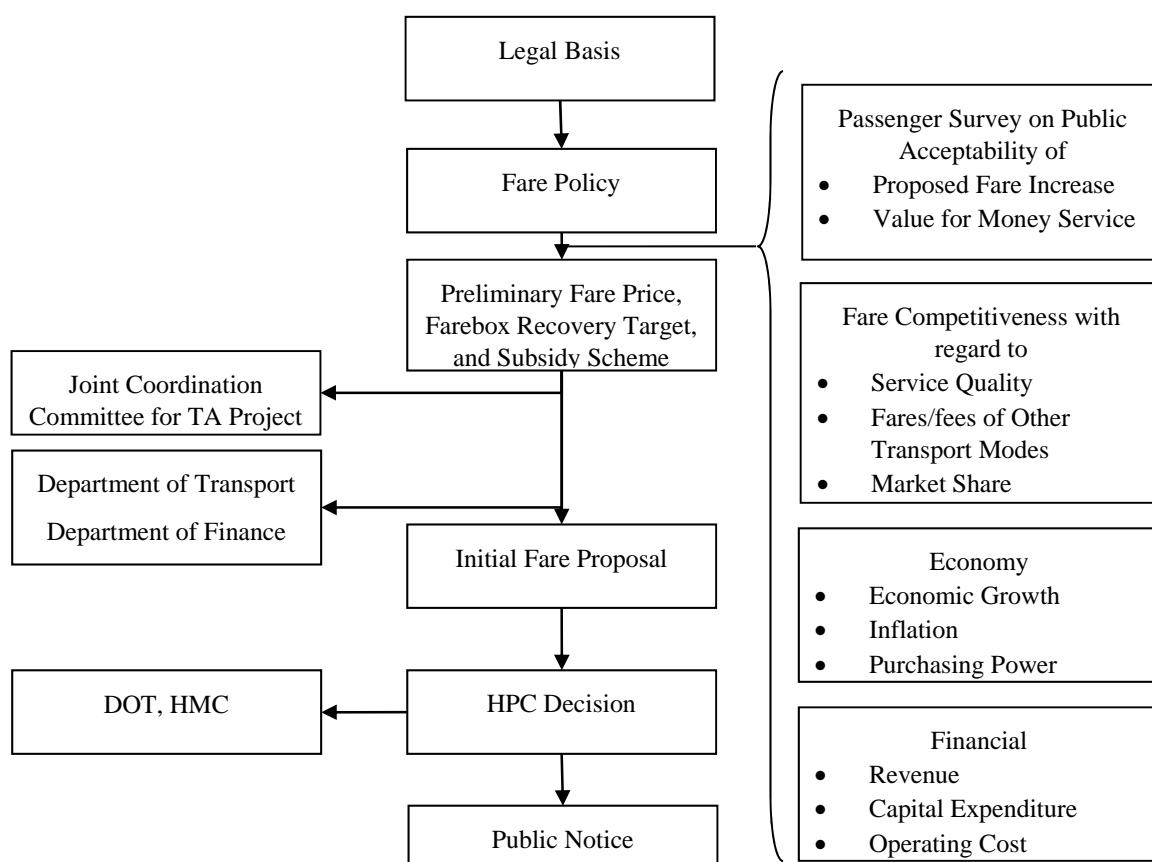
6.3.3 Decision Making Process

The decision making process for public transport fares naturally depends on public transport's organizational framework. For this preparatory period, the process should be based on the existing fare regulation framework where the relevant four parties are directly involved to determine initial fare for the first urban railway line.

Mandate	Entity in charge
Highest decision making authority (regarding policy and mechanism)	Council Committee, HPC
Executing resolution of the City Council Committee with decisions on fare policy, fare structure and fare setting	HPC
Submitting ticket price options	DOT, DOF
Building up and proposing fare price	TRAMOC, HMC, TRANCERCO

Note: (*) –It is necessary to obtain instruction/acceptance of Hanoi City depending on each case.

Figure 6.1: Decision Making Process (Preparatory Period)



6.3.4 Timing of Concluding Fare Policy, Fare Structure and Initial Fare

Fare policy, fare structure and initial fares must be decided one year before opening. The first line, Line-2A, is expected to become operational in early 2017, and fare policy in general, fare structure and fares must be decided in early 2016, accordingly. Preparation should be promoted before the decision taking into account of the time required for approving procedures.

6.4 INITIAL ARRANGEMENT (PHASE 1:2016-2018)

6.4.1 Cost-of-Service

In this period, the ridership is still uncertain market factor and the Operator is anticipated accordingly to face the hardest financial difficulties at the first years of operation.

For the early years of commercial operation, operations cost of the Hanoi Railway Company should be fully reimbursed by an effort of HPC. This cost-of-service (no loss no profit basis) mechanism is often introduced to the public service sector.

6.4.2 Benchmarking Total Cost and Service Quality/Level-of-Service

This period is treated as an opportunity to perform benchmarking of total operation and maintenance cost as well as level-of-service (LOS)¹³ offered at the total cost. Measuring these elements by the Operator and being carefully assessed by the Regulator, Hanoi urban railway system should develop an adequate and record-oriented cost-revenue model/roadmap to maintain financially standing, safe and convenient service. This may be structured in the form of Key Performance Indicator.

Note: operation and maintenance costs depend on technology, design and features of each line. More specifically, these costs also depend on the strategy, operation/maintenance methods which are set. Since urban railway lines are mainly invested by the government in the early stages, and management quality of the state-owned enterprises is often not high and uncertain. Therefore, the HPC as a representative of the Owners, on the one hand, ensures the transparency and accountability of all activities/costs of Hanoi Railway Company, On the other hand, HPC need to allow development and implementation urban railway operation and maintenance strategy in a sustainable way, ensuring long-term effective and sustainable investment (reducing the risks of rapid deterioration of equipment and increasing operation costs).

On the basis of step by step identifying costs, unit price of operation and maintenance in general, the specific regulatory approach may continue to be made clear and implemented to better satisfy the objectives of Fare policy, promoting development of public development and enhancing efficiency investment in urban railway network.

6.4.3 Decision Making Process

Decision making process in this period remains to be the same as that in the preparatory period. Continuous efforts of HPC, DOT, DOF and Hanoi Railway Company will jointly address the tasks of fare price, farebox recovery target, increase of ridership, and subsidy possibility to ensure the financial viability of the Operator and affordability of the fare price for passengers.

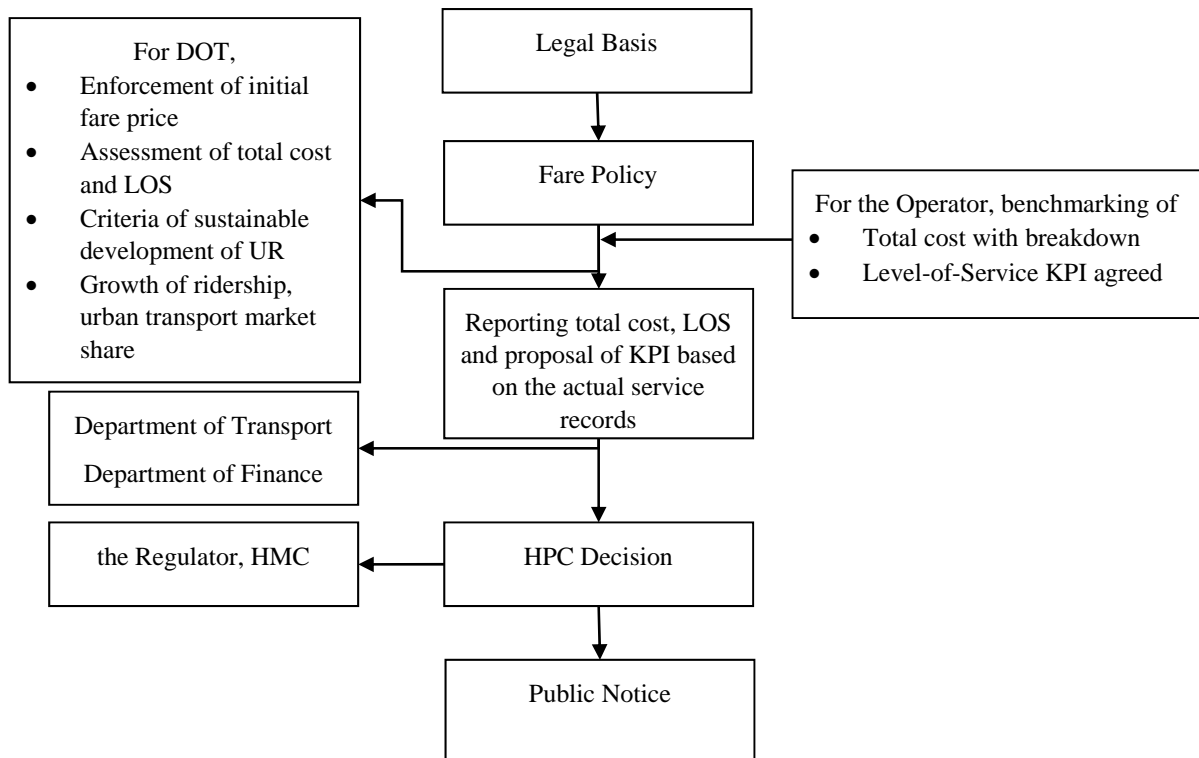
Mandate	Entity in charge
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¹³ Community for Metros (CoMET) performs a wide range of benchmarking and suggests target LOS. This would be referable to determine the appropriate service levels for Hanoi Metro.

Highest decision making authority (regarding policy and mechanism)	Council Committee, HPC (*)
Executing resolution of the City Council Committee on fare adjustment	HPC
Submitting ticket price options	DOT, DOF
Building up and proposing fare price	TRAMOC, HMC, TRANSERCO

Note: (*) –It is necessary to obtain instruction/acceptance of Hanoi City depending on each case

Figure 6.2: Decision Making Process (Phase 1: Initial Arrangement)



6.4.4 Timing of Concluding Target and Total Cost

Target KPI and total cost should be developed one year before opening of second line. The second line, Line 3, is expected to become operational in 2019, and the target KPI and total cost should be decided by 2018, accordingly. The process of deployment and implementation should follow the principles of quality management - ISO 9000, in which monitoring and evaluation are conducted continuously. Quality improvement is carried out simultaneously with adjustment of rules, policies and strategic

objectives accordingly, which are gradually applied more effectively in management, operation and maintenance of urban railway, concretely the contract between the regulator and operator.

6.5 INTEGRATED MANAGEMENT (*PHASE 2*)

6.5.1 Continuing Cost-of-Service Model

In this period, Hanoi Railway Company will continue the cost-of-service model with careful review of the passengers' interests and social equity and ridership increase speed/trend through periodical and systematic surveys and researches. Perhaps these surveys may be outsourced to the third party by the Operator as the employer. Such mandates should be clearly enforced by MRB, the Regulator.

6.5.2 Designing Farebox Recovery Target

Once the target KPI and total cost are designed, it is possible to design farebox recovery target, meaning that how many percents of the operations cost should be recovered from the farebox revenue. This will be the regarded as the break-even point for the Operator.

6.5.3 Deciding Amount of Subsidy

Remaining expenditures that cannot be covered by farebox will be funded through operational subsidy by HPC. It should be ideally zero, so system of policies support by HPC to enhance ridership, creating indirect revenue related to public transport and shifting public transport should be progressively employed to reduce the amount of subsidy.

6.5.4 Integrating Fare across Urban Railway Lines

In this period, the Regulator, Hanoi Railway Company should have a clear provision for integrating fare across different urban railway lines, i.e. Line 2, Line 2A and Line 3 so that the riders are not adversely affected when transferring and base fares are charged only once for any rides. For this purpose, transfer pricing and discount systems are proposed in 4.4 of this report.

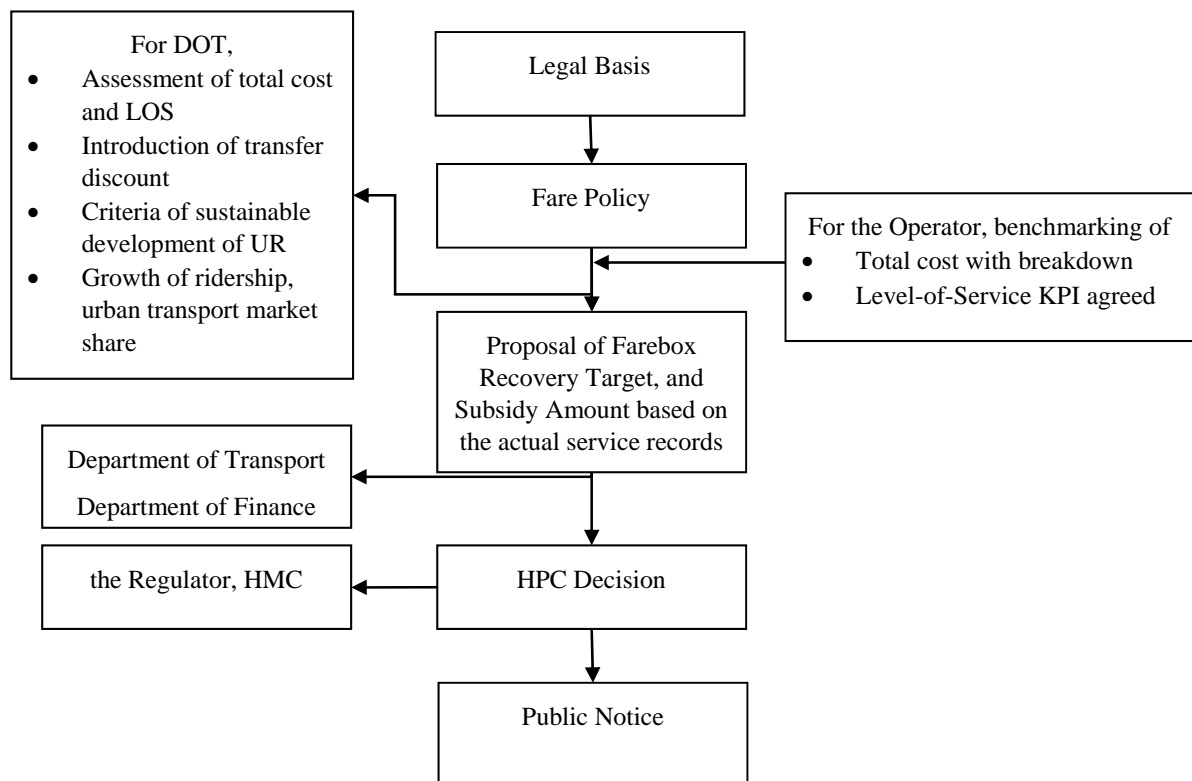
6.5.5 Decision Making Process

Decision making process in this period remains to be the same as that in the earlier period. Continuous efforts of HPC, MRB, DOT and DOF will jointly address the issue of fare price, farebox recovery target and subsidy amount to ensure the financial viability of the Operator and affordability of the fare price for passengers.

Mandate	Entity in charge, HPC
Highest decision making authority (regarding policy and mechanism)	Council Committee
Executing resolution of the City Council Committee Fare Policy	HPC
Submitting ticket price options	DOT, DOF
Building up and proposing fare price	TRAMOC, HMC, TRANSCERCO

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Figure 6.3: Decision Making Process (Phase 2: Integrated Management)



6.5.6 Timing of Concluding Farebox Recovery Target and Subsidy Amount

Farebox recover target and subsidy amount should be reviews and adjusted to ensure high effectiveness and feasibility; these targets shall be more accurate for Line 2A, initial setting for line 3-1 and prepared for 2-1. These targets shall be set for each period of planning assignment/order with the operation company.

6.6 NEW REGULATORY INSTITUTIONS (PHASE 3)

6.6.1 Introducing Price-Cap Regulation

In this phase, Regulator and Hanoi Railway Company should adopt the price cap model for the regulation of urban rail fares with the assumptions of predetermined farebox recovery target of transport services. Given the records of the Operator, the Regulator should decide the price cap. The fare adjustment formula should be based on the “CPI - X + K” model as proposed in Chapter 5.

The price cap model is not meant to allow automatic fare adjustment, in fact, the upper limit shall be decided by HPC. As such, fare adjustments (within the cap) will be determined by the Operator. Fare review should be undertaken annually, but the adjustment of price cap should be carried in a longer frequency depending fare review result but not exceeding once a year.

With model of price cap regulation, the Company shall be entitled to enforce sales policy to provide multiple options/services, increase passenger satisfaction, which increases the operational efficiency of the company, achieving goals set by Fare policy.

6.6.2 Public Transport Authority (PTA)

The HUTDP carries out the project titled “Institutional Strengthening of TRAMOC and Creation of PTA under Hanoi Urban Transport Development Project” with the final goal to create a sufficient competence, financially secure, independent agency staffed by capable skilled personnel to coordinate and manage all public transport planning and operations for Hanoi.

As the PTA is expected to become fully functional in 2022, implementation scheme for a comprehensive fare regulation of public transport systems in Hanoi should be adjusted in line with the objectives and requirements of PTA.

6.6.3 Mandating PTA with Independent Decision Making Power

Learning from the experience of rail regulation in overseas, Hanoi urban railway system should envisage, in this period, the independence of regulator in the design of an institutional framework. This independence means that the regulator does not have to get the approval of any political body in its activity. As this is still unfamiliar in Vietnam, PTA as the Regulator should openly publicize its aims and objectives, so that all stakeholders in the urban railway industry know its jurisdiction and limitations.

6.6.4 Proposing Fare Adjustment

As described in Chapter 5, types of fare adjustment includes, i) changes in general fare level, ii) changes in pricing relationships, iii) changes in fare categories, iv) changes in fare structure basis. Whichever adjustments are employed, weighted average of fare prices will be subject to the price cap.

The following analysis must be done by the Operator prior to making a notification (within the cap) or proposal (beyond the cap) to the Regulator. This analysis and the fact that the results of the analysis is considered when making the acknowledgement (within the cap) or concurrence (beyond the cap) the regulator and the final decision by PTA (beyond the cap), must be documented in writing and kept on file for three years.

Case 1 – Fare Adjustment without Reinvestment i) functions and activities, ii) records of KPI, iii) manpower requirements for each activity, and iv) revenue and non-staff cost

Case 2 – Fare Adjustment with Reinvestment on top of the above analysis, v) calculation of reinvestment costs and vi) time scale required for reinvestment worked out

6.6.5 Public Comment Period for Proposed Fare Adjustment

In this period, Hanoi urban railway should be required to have written procedures for obtaining comments in a public forum prior to fare adjustment (regardless of within or beyond the cap), and these procedures must be approved by the regulator. Before MRB issues acknowledgement (within the cap) and concurrence (beyond the cap), the Operator must provide an opportunity for public comment for the proposed fare adjustment, and any comments received must be addressed before the proposal is finalized.

6.6.6 Public Notice for Impending Fare Adjustment

In addition to the public comment period, public notice must be provided for fare adjustment. Public notice requirements and guidelines should be prepared for this purpose. The fare adjustment should be allowed to come into starting to take effect 30 days from the date of the notice. Notice of the adjustment must be posted by the Operator in all affected passenger facilities and announced on all appropriate mass media.

6.6.7 Integrating Fare across Urban Railways and Buses/BRT

Multi-modal fare regulation improves the consistency of decisions across different public transport modes and reduces the risk of economic distortions and allows dealing with boundaries.

Since the entire public transport network in Hanoi are expected to equip automatic fare collection systems in this period, it is necessary to proceed towards full common fare schemes for all public transport modes covering a whole urban area, which eventually achieve a remarkable increase of passengers triggered by fare integration.

When considering a common fare scheme, different existing fare levels between urban rail and bus operators may be a challenge. Therefore, PTA should employ a method to share the revenues from a common fare scheme as proposed in 4.4 of this report.

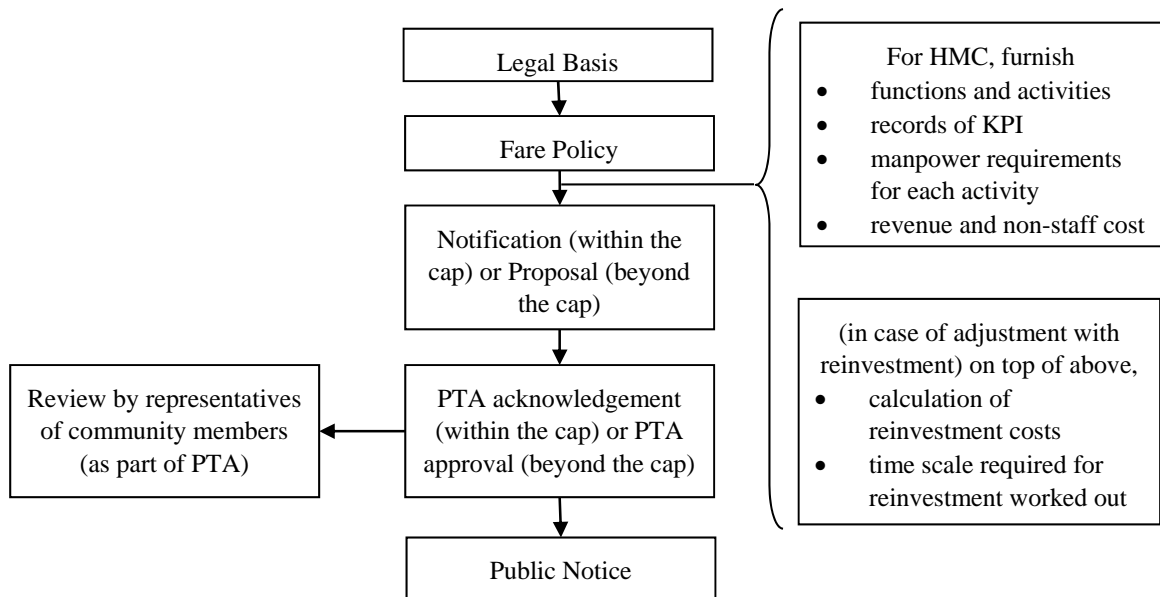
Please note that, for the overall benefits for Hanoi, different public transport modes will be integrated/coordinated together in providing transportation services to bring maximum benefits to passengers, while minimizing the risk of competition/extermination one another. The regulator, as being considered in more detail in another study of the TA, plays role of regulation and important coordination in many aspects, including the mobilization and distribution of financial resources, planning of public transport networks, advising policies on encouraging public transport user, policies on restricting the use privated motorized mode, etc.

6.6.8 Decision Making Process

In this period, PTA, the Regulator, should be the sole party to give acknowledgement (within the cap) to the Operator's notification.

PTA	<ul style="list-style-type: none"> - To enforce price cap regulation - To acknowledge fare adjustment (within the cap) notified by the Operator or issue approval, if deemed appropriate, to fare adjustment (beyond the cap) proposed by the Operator
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Figure 6.4: Decision Making Process (Phase 3: Consolidation to PTA)



6.6.9 Timing of Fare Review

Fare reviews should be regular and progressive (ideally yearly) to secure the sustainable development of urban railways and services. In the event of abrupt and steep fare increases, the drop in ridership could be significant. From a public acceptance point of view, small regular variations obviously generate fewer reactions than large increments.

Therefore, Hanoi Metro should envisage a relatively short review period as current inflation rate in Vietnam shows high record. To avoid frequent increase of fare, 2 or 3 yearly fare adjustment would be proposed. Frequency of fare adjustment would be shortened depending on the results of review but not exceeding once a year

6.7 CONCLUSION

- Given the circumstances of urban railway constructions and institutional development in Hanoi, the four stages (development roadmap) are identified, i.e. i) preparatory period, ii) initial arrangement (phase 1), iii) integrated management (phase 2), and iv) new regulatory institutions (phase 3).
- The decision making process for public transport fares naturally depends on public transport's organizational framework. In early years after opening of Line 2A, the process should be based on the existing fare regulation framework.

Mandate	Entity in charge
Highest decision making authority (regarding policy and mechanism)	Council, Committee
Executing resolution of the City Council Committee on Fare policy	HPC
Submitting ticket price options	TRAMOC, HMC, TRASCERCO

- Once the proposed Public Transport Authority (PTA), the future Regulator overlooking entire public transports, should be the sole party to give acknowledgement (within the price cap) to the Operator's notification.

PTA	<ul style="list-style-type: none"> - To enforce price cap regulation - To acknowledge fare adjustment (within the price cap) notified by the Operator or issue approval, if deemed appropriate, to fare adjustment (beyond the price cap) proposed by the Operator
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- Fare reviews should be regular and progressive (ideally yearly) to secure the sustainable development of urban railways and services and to adjust UR services fare to market conditions. In the event of abrupt (often when the interval between two fare adjustment times is relatively long while the market has many fluctuations during that period) and/or steep fare increases, the drop in ridership could be significant (especially in the initial stage when shifting from private mode to public modes are not implemented yet). From a public acceptance point of view, small regular variations obviously generate fewer reactions than large increments. Therefore, Hanoi UR should envisage a relatively short review period as current inflation rate in Vietnam shows high record. To avoid frequent increase of fare, a yearly fare review would be proposed upon decision of operators. Fare adjustment is a main factor of regulation tools of the Government, in which regulation period should be balanced to ensure effectiveness of overall regulation. Average fare adjustment period (regulation period) in international practices is about 5 yearly time; this study proposes a 3 yearly period for fare adjustment at starting periods. Gradually, the regulation period may be shortened but should not be less than a year/time.
- Finally, fare policy should be attached to the overall goal to develop a comprehensive system of urban transport in Hanoi a modern way, ensuring the efficiency of large (urban railway)

investment projects which have been implementing while ensuring the feasibility of transport development plan for Hanoi. Therefore, in the first stage, implementation step of fare policy should be conducted carefully, tested and evaluated, and adjusted timely. It is necessary to balance between the aim of cost control and the aim of sustainable development, including development of urban railway human resource, receiving technology, mastering operation and maintenance technology, promoting effective management of urban railway operation and maintenance, etc. Concretely, before putting into operation, it is impossible to know actual consumption of fuel, spare parts and even human resource cost. Thus, applying cost-of-service method, a type of planning assignment, in the first 2, 3 years of operation through records and analysis will be able to basically determine consumption norms of urban railway correspondingly. Operation costs, including labor cost and maintenance cost (and other costs) should be associated with development strategies, including human resource development, maintenance development and safety assurance. These strategies, if needed, should be assisted and evaluated by an oversea experience organization/consultant. In addition, preparation of financial plan should be linked to development strategies. For urban railway, a financial plan with different periods should be developed, which is closely associated with maintenance/conversion/replacement cycle of the main vehicles/equipment.

**FORM OF PUBLIC SERVICE FRAMEWORK CONTRACT FOR
PASSENGER TRANSPORT BY URBAN RAILWAY IN HANOI CITY**

OUTLINE OF REFERENCE CONTRACT

**PUBLIC SERVICE CONTRACT FOR PASSENGER TRANSPORT BY
URBAN RAILWAY IN HANOI CITY**

I. Legal basis:

- Civil Laws and Resolution no. 45/2005/QH11 dated 14/6/2005 of National Assembly of Socialist Republic of Vietnam on execution of Civil Law.
- Railway Law
- Capital City Law
- National budget Law
- Decree no. 130/2013/ND-CP dated 16/10/2013 by the Government on producing and supplying public service.
- Decree no. 161/2012/TT-BTC dated 2/10/2012 specified modes of control and payment of the state budget through the State Treasury.
- Decision no. 17/2008/QĐ-UBND dated 29/9/2008 of HPC regarding regulations on functions, responsibilities and organizational structure of Department of Transport.
- Decision no. 6266/QĐ-UBND of HPC to establish Hanoi Metro One Member Limited Liability Company.
- Decision no. 77/2014/QĐ-UBND dated 10/10/2014 of HPC regarding promulgation of rules on selection of contractors for provision of utility services and goods in Hanoi City.

II. Contract parties

Date....month.....year, at:

1. Order (Party A)

Business name: Hanoi Department of Transport (DOT)

Address:

Tax Code:

Telephone:

Fax:

Bank Account:

Representative:

Position:

2. Urban railway operator (Party B)

Business name: Hanoi Railway One Member Liability Limited Company
(hereinafter called Hanoi Metro Company)

Address:

Tax Code:

Telephone:

Fax:

Bank Account:

Representative:

Position:

Two parties reach mutual agreement on signing of Contract of order of public service on supplying of Urban railway passenger transport by Party B in year xx... of Cat Linh – Ha Dong Urban railway line, following the below provisions:

Article 1: General provisions:

1. This contract shows rights and responsibilities between parties in supplying of Urban railway passenger transport on Cat Linh – Ha Dong line.
2. Type of contract: order contract in accordance with adjusted price.
3. Definition: Unless there is another request or agreements between two sides, the following terms will have meanings as below, respectively:

Order party (Party A) means DOT as mentioned in contract parties as well as legal successors of order party.

Supplying party (Party B) means organizations and enterprises supply the service as mentioned in contract parties and legal successors of Supplying party.

“Contract” means a document consisting of basis, provisions, related profiles and documents that parties participate in signing.

Contract implementation duration means the duration to complete ordered products and supply of products, service of urban railway transport as Article 3 [Contract implementation duration] accounted from the contract signing date.

Civil works means urban railway infrastructures including viaducts, approaching line, tunnels, stations, etc.

Force majeure is defined at Article 12. [Force majeure]

Law means the entire law system of SRV.

Urban railway maintenance means all possible works to maintain or recover urban railway infrastructures and equipment till a certain condition that the operation of urban railway system will be safe and quality.

“OCC” means Operation Controlling Center;

“Depot” means urban railway station which is used for stabling, maintenance, train formation;

“Handling and Responding Committee” means an organization established including members in Hanoi Metro Company, to deal with urban railway accidents and incidents;

“Safety Plan” means a Plan to set up safety management schemes and enhance urban railway safety standards by stipulating urban railway operation philosophy and methods, based on Railway Law;

“Urban railway incident” means event happening in urban railway transport activities which obstacles train operation without causing fatality and assets, vehicles loss;

“Urban railway accident” means event when urban railway vehicles crush, derail, train collapse, hit against humans or operating urban railway vehicles, hit against obstacles causing fatality, health loss or assets loss.

III. Contract management contents

Article 2: Operation target:

Depending on the traveling demand of passengers, technical infrastructures condition, urban railway transport capability (Appendix 1 – Operation plan) and economic-social conditions and city’s budget allocation to subsidy urban railway, this Public service Contract shall be ordered with the following targets by HPC:

No.	Target	Value	Unit	Description	Min. requested performance (%)
1	Total operation km on the whole network		Km	Passenger transport distance in contract term. This is basis to calculate contract value	80-95% Calculated by: Total actual operation km / Total planned operation km

2	Number of trains providing services in a month		Trains	Number of trains providing services in contract term.	80-95% (For example: minimum level of Hong Kong case is 98.5%) It is defined by total number of actual operating trains/Total number of planned trains
3	Number of cars providing services on the line		Car	Number of car providing services in during contract term.	95% To be identified: Total number of actual operating cars / total number of planned trains
4	Punctuality	-	minutes	Refers to the time that the train provides service as prescribed operation plan	Less than 2 minutes

Article 3: Contract implementation duration:

- Valid for one (01) year.
- From Jan 1/20xx till Dec. 31/20xx, contract year.

Article 4 Contract value:

1. Unit price for payment:

- To identify contract value, annual or (x) years/time HPC-approved order unit price must be the basis.
- Price, unit price for cost estimation and payment of urban railway public transport service are developed on the basis of technical economic benchmark and estimated benchmark which have been decided by HPC.
- Ordered unit price prescribed in Decision of HPC.

2. Revenue, cost, and subsidy:

On the basis of ordered amount, and benchmarked unit price assigned to Party B, the contract value and necessary subsidies shall be identified.

No.	Description	Unit	Value
1	Benchmarked cost (in accordance with benchmarked unit price by Decision of HPC)	VNĐ	
2	Other actual cost	VNĐ	
3	Total operational cost (estimated) (3) = (1) +(2)	VNĐ	
4	Fare revenue (Estimated)	VNĐ	
5	Subsidy (estimated) (5) = (3) – (4)	VNĐ	

Article 5: Accepting work:

1. Timing of accepting: every month, on the ... day of the next month as latest, Party A shall conduct the accepting works for the supply of public passenger transport service by urban railway in previous in compliance with the provision of laws
2. Party B shall submit report, record of accepting of previous month on the ... day of the next month as latest for comparing:
 - + Company's internal accepting report.
 - + Reports on arisen accidents/incidents, affecting on urban railway service provision

- + Reports on Party B's violations to contract which made by Party A and competent authorities;
 - + Estimated fare revenue;
3. Acceptance contents: Party A shall conduct acceptance in accordance with regulations of HPC with the followings:
- + Total train sets operated/not operated
 - + Total cars operated/not operated
 - + Total journey that Party B performed
 - + Total number of single ticket, monthly ticket.
 - + Acceptance in force majeure when journey is not completed.
4. To accept the works, Party A is entitled to request, and Party B is responsible for creating maximum conditions for representatives of Party A to approach, copy of all books, records, papers and documents of Party B, which relate to accepting contents whenever necessary in opinion of Party A.

Article 6 Advance payment, settlement

The advance payment and settlement will be implemented following regulations of the Government and of HPC.

- 1. Principle:** Following Budget Law and Decrees which prescribe advanced payment, payment for national budget via national treasury and specific regulations of Hanoi City.

2. Advanced Payment:

(a) Advanced payment – 1st time: within 15 days after signing the contract, Party A will pay in advance for Party B with amount of not over 30% of contract's value.

Documents of 1st time advanced payment shall include:

- * Decision on approval for ordering Party B to provide Hanoi Urban railway passenger public transport service on Cat Linh – Ha Dong line (copy)
- * Annual plan assignment decision approved and estimated by Party A.
- * Annual order contract for Urban railway passenger public transport service ordered by HPC (original)
- * Request letter for advanced payment prepared by Party B (original)
- * Remittance document issued under regulation of accounting document system of the Ministry of Finance.
- * Guarantee for advance payment of Party B sending the State Treasury where transactions is made.
- * Other related documents (originals)

(b) Advanced payment – 2nd time: within 15 days after the work amount of 3rd month in a year is accepted, Party B shall be paid in advance the next 30% of subsidy value prescribed in contract.

Documents of 2nd time advanced payment shall include:

- * Request letter for advanced payment prepared by Party B (original)
- * Internal accepting report for the first 3 months of Party B on targets as prescribed in Article 2 of this contract (original).

(c) Advanced payment – 3rd time: Within 15 days after the work amount of 6th month in a year is accepted, Party B shall be paid in advance the next 3% of subsidy value prescribed in contract,

Documents of 3rd time advanced payment shall include:

- * Request letter for advanced payment prepared by Party B (original)
- * Internal accepting report for the first 6 months of Party B on targets as prescribed in Article 2 of this contract (original).

3. Payment:

Quarterly, Party B shall prepare documents of payment requests sent to the State treasury, where transaction is made, for control and payment. Advanced payment part shall be started to be returned from the first payment and all will be returned when completed volume reached 80% of the approved cost estimate of the quarter. After settlement is approved and obtained written verification and confirmation by DOF of the same level, Party A shall carry out payment procedures at the state treasury for the remaining expense (if any) based on the settlement data that has been verified and confirmed.

(b) Documents of payment shall include:

- * Decision on approval for ordering Party B to provide Hanoi Urban railway passenger public transport service on Cat Linh – Ha Dong line (copy);
- * Annual plan assignment decision approved and estimated by Party A (copy);
- * Annual order contract for Urban railway passenger public transport service ordered by HPC (original);
- * Request letter for advanced payment prepared by Party B (original).
- * Remittance document issued under regulation of accounting document system of the Ministry of Finance.
 - Work volume completion confirmation table for payment request
 - Invoice
 - Contract liquidation and verification and confirmation record for settlement by DOF (when the remaining expense is paid)
 - Other related documents (original).

4. Settlement

(a) Within 20 days since the expired date of this Contract, two parties shall coordinate to prepare yearly settlement documents on targets as prescribed in Article 2 of this Contract.

(b) After receiving yearly settlement documents which have been approved by Party A and notice on verification and confirmation of Department of Finance, Party A shall pay the remaining following yearly settlement document which has been approved. Duration for DOT to verify and confirm settlement data shall be maximally 15 working days from receiving sufficient settlement documents as prescribed.

Settlement document shall satisfy proper application of criteria and unit price and total amount value specified in the contract. If Party B violates the terms of the contract, and is deducted from the value to be paid, it must be clearly explained the reasons and the value deducted in the settlement.

Documents of yearly settlement shall include:

- * Decision on approval for ordering Party B to provide Hanoi Urban railway passenger public transport service on Cat Linh – Ha Dong line (copy)
- * Annual plan assignment decision approved and estimated by Party A
- * Annual order contract (original)
- * Annual contract liquidation record (Copy with confirmation of Party A);
- * Request letter to Department of Finance for verification and confirmation of settlement data.
- * Settlement report on annual implementation amount and value, and statement of settlement documents, in which, specific contents and calculation method are clearly mentioned.
- * Specific accepting records, documents on work quality and amount implemented monthly, quarterly (copy)
- * Invoices, evidences, payments for actual costs (summary tables, copies of invoices, evidences);
- * Request letter of Party B for settlement;
- * Notice on approval for annual settlement of Department of Finance;
- * Other related documents upon request of Department of Finance for verification and confirmation of settlement data.

(c) Party A shall additionally pay for Party B other actual expenses which have not included in the benchmark table as in order document if it satisfies conditions prescribed in the Contract.

(d) In case that HPC will later have specific regulations on settlement for urban railway public passenger transport service, parties involved in this Contract shall follow such specific regulations.

Article 7: Responsibilities of Party B

Party B must secure conditions in terms of organization, management of personnel, facilities, infrastructures and technical matters for thorough and smooth operation of urban railway, satisfying requirements on service quality, safety and provisions prescribed in the contract. Details are as following:

1. Urban railway infrastructure and facilities:

- a) Urban railway infrastructure must satisfy sufficient specifications, technical standards, regulations, certificates for quality assurance, and for safety of operation and maintenance of urban railway as Vietnamese regulations;
- b) Party B must ensure regular or quarterly management and maintenance of infrastructures of urban railway public passenger transport in quality, safe conditions, without affecting the supply of urban railway service in accordance with regulations in Appendix 2 – Safety plan of this Contract;
- c) Ensure the sufficient arrangement of technical facilities for stable, effective, reliable operation and passenger service at stations, platforms, including but not limited to lifts, escalators, lightening system, ventilation, automatic vending machine, functional departments for the operation at stations and passenger service;
- d) Arrange methods to assist the disabled, children, pregnant women who use urban railway service at stations and on board, including arrangement of designated pathway, lifts and area for the disabled, children, pregnant women;

2. Urban railway transport vehicles:

- a) Urban railway vehicles (Rolling stock) must be in compliant to technical standards, regulations, certificates to ensure quality and safety of operation and maintenance of urban railway as Vietnamese regulations;
- b) Party B must provide and remain sufficient facilities at depot area for the inspection, repair, maintenance and cleaning of rolling stock;
- c) The maintenance and repair of vehicles shall be conducted as maintenance rules and procedures, to ensure daily technical safety status and the best facilities for passengers before entering the operation, but this cannot interrupt the operation as stipulated in Appendix 2 –Safety plan of this Contract;

- d) To display inside urban railway vehicles including but not limited to the following items: Line number, terminals, station alignment, hotline telephone of Party B and Party A, no-smoking sign, and direction for prioritized persons, train rider rules...

3. Train traction power source:

- a) Party B is responsible for backup and maintaining the train traction power source in stable condition for the entire network, even when there is unexpected incident such as power grid black-out, interrupted provision of power supply, etc.
- b) Party B must apply appropriate and safe methods in construction, installation and using train traction power source and other items;

4. Party B must provide and maintain sufficient facilities at OCC in compliant with safety regulations. to ensure that the OCC is totally controlled by capable staff with necessary profession;

5. Signaling and telecommunication: Party B must provide, install sufficiently and ensure proper operation of signaling and telecommunication system for communicating between OCC and all operating trains, with stations, depot and other necessary areas, sufficiently satisfying technical standards, regulations, quality certificate, safety certificate of authorized organizations as Vietnam's regulations.

6. Lightening and ventilation

- a) Party B must ensure and maintain sufficient and appropriate lighting in areas relating to urban railway system and at working areas, in compliant with standards prescribed in Vietnamese regulations;
- b) Party B must ensure and maintain the sufficient ventilation for relevant areas of urban railway system and at areas which cannot be naturally ventilated, in compliant with standards prescribed in Vietnamese regulations.

7. Requirements of passenger service quality:

- a) In no more than ... days before starting to implement the contract, PARTY B must submit Train Operation Plan to Regulator for evaluation and approval, which will include the following main contents:
 - Daily train operation time;
 - Train operation frequency (rush hour and off-rush hour);
 - Total number of daily operating trains;
 - Loading capacity of each railcar, train set;

- b) Party B must ensure the implementation of the Operation Plan as contract and contents evaluated and approved by Party A. Whenever of changes, adjustment schedule must be prepared and this must be timely noticed to passengers and Party A.
- c) Ensure the supply of information about urban railway operation and fare level in timely, sufficient and correct manner to passengers at stations, on vehicles and other relevant areas;
- d) Party B must ensure that passengers can approach to service areas in clean and comfortable conditions;

8. UR staff: arrange operating and service staff to perform their works in compliant with regulations, under appropriate profession degrees or certificates. These people will be annually trained and educated, and ensured with good physical and mental condition for working as Vietnamese regulations.

9. Party B must arrange sufficient staff and reliable vending machines and Automatic gates to maintain the efficiency and safety in issuance and collecting fares.

10. Party B must remain and develop the satisfaction of passengers towards urban railway services by surveying the satisfaction of passengers unscheduled or quarterly; Implement and maintain the system of passenger complaint handling, and complaints of passengers must be compiled and reported to PARTY A annually;

11. Safety management:

- a) PARTY B must ensure compliance with laws, standards, technical regulations of MOT on urban railway system safety management.
- b) PARTY B must fulfill the requirements to be assessed, certified and granted with safety certification of urban railway system by the MOT;
- c) PARTY B must strictly observe and create favorable conditions for inspection and safety check of urban railway system from the authorities under the MOT or interdisciplinary inspection team including MOT and HPC. In case of violation of safety regulations, the company must be handled by the sanctions as prescribed in Vietnamese regulations.
- d) PARTY B must periodically summary and report the situation of ensuring the urban railway safety to PARTY A. In case of serious accidents, it is required to report quickly, devise countermeasures, and coordinate with PARTY A and other agencies to handle.
- e) Party B shall quarterly organize practice of rescue activities for staffs in case of incidents, without affecting train operation.

Article 8: Rights of Party B

- a) To be entitled to notice and request PARTY A to confirm when incidents arise, objective conditions affecting urban railway operation and management and implementation of the contractual contents.
- b) To recommend Party B to change operation plan compatible with actual urban railway public transport demand.
- c) To be entitled to be paid in advance or paid with state subsidies when the competent authority approves.

Article 9: Responsibilities of Party A

- a) To be urban railway management agency of HPC to directly collaborate with Party B in execution of public service contract by urban railway.
- b) To perform state management function of urban railway operation in the city; to take responsibilities for management of service quality and safety, and to advise mechanisms and policies on urban railway management to HPC.
- c) To inspect, supervise and accept urban railway operating activities of Party B in the scope of this contract.
- d) To prepare report and handle with violations to Party A-Party B contract provisions.
- e) To preside over evaluating business plans of Party B such as Operation Plan, Safety Plan and so on as a basis to calculate value of the contract and implement and supervise urban railway public transport plan in the city.
- f) To coordinate with Party B to make recommendation to HPC for adjustment of targets in operation plan, creating favorable conditions for Party B in the course of contract performance.
- g) To coordinate with the functional authorities of HPC and Party B in proposing common policy for Hanoi city's urban railway system including fare structure, type of tickets, and fare level and fare adjustment mechanism in accordance with socio- economic conditions of the city.
- h) To coordinate with the functional authorities of HPC to preside over and organize activities of acceptance, advance payment and settlement by urban railway public transport volume with Party B, ensuring the time and schedule prescribed in the contract.

Article 10: Rights of Party A

- a) To perform regular, periodical and unscheduled inspection and supervision of operational activities of urban railway public transport in accordance with the contents of the contract.
- b) To request Party B to change and improve operating conditions to increase service quality for passengers.
- c) To make reports, records and suggestion on handling with cases of violating the Rules of the State, the Government, and the City regarding urban railway service quality and cases of breaching the contents of the contract.

Article 11: Handling contract violation**1. Requirements of handling contract violation:**

- a) Handling contract violation of Party B occurs only when Party A directly makes minutes of violation to Party B or receives reports and materials on violations from the functioned and authorized units and from passengers.
- b) Handling contract violation of Party B shall be conducted only within the management content of the contract, under the responsibilities which Party B must take in the contract.
- c) Handling contract violation of Party B shall not interrupt urban railway operation and management.
- d) Contract violation by Party B shall not be handled in event of objective reason and force majeure and with timely report within ... days since the date of detecting the violation.

2. Contents of handling contract violations

a). Handling with violations to operation target in part 3, Article 2 of this Contract:

(1) Number of train sets serving in a month

Party B shall be fined if violating the Contract's provision when occurring one of the following cases:

- ____million VND of fine if the number of train sets serving in a month reaches from 90-95%
- From ____ million VND to less than ____million VND of fine if the number of train sets serving in a month reaches from 85-90%
- From ____ million VND to less than ____million VND of fine if the number of train sets serving in a month reaches from 80-85%
- ____million VND of fine if the number of train sets serving in a month is under 80%.

(2) Punctuality:

Party B shall be fined if breaching the Contract in the following cases:

- ____million VND of fine per time/01 train set if train delayed 2-3 minutes comparing to Operation plan
- ____million VND of fine per time/01 train set if train delayed from over 3-5 minutes comparing to Operation plan
- ____ million VND of fine per time/01 train set if train delayed more than 5 minutes comparing to Operation plan

(3) Congestion in rush hour:

Party B shall be fined 2 million VND per time if the actual passenger on board is equal or more than 200% of designated loading capacity of railcar.

b). Handling with violations to Contract's provisions relating to Responsibilities of Party B:

(1) Contract beaching in term of Human resources

- To fine over violations in terms of urban railway human resources in part 8 of Article 7, details are as following:

- i) Fine of __million VND/ time if UR Operation and maintenance is conducted by UR staff who is not under Party B, UR staff of Party B who does not have mandatory professional certificate provided by competent organizations as regulations.
- ii) Fine of ____million VND/ time of Party B lets the following case happen, including yielding at, threaten, to be hostile to, evasion, or assault passengers or inspectors while implementing the works
- iii) Fine of ____VND/time if Party B's staffs do not to wear name plate or prescribed clothes properly while at work
- iv) Fine of __VND/time if Party B lets the following cases happen, including drinking beer, smoking or drug while at work
- v) Fine __VND/time if Party B stops trains at improper location at platform, except for force majeure;
- vi) Without stopping at stations as operation plan, not fulfill the route prescribed in Appendix 1 of this contract hereof except for force majeure, but this must be timely notice location at the latest one day to Party A in terms of time and.

vii) Not to open train doors, screen doors or close doors while passengers have not finished boarding or getting off from trains;

viii) To allow passengers to enter platform without or with improper tickets.

ix) To allow passengers to bring bulky luggage, animals or substances with annoyed or hazardous smell into stations.

(2) Operation vehicles:

To fine over violations to contract provisions on operation vehicles in the following cases:

- Fine of ____ VND/time if putting trains into operation without fulfilling conditions as prescribed at item a, b and d, part 2, Article 7 of this Contract;
- Fine of ____ VND/time if vehicles do not ensure service quality criteria including but not limited to such as dirty floor, existence of broken down parts, not-operated air conditioning system, lighting system, ventilating system (except for sudden failures)

(3) Urban railway infrastructure and facilities

- Fine of ____ VND/time for contract breaching behaviors in terms of infrastructure and facilities of urban railway system if Party B does not sufficiently satisfy conditions as prescribed in item a, d of Part 1, Article 7 of this Contract.

- Fine of ____ VND/time for contract breaching behaviors if Party B does not handle with the following cases as stipulated in item c, part 1 of Article 7:

- i) Not-operated lifts, escalators, except for failures or force majeure
- ii) not-operated lightening, ventilating system or improper operation, except for sudden failure or force majeure
- iii) Not-operated AVM or AGs without timely fixing within 2 working hours

(4) Urban railway safety

- Fine of ____million VND/time if Party B cannot show up sufficiently or properly the UR system Safety certificate issued by MOT and other safety certificates provided by other functional organization as regulations.

- Fine of ____million VND/time for any violations as mentioned in item c, d of part 11, Article 7.

c) Based on level of management target performance under the contract of Party B in comparison with plan and requirement of implementation, if many targets are not achieved 60% compared to plan and requirement of implementation, PARTY A shall request HPC to reduce salary and bonus fund of Board of Directors and management leadership of the Company.

3. Procedures of penal term

a) Record on violations of Part B shall be made by Party A, Party A shall notice Party B after 1 or 2 working days since the timing of violation record made.

b) Party B shall notice Party A about handling with violations and pay the fine to Party A X days in advance of monthly accepting term

Article 12. Force majeure:

- Force majeure are events beyond the two parties' control and prediction including but not limited to war, riot, fire, natural disaster, flood, epidemics, and isolation due to quarantine or appropriate requests of authorized agencies.

- Any party that fails to perform its contractual obligations due to force majeure shall not have to compensate damages or fine.

Article 13. Contract amendment:

1. Principle for contract amendment:

a) Amendment of the contract shall be specified in the contract, a written agreement on the terms of the contract (if any).

b) Adjustment of contract shall be implemented only during valid duration of the contract.

2. Contract performance schedule shall be only amended in the following cases:

a) In case of force majeure, not related to violation or neglect of the Contract's parties.

b) Changes of the scope of work, technology of operation and maintenance of urban railway because of objective requirements influence on performance schedule of the contract.

3. Contract amendment shall be conducted only when permission is granted by people's committees at all level in the following cases:

a) Where the Government, City adjusts or amends socio-technical benchmark, unit price that directly influence on the contract value and is allowed to amend by Hanoi People's Committee (from the effective date of that policies).

b) Where the Government changes mechanism and policy of wages, material prices that directly influence on the contract value.

c) Where volume or number arises reasonably (increase or decrease) or due to force majeure as prescribed by law.

Article 14: Contract dispute resolutions

a) In event of dispute arising between PARTY A and Party B in contract performance, the two parties shall resolve such dispute through formal discussion and negotiation.

b) If the dispute is not resolved in ... days since the date of dispute's occur, through formal discussion and negotiation, both parties shall agree to resolve the dispute by commercial arbitration to be selected by two Parties, or authorized Court under provisions of Vietnamese laws.

Article 15. Contract termination

Party A shall terminate the contract in the following cases:

- a) Party B is dissolved or bankrupted
- b) If HPC issues sudden and reasonable requests in written form.
- c) If MOT or other functional organizations requests to HPC in case that Party B seriously violates regulations on Urban railway system safety and the system cannot be continued with operation.

Article 16. Utilization of materials and information relating to this Contract

1. Except for cases prescribed in Part 2 of this Article, if there is not permission in written form of Party A, Party B is prohibited to disclosure the contents of this contract as well as information related to contract's implementation provided by Party A to any third party. In addition, Party B shall not use any information or documents mentioned in part 1 of this Article into other purposes than implementation of this Contract.

2. Party B shall not be responsible for information security in the following cases:

- Information has been publicized before sending to Party B;
- Information provided by Party A is normal information, which has been publicized by Party A;
- Information that Party B searches for and developed from legal sources, without any binds under responsibilities of information security;
- Information that authorized organizations request to provide. In this case, Party B shall be responsible for noticing Party A as soon as possible about information provided to authorized organizations

Article 17. Implementation validity

This contract is valid since date of signing and applicable from 1/1/20XX to 31/12/20XX.

Article 18. General commitments

Two parties are responsible for executing contents in agreed provisions of this Contract.

During the execution, should any matter occur, the two parties need to inform each other in timely manner to review and modify the contract in order to provision of the best UR service.

Any change (if any) shall be discussed specifically between two parties and agreed in written form before implementing and resulting in appendix of this Contract.

This contract is made into (x) originals with equal legal validity. Party A keeps (x/2) originals and Party B keeps (x/2) originals./.

Party A
Hanoi Department of Transport

Party B
Hanoi Urban railway One member Limited
Liability Company

Appendix 1: Urban Railway Operation Plan
Cat Linh – Ha Dong (Operation plan 2017)

Appendix 1-1: Operation time on the line:

Open from 5:00am to 23:00pm: 18 hours/day, the remaining time for maintenance

Appendix 1-2: Stations and stopping time at the stations

Station	Stopping time (second)	Distance between stations
Cat Linh Station	35	0
La Thanh Station	60	931
Thai Ha Station	30	902.5
Lang Station	30	1075
National University Station	30	1249
Ring 3 Station	30	1009
Thanh Xuan 3 Station	25	1480
Ha Dong Bus Terminal Station	25	1122
Ha Dong Station	25	1323
La Khe Station	25	1110
Van Khe Station	25	1428
Yen Nghia Station	40	1032
Total	375	

Appendix 1-3: Daily operation plan and headway

Time (hour)	Number of trains	Headway (minutes/train)
5:00-6:00	8	7.5
6:00-7:00	10	6
7:00-8:00	15	4
8:00-9:00	15	4
9:00-10:00	10	6
10:00-11:00	10	6
11:00-12:00	10	6
12:00-13:00	10	6
13:00-14:00	10	6
14:00-15:00	10	6
15:00-16:00	10	6
16:00-17:00	15	4
17:00-18:00	15	4
18:00-19:00	10	6
19:00-20:00	10	6
20:00-21:00	8	7.5
21:00-22:00	8	7.5
22:00-23:00	6	10
Total	190 (trains)	

APPENDIX 2: SAFETY PLAN

PART 1: GENERAL PROVISIONS

Chapter 1: Objectives

Article 1: Objectives

1. The regulations aims to establish a Safety Management System and improve urban railway Safety standards by prescribing policies and methods of urban railway operation.
2. Safety of railway transportation will be ensured by following the Regulations, related regulations and rules are developed by departments of the Company, and in compliant with Vietnam Railway Law, other related laws and regulations, standards, technical regulations which are stipulated by MOT.

Chapter 2: Basic policies to ensure safety of railway transportation

Article 2: Basic safety policies

1. President and board members shall seek to build systems and regulations to operate urban railways with safety-first mind, the establishment of management policies to ensure safety in every aspect such as railway facilities, vehicles, and employees.
2. President, board members and all the employees shall observe the following rules:
 - (1) Ensuring safety is the most critical in railway transportation.
 - (2) Observing laws and regulations is the basis of safety
 - (3) Serious and strict work attitude is essential for safety.
 - (4) In case of accidents, incidents occurred, or if there is risk of occurring accidents, incidents, it is necessary to prompt implement appropriate countermeasures, putting the most priority in lifesaving.
 - (5) Safety information is circulated sufficiently, quickly and correctively.
 - (6) Always be highly aware of safety and completion of works
3. Measures to maintain and improve safety for UR facilities, RS and other issues which have been developed based on policies in clause 1 of Article 2 will be reviewed from time to time based upon the implementation to ensure transport safety.

Chapter 3: Systems to implement and manage measures to ensure safety in urban railway transportation

Section 1: Organizational structures to ensure safety in urban railway transportation:

Article 3: Responsibilities of Board members, General Director, Deputy General Director:

1. Board members will take final responsibility to ensure safety in urban railway transportation.
2. Board members shall set up a management system and establish measures to implement the tasks to ensure safety in urban railway transportation.
3. In formulating business plans relating to facilities, operation, personnel, investment, budget and others, General Director, Deputy General Director of the Company shall request managers and aforesaid managerial personnel in Article 4 to implement assessment over safety and feasibility.
4. Board members shall need to understand UR operation business and its management and implement improvements if necessary.
5. Board members shall respect comments and opinions of general safety managers.
6. To prepare for accidents, incidents cases, or risks of accidents, incidents, disasters as well as cases possibly causing difficulties to transportation safety, it is necessary to define the establishment of a Special Reacting Committee, and deciding on personnel in charge, reacting measures and other necessary items in compliant with scope, contents and notice to all employees.

Article 4: Organization structure

1. The organization structure relating to safety in urban railway transportation is shown as “safety management system (appendix 1)”, in which responsibilities and authorities of each in-charge person and each manager are as follows:
 - (1) General safety manager: control tasks to ensure UR transport safety.
 - (2) Operation safety manager: control operation-related matters under supervision of general safety managers.
 - (3) Train crew manager: responsible for qualification and performance of train crew or drivers in Depot under supervision of the operation safety manager or RS manager.

- (4) Manager of Business, PR department: responsible for general works at stations, under instruction of general safety manager
 - (5) Manager of Electricity, signaling, telecommunication department: responsible for works relating to electricity, signaling, telecommunication equipment, under instruction of general safety manager.
 - (6) Manager of civil works department: Responsible for works relating to civil works and architectures under instruction of general safety manager.
 - (7) Manager of station equipment, track department: Responsible for works relating to station equipment, track under instruction of general safety manager.
 - (8) Manager of Rolling stock department: responsible for works relating to RS under the instruction of general safety manager.
 - (9) Manager of Safety – quality department: responsible for works relating to measures to ensure safety and prevent accidents, incidents, under instruction of general safety manager.
 - (10) Manager of Finance – accounting department: responsible for works relating to finance, which are necessary for ensuring UR transport safety under instruction of general safety manager
 - (11) Manager of organization, human resources department: responsible for works relating to personnel management and training, in order to ensure transport safety, under instruction of general safety manager.
 - (12) Manager of Planning, project department: responsible for works relating to necessary business plan to ensure UR transport safety under instruction of general safety manager.
2. Nomination and dismissal of the above-mentioned managers and managerial personnel must be noticed to Board members and all employees, often updating, clarifying about transport safety related responsibilities and institutions.
 3. Managerial personnel and managers listed in clause 1 of Article 4 shall conduct works and manage the safety appropriately by close communications and sharing of necessary information about operation plan, facilities and rolling stock.
 4. In case that managerial personnel and managers in clause 1 of Article 4 cannot execute their works due to accidents or other reasons, authorized persons and representatives of managers shall take over the tasks.

Article 5: Nomination and dismissal of general safety manager

1. General safety manager shall be nominated from those who met the requirements set by governmental regulations and have sufficient knowledge and experience of safety management. Usually, general director of urban railway company will take over this position.
2. General safety manager will be dismissed in the following cases:
 - (1) In case he or she does not meet the requirements any more due to transfer to a different position.
 - (2) In case that government regulator requests on dismissal
 - (3) In case they cannot continue the works due to illness, injuries or any other uncontrollable reasons.
 - (4) In case that there is possibility that general safety manager breaks any rules and it might damage urban railway transport safety if the managers stay at the position.

Article 6: Nomination and dismissal of UR operation manager

1. Operation safety manager will be nominated among those who meet requirements of government regulations. Usually, manager of integrated train operation department will take over this position.
2. Based upon clause 2 in Article 5, regulations on dismissal cases of operation safety manager will be applied.

Section 2: Responsibilities of general safety manager of the company:

Article 7: Responsibilities of general safety manager

General safety manager has following responsibilities relating to urban railway transport safety:

- (1) Ensure safety of operation, equipment, rolling stock and appropriateness between departments, as well as comprehensively managing departments and monitoring transport works implementation, putting top priority on lifesaving.
- (2) Make sure all employees fully observe related laws and regulations and aware of safety-first policy.
- (3) Check the implementation and management of transportation, safety management system, and take improving actions if necessary.
- (4) Join important decision-making processes to ensure transport safety, express opinions necessary to ensure safety to board members, Deputy General Directors and related managers.

- (5) Gather necessary information regarding accidents and disasters and provide it to the operation safety managers, and other related managers or give them necessary instructions.

Article 8: Responsibilities of operation safety manager:

1. In order to ensure safety, operation safety manager is responsible for the tasks relating to train operation, including developing and revising operation plan, using staffs on-board and RS, training for train crew, train operation management, collecting information about train operation.
2. Operation safety manager will nominate train crew manager from staff who manage train crew members and report to general safety manager.
3. Operation safety manager must coordinate with managers of other departments to confirm safety and feasibility in developing train operation plan and other related plans by considering conditions relating to personnel and facilities of operation, and RS.
4. Operation safety manager shall probably manage the training of operation related personnel.
5. Operation safety manager will closely communicate and coordinate with general safety manager to ensure safe train operation.
6. Operation safety manager shall share necessary information relating to operation to general safety manager and other related managers to ensure safety for train operation.

Article 9: Responsibilities of train crew manager

1. Train crew manager is assigned by operation safety manager and under instruction of operation safety manager, he/she will have following responsibilities:
 - (1) Relating to management, maintenance of qualification of train crew.
 - (2) Relating to periodical confirmation about education of qualification of train crew members and report to operation safety manager
2. Train crew manager assigned by RS department manager will be under instruction of manager of RS department and will have following responsibilities:
 - (1) Relating to management and maintenance of qualification of drivers in depot
 - (2) Relating to periodic confirmation on education of qualification of drivers in depot and report to manager of RS department.

Article 10: Responsibilities of manager of business, PR department

1. Manager of business, PR department is responsible as following, in order to manage station works, aiming at ensuring transport safety.
 - (1) Relating to operation at station
 - (2) Relating to provision of necessary information such as weather forecast, so that train can safely be operated
 - (3) Relating to management and maintenance of qualification of station staffs
2. When considering on preparation of transport plan and other related ones, Business, PR manager shall affirm safety and feasibility by considering overallly the situation of station staffs, equipment and facilities at station.
3. Business, PR manager properly manages the training and education for station staffs.
4. Clause 5, 6 of Article 8 are also applicable for business, PR manager.

Article 11: Responsibilities of electricity, signaling and telecommunication manager:

1. Electricity, signaling and telecommunication manager takes following responsibilities to manage and maintain electricity, signaling and telecommunication equipment, in order to ensure transport safety:
 - (1) Relating to development and changes in management system as well as management plan of maintenance and improvement of electricity, signaling and telecommunication equipment.
 - (2) Relating to the ensuring of compatibility between UR facilities, RS with operation.
 - (3) Relating to safety in maintenance and improvement of electricity, signaling and telecommunication facilities.
 - (4) Relating to sharing of necessary information for safe train operation such as weather and status of electricity, signaling and telecommunication equipment.
 - (5) Relating to maintenance of qualification of staffs to maintain, improve electricity, signaling and telecommunication equipment.
2. While reviewing maintenance plan, manager of electricity, signaling and telecommunication department shall need to confirm on safety and feasibility by overallly considering conditions of related personnel and status of electricity, signaling and telecommunication equipment.

3. Manager of electricity and signaling, telecommunication department shall properly manage the training for personnel relating to electricity, signaling and telecommunication equipment.
4. Clause 5, 6 of article 8 are also applicable to manager of electricity, signaling and telecommunication department.

Article 12: Responsibilities of manager of station equipment, track department:

1. Manager of station equipment, track department is responsible as following, to manage and maintain station equipment, track, ensuring transport safety:
 - (1) Relating to establishment, changes of management system as well as management plan of maintenance, improvement of station equipment and track.
 - (2) Relating to ensuring of compatibility between UR facilities, RS with operation.
 - (3) Relating to safety in maintenance and improvement of station equipment and track.
 - (4) Relating to sharing necessary information for safe operation such as weather forecast and status of station equipment, track.
 - (5) Relating to managing qualification of staffs in maintaining, improving station equipment and track.
2. While reviewing maintenance plan, manager of station equipment, track shall confirm safety and feasibility by overally considering conditions of personnel relating to station equipment, track and status of station equipment, track.
3. Manager of station equipment, track department shall properly manage the training and education for station equipment, track staffs.
Clause 5, 6 of Article 8 are applicable for manager of station equipment, track department.

Article 13: Responsibilities of Civil works manager

1. Manager of civil works department has following responsibilities to manage and maintain civil works, in oder to ensure transport safety:
 - (1) Relating to establishment, changes in management system as well as management plan of maintenance and improvement of civil works.
 - (2) Relating to ensuring compatibility between civil works, RS with operation.
 - (3) Relating to ensuring safety in maintenance, improvement of civil works

- (4) Relating to sharing of necessary information for safe train operation such as weather forecast and status of civil works.
- (5) Relating to management of qualification of staffs to maintain, improve UR civil works.
- 2. While reviewing management plan of maintenance, manager of civil works department must confirm the safety and feasibility by considering conditions of civil works' maintenance staffs and status of civil works.
- 3. Manager of civil works department shall properly manage the training and education for civil works staffs.
- 4. Clause 5, 6 of Article 8 are also applicable for manager of civil works department.

Article 14: Responsibilities of manager of RS department

- 1. Manager of RS department takes following responsibilities to manage the maintenance of RS, in order to ensure transport safety:
 - (1) Relating to establishment, changes of management system, as well as management plan of maintenance and improvement RS.
 - (2) Relating to ensuring compatibility between UR facilities, RS with operation.
 - (3) Relating to coordination between RS turning plan and operation plan.
 - (4) Relating to management of qualification of personnel to maintain, improve RS.
- 2. Manager of RS department shall nominate train crew manager from staff who are at management positions of drivers in depot, and report to general safety manager.
- 3. While developing usage plan of RS, manager of RS department must confirm the safety and feasibility by overallly considering about RS staffs and status of equipment.
- 4. Manager of RS department shall properly manage the training and education for RS related staffs.
- 5. Clause 5, 6 of Article 8 are also applicable for member of RS department.

Article 15: Responsibilities of Manager of Safety-Quality department

Manager of Safety – quality department shall have responsibilities of confirming the implementation and measures of management to ensure transport safety by implementing internal audit, promotion of measures to improve safety such as those to avoid recurrence.

Article 16: Responsibilities of Manager of Finance – accounting department:

Manager of Finance – accounting department shall overallly consider about the safety and other contents, developing estimation plan and other necessary ones.

Article 17: Responsibilities of Manager of organization, human resources department:

Normally, Department of organization, human resources shall overallly consider about improvement of safety, establishing HR plan, training plan which are necessary to ensure transport safety and others necessary.

Article 18: Responsibilities of manager of project, planning department

By considering overallly about safety and implementation of necessary adjustments to develop and implement business plans and other necessary ones, manager of planning, project department shall manage progress of those above works.

Chapter 4: Tasks and management of tasks to ensure urban railway safety:

Article 19: Report of work

1. Manager of safety – quality department often receive reports from operation safety manager and managers of other related departments regarding useful information to prevent accident's recurrence, unsafe activities, and those affecting transport safety, as well as reporting for acknowledgement of general safety manager.
2. Manager of safety – quality department shall try to share information from report received at clause 1 of this article to related departments.
3. All staff to share necessary information to ensure train operation safety.

Article 20: Measures to prevent accidents, incidents

1. General safety manager shall instruct to manager of safety – quality department for analyzing and adjustments of useful information in order to prevent recurrence of accidents, disasters, ensuring transport safety, discussing on necessary measures to prevent accidents, incidents.
2. General safety manager shall receive report as mentioned in clause 1 of Article 20, setting up necessary measures. As well as, based on viewpoint of improving awareness of safety and prevention of risks of accidents, incidents, general safety manager shall notice to related departments about

contents necessary to be announced to participants, in order to ensure information sharing among staff.

Article 21: Report of accidents, incidents and solutions

1. All staff shall understand about Special reacting committee, in-charge personnel, solutions, reacting activities, other necessary activities when accident, incident happens; in case of accidents, disasters, it is necessary to implement solutions, reacting.
2. Operation safety manager and managers of other related departments shall implement flexible and appropriate measures which may be beyond their authority if necessary.
3. If anyone is noticed of the accidents, incidents or disasters, he/she shall swiftly report with a designated method.
4. Operation safety manager and managers of other related departments shall report about accidents, incidents, disasters swiftly to government agencies as regulations.
5. Specific reacting contents are mentioned in “Regulations on reacting when accidents, incidents occur”, “Operation rules” and other related regulations.

Article 22: Confirmation of tasks

1. General safety manager, operation safety manager and managers of departments shall continuously finding out potential risks by visiting the site to confirm the implementation of tasks regarding transport safety in the company and the application of safety management system, as well as working out clear and correct measures for those needed improvements.
2. Manager of safety-quality department shall prepare annual internal auditor, asking for approval of general safety manager, and based on that plan, to inspect activities stipulated in this regulations towards related departments.
3. Manager of safety – quality department shall request related departments to improve via request of improvements if improvement needed items are found while internal auditing.
4. Manager of related departments after receiving request for improvements will need to promptly set up necessary solutions for improvements, and report to manager of safety – quality department for acceptance of report of improvements.
5. General safety manager shall receive report of internal auditing from manager of safety – quality department and develop appropriate handling measures for items which are in need of improvement.

Article 23: Training and education about transport safety

General safety manager shall request related departments to frequently prepare training, education plans for staffs, and organize the training, in order to ensure transport safety, as well as, requesting evaluation on training process, developing appropriate measures if necessary.

Article 24: Building up regulations/rules on safety

1. In addition to this provision, the operation safety manager and other related department managers shall develop the necessary safety regulations regarding maintenance of urban railway rolling stock and equipment, train operation, and review them continuously.
2. All staff shall be informed of the provision described in the clause 1 of this article in order to ensure train operation safety.

Article 25: Management of regulations, documents and records

1. This regulation, other safety regulations, documents on urban railway facilities and rolling stock structures and specifications, and other materials shall be properly managed and stored in regarding divisions.
2. The general safety manager's opinions and minutes of the meetings to decide safety policies shall be properly stored in accordance with regulations of the information management system of the company.
3. Rules relating to operation safety assurance and necessary documents shall be properly stored and managed by the chiefs of responsible unit in accordance with regulations of the information management system of the company.

PART 2: MANAGEMENT OF TRAIN OPERATION

Chapter 1: Management of train operation

Article 26: Operation management system

To prescribe Regulations on The system for operation management and instruction and command system

Article 27: Operation plan

1. When developing concrete operation plans, the operation safety manager shall confirm the safety and feasibility of the plans based upon specific train performance curves, taking into consideration following factors.
 - (1) Travel time between stations
 - (2) Loading and unloading of passengers at stations
 - (3) Restraints by passing and signaling facilities

- (4) Restraints regarding on-board crews and vehicle
- (5) Other matters necessary for smooth train operation
- 2. The train performance curves shall be developed, in consideration of vehicle performance including acceleration and deceleration, maximum speeds, and curving performance, track conditions including curves and slopes, and drivers' skills.
- 3. The operation safety manager shall check the development and changes of the operation plans.
- 4. The operation safety manager in cooperation with the department managers of rolling stock, electricity, station equipment, track, and civil works shall prepare documents regarding vehicle performance, track conditions, and speed limits at curves which are necessary to develop operation plans,

Article 28: Work shift of on-board crews

The operation safety managers shall develop work shift plans for on-board crews in consideration of appropriately balancing work hours and on-board hours based upon relevant regulations

Article 29: Management of qualifications of on-board crews

- 1. The train crew manager shall confirm regularly whether on-board crews fulfill qualifications according to the operation safety manager's instructions.
- 2. In case the train crew manager finds out that any of the crews do not meet the qualifications physically or mentally, or in terms of the knowledge and skills, he or she shall take actions such as suspension from work or on-board retraining, and shall report the situation to the operation safety manager.
- 3. In case the operation safety manager receives a report on questionable qualifications and performances of any crews, he or she shall swiftly make a decision on necessary measures such as suspension/re-education based upon comments of the crew training manager.
- 4. In case any of the crews who have been suspended from work are expected to improve their knowledge and skills by training, the train crew manager shall develop an education program, confirm the results after the re-education, and decide whether they can get back to work or not, based upon the discussion with the operation safety manager.

Article 30: Report on qualifications of on-board crews and drivers in Depot

Regarding qualifications of on-board crews and drivers in Depot, the operation safety manager shall compile reports from the train crew manager and rolling stock department manager to make report and send it to the management agency in accordance with the regulation on the following matters:

- (1) The driver's license No. and the results of medical checks and aptitude tests
- (2) Numbers of driving errors and the performance in the training and re-education program

Article 31: Training, management and maintaining of qualifications of operation related staff

1. The operation safety manager and other department manager shall understand and manage the competence, knowledge, and skills of train operation staff with appropriate methods and procedures designated in the "Operation Rules".
2. The persons who are responsible to supervise operation related staff shall base on "Operation Rules" to regularly check necessary matters regarding operation related staff's competence before or during their work hours and give them necessary instructions.
3. The persons who are responsible to supervise operation related staff shall record the competence of operation related staff under their supervision and confirm its changes over time.

Article 32: Train operation system

1. The operation safety manager shall designate responsible persons, command and control systems, and control methods regarding the following matters and specific train operation management in the operation rules:
 - (1) Understand the state of operation in time of confusion and disruption of operation
 - (2) Unexpected changes of operation schedules
 - (3) Important safety-related instructions such as change of operation, etc. in order to ensure safety among trains
 - (4) Gathering and sharing the information on abnormal weather
 - (5) Communication of approval to start maintenance, improvement and other works which may affect train operation and information related to restart operation after their completion

2. The operation engaging person shall understand information of state of operation, track conditions, and abnormal weather, etc., and, in case those conditions may affect safe train operation, he or she shall give to priority to take quick and appropriate actions
3. When operation is suspended due to incidents, accidents or disaster, the OCC manager shall give the restart command after confirming the safety of the site.
4. In case an operation schedule has to be changed due to incidents, accidents, disaster, the OCC manager's command shall be complied, contact and confirm with related persons in accordance with the operation rules to make sure that instructions are transmitted.
5. In case operation safety might be disrupted due to abnormal weather, the operation safety manager shall take proper actions such as suspension of operation.
6. The operation safety manager shall record and store the information on the state of operation, communications of regarding persons, and proper actions for accurate operation.

Article 33: Measures taken in case of incident, accident, disaster, etc.

1. In case of emergency such as incidents, accidents and disasters, the operation engaging person shall take quick and proper actions in order to rescue passengers and minimize the damage in accordance with Regulations on reacting when accidents, incidents occur.
2. In case of incident, accident, disaster, the emergency personnel or other people need to enter track area in order to conduct rescue and first-aid activities, the OCC manager shall take necessary actions including suspension of operation to ensure those people's safety.

Chapter 2: Management of urban railway facilities

Article 34: Management system of urban railway facilities

1. To prescribe regulations of management system of urban railway facilities
2. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall develop regulations regarding improvement and maintenance of railway facilities and report them to the general safety manager. The case of changes shall be applied similarly.

3. When maintenance and improvement work of urban railway facilities is carried out, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall develop maintenance plans appropriate to the necessity for improving safety and reliability and consistency between rolling stock and the future operation schedule, and report the plans to the general safety manager.
4. For implement and check of completion of urban railway facility maintenance and improvement, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall closely communicate with the related divisions and make proper plans in compliance with railway facility standards and maintenance rule to avoid affecting guarantee of operation safety.
5. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall summarize inspection plan and inspection results of urban railway facilities, prepare maintenance plan and improvement plan and report the plans to the general safety manager.
6. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall designate methods and procedures of inspection, maintenance and improvement work of urban railway facilities in accordance with the urban railway facilities standards and rules make sure that all the related employees completely understand them.
7. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall share information to the related person in order to carry out daily inspection based on maintenance rules and maintain urban railway facilities in safe condition for use.

Article 35: Ensuring safety in maintenance and improvement of urban railway facilities

1. Regarding maintenance and improvement of urban railway facilities, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall stand on the viewpoint of securing safe train operation and preventing accidents to confirm the details of the work item from stage of maintenance and improvement plan.

2. The workers (including contractor) who are involved in the urban railway facility maintenance and improvement work shall exchange information in with related people on the details, methods, and sequence of maintenance and improvement work.
3. The workers (including contractor) who are involved in maintenance and improvement work of urban railway facility before, during, and after the work, shall confirm the train operation status, properly deal with errors of urban railway facilities, confirm the safety after completion of the work based on regulations of departments.
4. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall make sure that all the maintenance and improvement workers (including contractor) thoroughly understand the rules and necessary manuals to carry out works safely.
5. When maintenance and improvement work of urban railway facilities is carried out within track areas, the maintenance and improvement workers (including contractor) shall have close communications with the OCC manager and conduct confirmation and necessary report.
6. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall provide urban railway facility maintenance and improvement workers (including contractor) with necessary information on train operation status to ensure safety of trains and workers.
7. The managers of electricity, signaling telecommunication department, civil work department, station equipment, track department shall gather accident information, including incidents and accidents happened on other sites as much as possible and make sure that maintenance and improvement workers (including contractor) thoroughly understand them.
8. In case of being concerned about problems which may affect train operation, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall promptly notify the OCC manager and other related persons.

Article 36: Management of qualifications of urban railway facility maintenance and improvement workers:

1. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall prepare

training plans, implement necessary training in compliance with training regulations, manuals and standards of the departments and simultaneously manage capacity, knowledge and skills of the worker related to urban railway facility maintenance and improvement.

2. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall regularly check the qualifications of the workers related to urban railway facility maintenance and improvement.
3. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall record the qualifications of the workers related to urban railway facility maintenance and improvement work and confirm the changes.
4. Management of qualifications of operation-related staff among workers related to urban railway facility maintenance and improvement shall comply with Article 31.

Article 37: Outsourcing of urban railway facility maintenance and improvement work

1. When urban railway maintenance and improvement work is outsourced, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall examine experience, scale, skill and performance records of the candidate companies, designate the scope of work to be outsourced and methods to select the companies among the qualified companies.
2. In order to let the outsourced company that undertake maintenance and improvement work (hereafter called Contractor) perform maintenance and improvement work properly, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall choose from the contractor a person that takes responsibility of supervision.
3. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall clearly designate instructions, reports, procedures (including communication mechanism in case of emergency) necessary to maintenance and improvement work with the responsible person.
4. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall provide

necessary information to maintenance and improvement work and instructions if necessary to the contractor through the responsible person.

5. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall request the responsible person of the contractor to carry out education, training and examine competence in accordance with Article 36 in order to help workers of the contractor have sufficient knowledge and skill necessary to carry out maintenance and improvement work and promptly report the results.
6. In case of incidents, accidents, etc. or risk of happening incidents, accidents, etc. due to operation performed by the contractor, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall request the responsible person of the contractor promptly report and give necessary instructions.
7. The managers of electricity, signaling telecommunication department, civil work department, station equipment, track department shall conduct inspections of operation performed by the contractor, if any problems which may affect train operation, give instructions to solve them.

Chapter 3: Rolling stock management:

Article 38: Rolling stock management system

1. To prescribe regulations on the system related to rolling stock management.
2. The manager of the rolling stock department shall develop rules and regulations regarding manufacturing, maintenance and improvement of rolling stock and report to the general safety manager. The same shall be applied to cases of change.
3. When rolling stock is manufactured, maintained and improved, the manager of the rolling stock department shall develop maintenance plans appropriate to the necessity for improving safety and reliability and consistency between urban railway facilities and the future operation schedule, and report the plans to the general safety manager.
4. Regarding execution of manufacturing and improving rolling stocks, the manager of the rolling stock department shall stipulate inspection method and procedure during manufacture and at completion and make sure that the related people understand sufficiently.

5. The manager of the rolling stock department shall summarize inspection plans and inspection results of rolling stocks, develop rolling stock maintenance plans, and report to the general safety manager.
6. The manager of the rolling stock department shall designate methods and procedures of inspection and maintenance in compliance with regulations of Vietnam, codes and standards on environmental guarantee, noise, maintenance rules for rolling stock etc., and share these contents with the related staff.
7. The manager of the rolling stock department shall share information to the related person in order to carry out daily inspection based on maintenance rules and maintain rolling stock in safe condition for use.

Article 39: Rolling stock operation plan

The manager of the rolling stock department shall make rolling stock operation plan, ensuring operation safety taking rolling stock structure and functions into consideration, track structure and operation safety protection equipment and rolling stock inspection plan which is required in train operation.

Article 40: Management of qualifications of rolling maintenance workers

1. The manager of the rolling stock department prepare training plans, implement necessary training in compliance with training regulations, manuals and standards and simultaneously manage capacity, knowledge and skills of the rolling stock maintenance worker.
2. The manager of the rolling stock shall regularly check the qualifications of the rolling stock maintenance workers.
3. The manager of the rolling stock department shall record the qualifications of the rolling stock maintenance workers and manage to confirm the changes.
4. Management of qualification of train drivers in depot shall be in compliance with Article 29 “Management of qualifications of on-board crews”. In this case, it is possible to change “On-board crews” to be “train drivers in depot”, and change “Operation safety manager” to be “The manager of the rolling stock department”.

5. Management of qualifications of operation-related workers among rolling stock workers shall comply with Article 31.

Article 41: Outsourcing of rolling stock maintenance

1. When rolling stock maintenance work is outsourced, the manager of the rolling stock department shall examine experience, scale, skill and performance records of the candidate companies, designate the scope of work to be outsourced and methods to select the companies among the qualified companies.
2. In order to let the outsourced company that undertake rolling stock management work (hereafter called Contractor) perform maintenance work properly, the manager of the rolling stock department shall choose from the contractor a person that takes responsibility of supervision.
3. The manager of the rolling stock department shall clearly designate instructions, reports, procedures (including communication mechanism in case of emergency) necessary to maintenance work with the responsible person.
4. The manager of the rolling stock department shall provide necessary information to maintenance work and give instructions if necessary to the contractor through the responsible person.
5. The manager of the rolling stock department shall request the responsible person of the contractor to carry out education, training and examine competence in accordance with Article 40 in order to help workers of the contractor have sufficient knowledge and skill necessary to carry out maintenance work and promptly report the results.
6. In case of incidents, accidents, etc. or risk of happening incidents, accidents, etc. due to operation performed by the contractor, the manager of the rolling stock department shall request the responsible person of the contractor promptly report and give necessary instructions.
7. The manager of the rolling stock department shall conduct inspections of operation performed by the contractor, if any problems which may affect safe operation of rolling stock, give instructions to solve them.

PART 3: IMPLEMENTATION

Article 42: Responsibility of implementation

Right after this regulation takes effect, Safety and Quality Department shall be responsible to individuals, units and departments related to let individuals, units and departments be responsible for specific assignment and make detail form, and implement of this regulation.

Article 43: Building up and adjustment of safety management regulation:

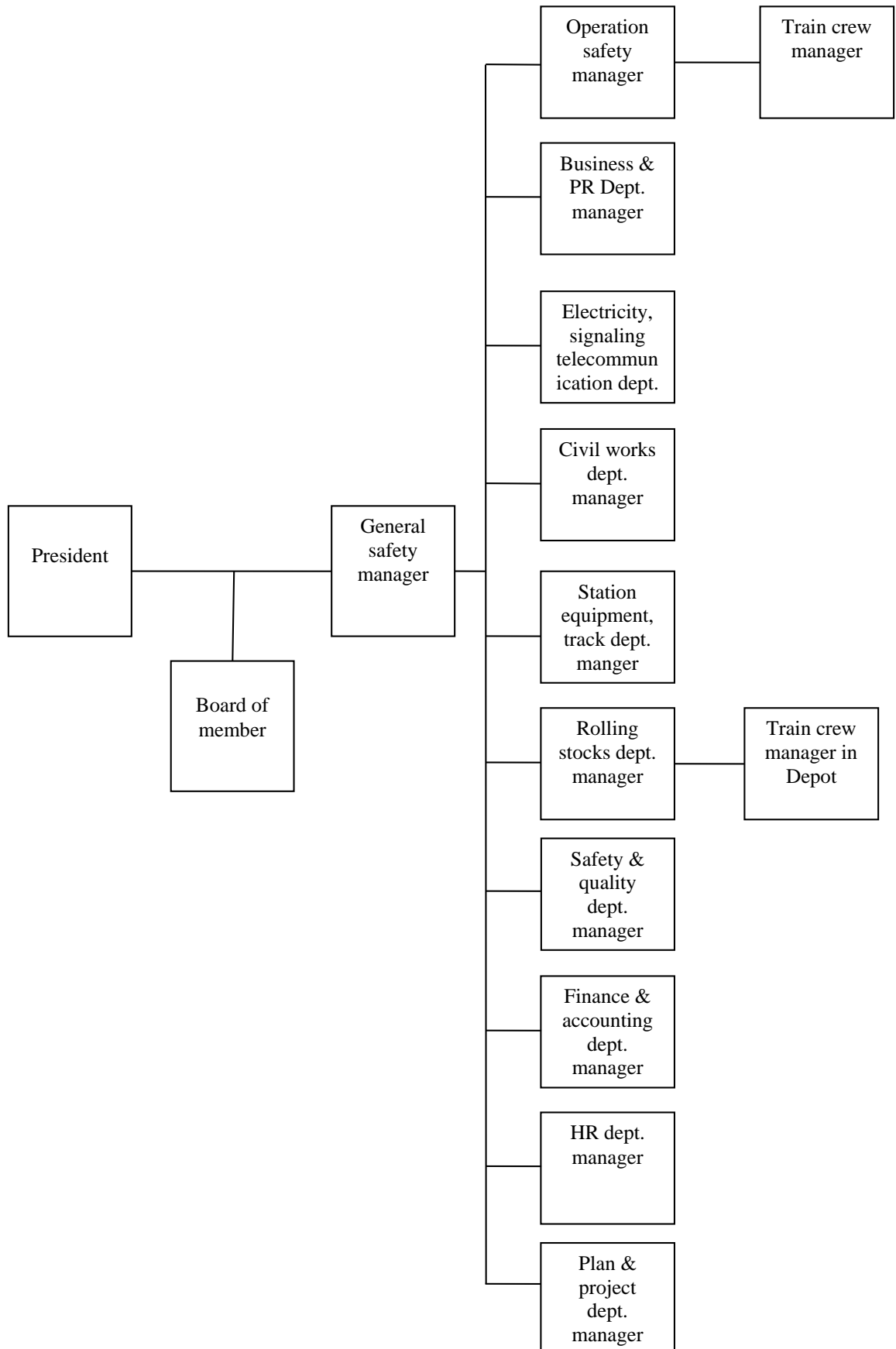
In addition to this safety management regulation and other related regulations, Safety and Quality Department shall be responsible to build up and adjust necessary regulation related to safety management to ensure operation safety. Annually, the general safety manager shall summarize and evaluate results and announce performance of safety in a year. The general safety manager of the company shall review and adjust the contents in this regulation if necessary in order to enhance safety degree in operation but ensure properly comply with legal regulations and performance capacity of the company.

Article 44: Implementation effect

Regulation on Safety management including 02 parts ... article, comes into effect from to ... all individuals, units and departments of the company. During the implementation, if any contents need to be adjusted, changed or added to be suitable with the practical activities, the relevant individuals, units, departments shall be responsible for comments to the leader of the company to promptly issue necessary supplement and modifications.

(Attachment 1)

SAFETY MANAGEMENT MECHANISM CHART OF HMC





ハノイ市人民委員会



国際協力機構

ハノイ市における都市鉄道規制機関強化・
運営会社設立プロジェクト

報告書

内容：ハノイ市における規制機関強化

Act. 3-2: ハノイ市における都市鉄道事故・

輸送障害の処理に係る共通規程

実施機関：ハノイ鉄道一人有限会社

コンサルタント：JICA 技術支援コンサルタントチーム（JICA TA チーム）

- 東京地下鉄株式会社
- 日本コンサルタンツ株式会社（JIC）

ドナー：国際協力機構

ハノイにて、2015 年 9 月

1 章. 総則

1 条. 目的

都市鉄道事故・輸送障害の処理に関する共通規程は、都市鉄道事故・輸送障害の処理、ハノイ市における交通保安に重要に資する目的で、公布する。

2 条. 適用範囲

本規程は、都市鉄道事故・輸送障害に関し、組織・個人の原則・責任、処理の手順・内容、分析の業務、統計・報告の制度について定めること。

3 条. 適用対象

本規程は、ハノイ市での都市鉄道による
交通輸送の活動に係る組織及び個人に適用すること。

4 条. 用語解釈

この規程における用語の定義は、次のとおりとする

1. 都市鉄道事故とは、都市鉄道交通手段がお互いに衝突、脱線、倒れ、人及び他の交通手段に衝突し（及び逆になる）、または走行している都市鉄道交通手段が障害物に衝突して人間の命及び健康又は資産に損害を与える事故をいう。
2. 都市鉄道の輸送障害とは、都市鉄道の交通運輸活動において発生し、鉄道運行に影響を与えるが、都市鉄道事故をまだ発生させないことをいう。
3. 都市鉄道交通事故の負傷者は、都市鉄道交通事故の直接的な影響によって、健康の損傷を受け、通常生活に影響を受けるものである。
4. 都市鉄道交通事故による死亡者は、事故現場で亡くなったものであり、事故による負傷者が応急に行かせたが病院、自宅又は応急に行く途中で亡くなるものであり、事故発生時後 24 時間以内亡くなる負傷者である。
5. 都市鉄道輸送指令センター（OCC）は、ハノイ鉄道一人有限会社に所属し、管轄する都市鉄道各路線における列車運行の活動を全部指令する業務を有すること。

5 条. 法的根拠

1. 2015 年 6 月 14 日付の鉄道法
2. 鉄道法の複数条文履行の詳細規定に係る政府による 2015/02/13 日付の政令

14/2015/NĐ - CP 号

3. MOT の機能・業務・権限・組織体制を定める政府による 2012 年 12 月 20 日付の政令 107/2012/NĐ-CP 号
4. ハノイ市の DOT の機能・業務・権限・組織体制を定める HPC による 2008 年 9 月 29 日付の決定書 17/2008/QĐ-UBND 号

6 条. 都市鉄道における交通事故処理の原則

1. 鉄道における交通事故の処理は、安全性、急速とタイムリーを徹底に保証すること。
2. 都市鉄道において交通事故が発生させた場合、鉄道に参加する各組織・個人は、努力して共同して処理しなければなりません。
3. 被害者に対する迅速な治療活動を行って、事故現場を守って、国家、事業者と被害者の資産を守らなければなりません。
4. 関連のある各組織、個人に事故の情報をタイムリーに伝達します。
5. 鉄道における交通事故の情報を貰った各組織・個人は、迅速に事故現場に行って、事故を処理する責任を持たなければなりません。そして、都市鉄道における事故が生じた後、都市鉄道運行の回復に妨げないこと。
6. 都市鉄道における事故処理評議会の長（以下、「会長」と呼ぶ）は、又は、事故を処理する主担当者、都市鉄道における事故の復旧活動のために現場の人材、資材の源を全て動員することができる。
7. 都市鉄道運行活動をなるべく早く回復する、そして、当局の事故捜査・処理の活動に差し支えることをしてはいけない。

7 条. 都市鉄道における輸送障害交通故障処理の原則

1. 都市鉄道における輸送障害交通は、全て記録書に書くこと。
2. 都市鉄道における輸送障害が発生した場合、記録書を作るものは、都市鉄道輸送指令センター（OCC）とする。
3. 都市鉄道における輸送障害の処理は、ハノイ鉄道一人有限会社の総裁が詳細的に定めること。

2 章. 都市鉄道における交通事故・輸送障害の分類及び関連側の責任

8 条. 都市鉄道における事故分類

1. 原因による分類

- 主観的な原因による事故というのは、ハノイ鉄道一人有限会社の組織・個人が、都市鉄道に関する法律及び関連規程に反することにより発生した事故をいう。
- 客観的な原因による事故とは、災害等の不可抗力またはハノイ鉄道一人有限会社の主観的な原因以外の原因により発生する事故をいう。

2. 都市鉄道交通事故の性質による分類

- 運行事故とは、列車が互いにぶつかり、脱線、列車が倒れ、障害物に衝突し、人命、健康又は組織・個人の財産に被害を与える事故をいう。
- 他の事故とは、人間に関する事故であり、列車が人に衝突したり、人が軌道に飛び降りる又は列車から落ちて、人が列車に土、石、その他物体を投げ当てることにより資産、人の命及び健康に被害を与える事故をいう。

3. 都市鉄道における交通事故の損害程度による分類

- 軽度な激甚の都市鉄道交通事故は、○ドン以上から○百万ドン未満の財産に損害を与える事故である。
- 激甚の都市鉄道交通事故は、1～2 人までの負傷者、又、○ドン以上 ○ドン未満の財産に損害を与える事故である。
- 深刻な激甚の都市鉄道交通事故は、一人以上の死亡者、又、3, 4 人以上の負傷者、又は○ドン以上○ドン未満の財産に損害を与える事故である。
- 特別に激甚の都市鉄道交通事故は、2 人以上の死亡者、又、5 人以上の負傷者、又は○ドン以上○ドン未満の財産に損害を与える事故である。

9 条. ハノイ鉄道一人有限会社の責任

1. 都市鉄道交通事故が発生した際に、運転士又は安全補助係員の責任

- a) 本規程の 13 条に定めるとおりに、被害者に応急処置と救急処置を実施して、国家、事業者、被害者の財産を守る。
- b) 本規程の 13 条に定めるとおりに、事故現場を守る。
- c) 本規程の 14 条に定めるとおりに、関係がある組織・個人に事故のことを早速に伝達・報告する

- d) 都市鉄道交通事故が発生した際に、運転指令員の責任
 - e) (管轄範囲に発生した事故の場合) 本規程の付録 1 の様式により、事故の議事録、報告書を作成する、又は事故の初期書類を作成する、若しくは
(区間に発生した事故の場合) 運転士又は安全補助係員が作成した初期書類を受領する。その後、本規程の 3 章の規定により、当局に引渡し、そこに残し当局に対応する人を指定すること。
 - f) 列車指令員(安全補助係員)は、会長又は事故処理の主担当者が現場にまだ来ない場合、主担当として、事故の当初余波を処理するものである。
2. ハノイ鉄道一人有限会社は、主担当として、事故発生場所の各レベル人民委員会、ハノイ市の DOT との協力で、都市鉄道交通事故を処理し、都市鉄道での救護を行う責任を有する。
 3. 都市鉄道交通事故の発生時、ハノイ鉄道一人有限会社の総裁が原因、性質、損害程度によって、事故処理評議会を設立する、又は、事故処理を主担当するために権限のある個人に業務をアサインする

10 条. 事故処理評議会メンバー若しくは事故処理の主担当者の責任 (ハノイ鉄道一人有限会社の管轄範囲内)

1. 会長若しくは事故処理の主担当者は、現場での事故処理に最高の権限・責任を有し、被害者を治療するために現場での人間、資材を動員し、必要な決定意思を行い、地方自体、地方の機関との協力で法律の規定により事故を処理し、下記業務の遂行を指導すること。
 - a) 被害者の応急処置、財産及び現場を守る事
 - b) 調査に参加して、警察署の要請に基づいて、現場検査報告書を作成する
 - c) 関連機関、地方自体との協力で、被害者の埋葬に関する法的手続きを完成する (死亡者がいる場合)
 - d) 事故場所での運行再開、路線開通、補助時の全面保安を目的に、旅客及び貨物の輸送、車両の救助、壊れた橋、道及び故障した設備の修理、並びに人事配置に関する方案を作成する
 - e) 事故の記録書及び書類を収集する。業務量、救助に携わる各職場の人員を確定する。

f) 総合報告書を作成し、事故処理に携わる組織・個人への表彰・処罰を提案し、都市鉄道の通常活動を再開し、関連する発生問題を解決ように対策を当局に提案する。

2. 評議会メンバーは、割り当てられた業務を良く徹底に実施する。事故処理に参加する全てのその他組織・個人は会長又は事故処理の主担当者の指示及び決定に従わねばならない。

11 条. ハノイ市の DOT の責任

都市鉄道交通事故発生に関する連絡が入った時、ハノイ市の DOT は、情報分析、原因確定及び違反処理を目的に、当局の依頼により事故の調査・処理・監査に携わり、情報収集を行う人をタイムリーに派遣する。

12 条. 都市鉄道路線が運転する各レベル人民委員会の責任

都市鉄道交通事故が発生した場合、事故発生地の各レベルの人民委員は、警察署、都市鉄道事業者と協力して、被害者を救助し、国家、事業者及び被害者の資産を守らなければならない。出身不明、親戚のない、又は親戚があるが埋葬する事ができない死亡者の場合、事故発生地の人民委員会が埋葬する責任を有する。

3 章. 都市鉄道交通事故処理の手順

13 条. 被害者の救急処置及び事故現場の保護の実施

1. 被害者応急処置の実施

運転士又は安全補助係員が区間での被害者に応急処置を迅速に行い、駅における運転に携わる係員が駅での被害者に応急処置を直ぐ行い、被害者の資産を預かり、保護する人を指定すること。

2. 事故現場保護の実施

事故が区間で発生した場合、運転士、安全保護係員が、事故が駅の範囲で発生した場合、駅における運転に携わる係員が、現行規程により、現場保護を行うこと。

14 条 : 都市鉄道交通事故が発生した際の通報の手順

2. 運転士又は安全補助係員は、直ちに運転指令員に通報しなければならない。
3. 運転指令員は、近隣駅、HMC の各部門及び会社幹部へ通報しなければならない。

4. HMC は、直ちに以下の機関・組織に報告しなければならない。
 - a) 事故現場からの最寄りの警察機関
 - b) 事故現場からの最寄りの人民委員会
 - c) ハノイ市の DOT
 - d) 関係機関
5. ハノイ市の DOT は、極めて深刻な都市鉄道事故が発生した場合、MOT、HPC に直ちに報告しなければならない。

15条：通報の措置：

都市鉄道事故の発生時、本規程の14条に挙げられている者は、早めに行える全ての措置を考えて、通話手段を通して、又は直接に会って事故を通報する。

16条：通報の内容：

1. 事故発生時の初期通報は以下の内容を含み、タイムリー、正確なものとするべき。
 - a) 事故の発生場所（km、駅間、郡、区、県など）
 - b) 事故の発生時刻
 - c) 死傷者数
 - d) 現地概況、事故発生車両、影響を受けた施設の被害概況
 - e) 通報者から提供された事故に関する他の重要な情報
2. 本条第1項の規定に基づく初期通報とは別に、運転指令員は、本規程の付録1に定められる様式に従い事故報告書を作成しなければならない、機能機関から要求された時事故の初期書類とともに事故報告書を送付しなければならない。

17条：事故通報の処理：

事故発生情報を得受けた、又は通報への協力・サポートを要求された全ての組織・個人は、要求された通り実施するようにして、（可能な場合は）要求した者に知らせるとともに、発生した事故が自分の責任範囲以内であれば、定められた業務、措置を直ちに実施展開しなければならない。もし、その事故が自分の解決範囲・責任以外の場合、その事故を責任のある組織・個人に通報し、責任のある組織・個人から要求を受けた時緊密に協力・サポートする責任を有する。

18条：事故の初期な書類の作成：

1. 事故の書類は、権限のある警察署が作成する。警察署の人が現場へまだ赴かない場合は、運転士又は安全補助係員が被害者を応急したり事故を通報しながら初期の書類を作成しなければならない。

駅における運転に携わる係員によって作成される初期の記録は、その都市鉄道路線の運転指令員に渡される。

2. 事故の初期書類：

- a) 事故記録書（内容は、本規程の別添の付録 2 の様式 1 に従う。）
- b) 証言記録は本規程の付録 2 の様式 2 に従い、又は被害者の報告による。（もし、被害者が話せたり、書くことが可能ならば。）
- c) 関連する都市鉄道スタッフの報告
- d) 被害者・財産の引渡記録書、及び関係書類

3. 事故の初期書類は 3 セット用意し、以下の関係機関に送付する。

- a) 1 セットは、事故発生後 12 時間以内に、事故発生地の区・県レベルの警察署へ送付する。
- b) 1 セットは、都市鉄道規制機関であるハノイ市の DOT へ送付する。
- c) 1 セットは、HMC の関連する部門へ送付する。

19条：死亡者発生時の影響の処理、交通復旧

都市鉄道事故による**死亡者が発生したとき**、HMC は、犠牲者を見守ったり保護したりするとともに警察及び地方政府と協力して犠牲者の埋葬手続きを実施する責任を有する。

20条：救助を要求する場合の交通復旧

- 1. 都市鉄道事故・輸送障害、又はその他非常事件が発生して、列車を停止させるが現場にいる者が引き続き列車走行のために安全確保をできるように解決できない場合、HMC は救援を要求しなければならない。必要な場合は事故・災害防止、輸送障害復旧の指導委員会やハノイ市の消防警察官等のハノイ市の機能機関が携わる必要がある。
- 2. HMC の総裁は、救援実施及び都市鉄道における交通復旧を詳細に定めるものとする。

3 章：都市鉄道交通事故・輸送障害の分析、報告制度、統計

21 条：都市鉄道交通事故・輸送障害の分析：

1. 都市鉄道交通事故・輸送障害は、原因の分析及び対策研究をし、またその対策を実施しなければなりません。現在の法律に基づいて、都市鉄道交通事故・輸送障害の分析をしなければなりません。
2. ハノイ鉄道一人有限会社の総裁は、都市鉄道交通事故・輸送障害の分析、事故・輸送障害への対策研究、及びその実施を指導する責任を有する。
3. HPC は、必要に応じて都市鉄道交通事故・輸送障害の分析評議会の設立を決定する。この評議会は、HMC の代表者、ハノイ市の DOT の代表者、関係がある機関単位の代表者及び都市鉄道交通運輸安全の専門家を含む。

22 条：都市鉄道事故・輸送障害の統計・報告：

1. 都市鉄道の分野における分析の基礎、原因の結論、安全状況の収集を目的として、また、都市鉄道交通安全秩序保障活動を各レベルの幹部に参謀する目的のために、全ての都市鉄道事故・故障は、書類を作成しなければならない。
2. HMC は、都市鉄道事故・輸送障害に関する書類の保存、統計・報告、状況収集を実施する責任を有する。
3. 定期的に毎月、四半期毎、6ヶ月毎、9ヶ月毎、年度に HMC は、規定により都市鉄道事故・輸送障害の状況を集めて、ハノイ市の DOT へ報告する。ハノイ市の DOT は、取り纏めて地域における都市鉄道事故・輸送障害の状況報告を分析して HPC、MOT 及び関連機関へ報告する。

4 章：施行条文

27 条：施行効力

本規程は、○年○月○日から効力が発する。

28 条：実施

1. ハノイ鉄道一人有限会社は、直属ユニット、都市鉄道交通運輸活動に携わる各組織・個人に対して本規程を普遍するとともに、その施行を案内す責任を有する。
2. ハノイ市の DOT は、主担当として関連機関と協力して本規程実施を査察・検査することに HPC を補佐する。

付録

(ハノイ市における都市鉄道の事故・輸送障害解決に関する共通規程の別添である)

付録 1

(都市鉄道交通事故報告書)

1. 本報告書の名称、職位、所属：
2. ○年○月○日の○○時：○○分に事件が発生した。
3. 事故・輸送障害発生時の気象状況：
4. 事故・輸送障害発生場所：
5. 列車番号、動力車番号、列車の組成、積載量
6. 運転士、安全補助係員、運転指令係員、駅における運転に携わる係員等の関係者の名称と役職。
7. 事故・輸送障害の状況及び原因の概要：
8. 実施した措置：
9. 物的損害の初期評価：
10. 人的損害：
 - a) 被害者の氏名、年齢、性別、職業、住所、身分証明書番号（又はパスポートの番号）番号等。
 - b) 被害者の乗車券番号又は IC カード、出発駅、到着駅、対象の車両番号
 - c) 被害者の負傷の状況
 - d) 被害者の所持荷物
 - e) 被害者の親族
 - f) 責任者の解決方法
 - g) 被害者のご遺体を看る者の氏名と役職
11. 責任を負う者に関する初期結論
12. 報告書の年月日。作成する責任を負う者及び関与者の報告。

付録 2

様式 2：事故の記録書

1. 事故名：
2. 事故が発生した時刻と場所（km、駅間、郡、区、市）
3. 記録の作成開始時刻
4. 事故現場へ行って、現場を調査し結果を記録した参加者（氏名、職種、部署を明記する）。
5. 概要（列車番号、動力車番号、車両本数、関係者の名称、天候、計画、運行指令又は入換に関する作業、事故発生時の状況、現場図面）
6. 証拠物件、動力車の装置、車両、道路、転轍機、他の機器などの傷跡、測定データ、移動）
7. 人間に関する傷跡、移動に関する傷跡等
8. 損害に係る予備的統計結果（機関車、客車、道路、焼け跡、死傷者数など）

損害の初期統計：（動力車、車両、橋、道、転轍機、交通渋滞時間、遅刻列車数、壊れて貨物を続いて輸送できなくなる列車編成数（訳注：それで、輸送している貨物を他の列車に移動する）、壊れて続いて使用できなくなる列車編成数、死亡者数、死傷者数等。9.初期結論（原因と責任）

本記録は、年月日、〇時〇分に作成し終わり、参加者から聴取し、正確だと認識、全員署名した。

様式 2 宣言記録

今日、年 月 日の〇時：〇分、〇〇で（場所）宣言した際の出席者（氏名、職種）は…（宣言者の年齢、出身地、身分証明書番号（又はパスポート番号）、戸籍、現住所、職業、部署、役職を書く）。

証言の内容：

この証言は、〇〇様から聴取して、正しいと認識し署名する。

COMPREHENSIVE ALTERNATIVE OF LINE 2A TRANSFER

Contents of the report include

1. Outline of Line 2A Project
2. Approach to implementing Line 2A transfer
3. Outline of Line 2A transferring contents; Civil works
4. Master Plan of Line 2A transfer
5. Policy of Line 2A transfer
6. Organization alternative for receiving Line 2A
7. Action Plan
8. Proposal

I. OUTLINE OF LINE 2A PROJECT

1. General information of Line 2A

The project was approved by Decision 3136/QĐ-BGTVT dated Oct 15, 2008, the main features:

- (1) Route: The starting of Cat Linh (connected to Line 3), the end of the New Ha Dong bus station, total length of 13.05km. 12 stations on the route; platforms length: 80m. Land acquired permanently: 49.57ha.
- (2) Main technical standards: GB 50157-2003
Code of practice for design; track gauge 1,435mm, the maximum speed 80km/h, average (minimum) speed 35km/h.
- (3) Project: level 1
- (4) Axle load: 14t
- (5) Maximum frequency: 2min
- (6) Maximum transport capacity: 28,500 pass/ hour/ direction
- (7) Depot: 19.63ha
- (8) Total investment cost: 552mil. USD

2. Implementation progress

According to RPMU of VNRA, the cumulative progress to Apr, 2013 main items as follows:

Civil works:

No.	Main items	Accomplishment (%)
1	Bored pile	72.70
2	Pillar body	56.91
3	Pillar head	54.87
4	Piles to improve soft soil of 5.6ha in Depot	100

Procurement, supply of equipment: EPC contractor is conducting the bidding procedures for procurement of train sets in China.

The training of human resources is the decision unit recruitment/enrollment

3. Plan (Line 2A project implementation)

The overall plan was updated on March, 2013 as follows:

No.	Item	start	completion
1	Civil works	2011/08/01	2014/11/30
1.1	Station construction	2013/02/01	2014/11/30
1.2	Construction of pillars and girder erection	2011/08/01	2014/07/20
1.3	Depot construction	2012/09/01	2014/11/30
2	Manufacture of girders	2013/02/01	2014/01/31
3	Track works	2014/03/01	2014/09/30
4	Completing the construction, equipment installation	2013/03/31	2014/11/30
5	Manufacture of rolling stocks	2013/03/01	2014/11/30
6	Training and technology transfer	2013/06/01	2014/12/14
7	Combination running test for the entire line	2014/12/16	2015/02/28
8	Unloading commissioning	2015/03/01	2015/05/30
9	Completion of Line 2A project	2015/05/31	

II. APPROACH TO IMPLEMENTING LINE 2A TRANSFER

4. The objective of the Line 2A transfer

The Line 2A transfer meets objective requirements and subjective requirements.

-Objective requirement: HPC manages unitarily the urban railway of Hanoi city, and simultaneously mobilize institutional resources to organize, manage, operate and support operation; in order to enhance the feasibility and efficient operation.

-Subjective requirement: Railway Law, the directions of the central government agencies

The objective of the transfer is in harmony meet the above requirements; synchronize planning and implementation process for the Line 2A project program, the plan involved Hanoi (TA project), ensuring the transfer of the overall project was completed Line 2A from MOT to HPC, building and

hosting databases to help verify proper responsibilities of stakeholders before and after the transferring.

5. Approach to transfer

The transferring/receiving Line 2A is large extent and complicated. There is no experience in Vietnam. Receiving agency - Hanoi City is in the process of capacity building (for the operating company and the relevant agencies) in order to ensure promptly enough management capacity, safe and efficient operation of Line 2A. Therefore, the approach to implement transfer of Line 2A is proposed as follows:

- Fully identifying scale, content, schedule and requirements for transfer.
- Analyzing the object/requirement for transfer: Transfer of ownership/ responsibility and technology transfer.
- Combining the process of capacity building for operating company (and the relevant agencies of Hanoi) and the receiving Line 2A; simultaneously implementing.
- Actively cooperating with VNRA/RPMU in order to propose appropriate mechanisms applied.

The steps include:

No.	Main items
I	Transfer policy
II	Preparation works assignment
1	Planning, organization for overall transfer
2	Mechanism, Policies applicable to transfer
3	Component plans for implementation of transfer
III	Implementation of transfer

III. Outline of Line 2A transferring contents; Civil works

6. Line 2A transferring contents

At the orientation of transferring characteristics of the project and construction works, transferring contents are defined as follows:

No.	Contents	Notes
1	Personnel	Includes profile, labor contracts, the necessary qualifications/licenses, training results; career path
2	Civil works	Including land, landmark, safety corridor, the scope of protection, monitoring network, etc.

3	Equipment	Rolling stock, equipment, signal communication system, electrical system, etc. (including design, completion documents, spare parts for replacement, etc.)
4	Assets	Financial responsibility and the right to use and exploitation.
5	Technologies	Including Operating procedures, maintenance procedures, maintenance manuals, monitoring processes, and technology transfer.
6	Management systems	Management system for materials documents, information, human resources, safety, quality, finance, etc.
7	Agreements	Agreement in the project implementation process between the investor and the third party.
8	Contracts	Contracts that occurred during the implementation of the project
9	Responsibilities and obligations	The responsibilities and obligations of the investor incurred after the project implementation process with 3rd party and among contractors, suppliers, consultants, etc. with investors.
10	Mechanism, Policies (to apply)	
11	Others	

7. Line 2A transferring contents – the case of civil works

Depending on the size, characteristics, organizational plan and implement the project, the related content delivery needs of a building will be different; below lists the typical contents can be applied to service 2A:

- (1) Construction works
- (2) The survey documents (all of kinds)
- (3) The design tasks (basic design, technical design and construction design)
- (4) Framework of Standards
- (5) Basic design (and design adjustments and supplements)
- (6) Feasibility Study
- (7) Environmental impact assessment
- (8) Environmental management plan

- (9) Quality planning
- (10) EPC contract documents, the subcontract documents
- (11) Technical design (and design adjustments and supplements)
- (12) Construction design
- (13) The invitation documents for bidding (if any)
- (14) The bidding documents (if any)
- (15) The contract documents (if any)
- (16) The monitoring/ records documents
- (17) Quality management documents in the construction stage
- (18) Record documents of experiments and testing
- (19) The completion drawings
- (20) Uncompleted work items and related documents
- (21) The settlement documents
- (22) Maintenance plan
- (23) Maintenance manual
- (24) The warranty conditions
- (25) The conditions for technology transfer
- (26) Monitoring plan (operational stage works)
- (27) Environmental plan (operational stage works)
- (28) Fire protection plan (operational stage works)
- (29) Rescue of incidents plan (operational stage works)
- (30) Monitoring network, monitoring device (operational stage works)
- (31) Monitoring manual (operational stage works)
- (32) Reserve supply (operational stage works)
- (33) The relevant insurance contracts (before and after completion of construction)
- (34) Equipment and tools for operating/ maintenance
- (35) Outsourcing contract for maintenance (if any)
- (36) Safety certification for strength of construction
- (37) Safety certificates of fire and explosion prevention, environments
- (38) The scope of protection of
- (39) Construction boundary
- (40) The landmarks system
- (41) The relevant agreement
- (42) Legal documents related

IV. MASTER PLAN OF LINE 2A TRANSFER

8. Purpose of development of the Master plan of Line 2A transfer:

- (1) Review the overall conditions of the Line 2A transfer
- (2) It is a tool for discussing Line 2A transfer between MOT, HPC and the relevant competent agencies.
- (3) It is a basis for developing component plans.
- (4) Orientation to TA Project implementation, including implementation, the related research.
- (5) It is a basis for coordinating activities between the Line 2A implementation plan and TA implementation process.
- (6) It is a basis for mobilizing the necessary resources for Line 2A transfer.

9. Table of Contents of master plan of Line 2A transfer

For the purpose of the master plan as presented above, the list of contents of the plan is proposed as follows:

- Summary
- Definitions
 1. Overview
 2. Approach for Line 2A transfer
 3. Implementation methods of Line 2A transfer
 4. Comprehensive plan for implementation of transfer
 5. Component plans
 6. Adjustment between TA project and progress of Line 2A
 7. Organizing of implementation
 8. Coordinating mechanism between MOT/VNRA and HPC/MRB
 9. Plan of necessary resources
 10. Guarantee measures
- Attached documents
- Reference documents

10. Table contents of transferring plan for Line 2A civil works

According to the proposed plan transfer of the master plan, the transferring plan for civil works will be developed on the basis of contents as follows:

- I. Introduction
 1. Background
 2. Definition of terms
 3. Outline of the construction (Line 2A)
- II. Basis of transfer
 4. Objective of the civil works transfer

5. Related regulations
6. Implementation organization, results and progress of the Line 2A
7. Outline of the comprehensive plan for transfer
- III. Approach to the implementation of transfer
 8. Transfer principles
 9. Transfer items, contents and requirements of each item
 10. Detailed list of transfer items, documents, requirements
 11. Issues to be clarified
 12. Analysis of transfer items
- IV. Transferring plan
 13. Transfer of structural/architectural works
 14. Transfer of the land, the scope of protection, the land use right
 15. Transfer of operation/maintenance technology
 16. Transfer of responsibilities and obligations
 17. A mechanism for receiving the uncompleted works
 18. The role and responsibilities of departments under the HPC
- V. Necessary resources for the transfer
- VI. Specific mechanism to be applied
- VII. Transfer implementation schedule
 19. Analysis of milestones
 20. Detail schedule for each stage
 21. Explanation of schedule
 22. Transfer schedule management
- VIII. Guaranty measures
 23. Related items and works
 24. Interface management in transferring
 25. Measures to ensure schedule
 26. Measures against quality assurance
 27. Measures to ensure safety
 28. Risk management methods
 29. Coordination mechanisms
- IX. The completion of transfer and the management after transfer
 30. The process for transferring
 31. Process for Completion of transfer
 32. Management of received civil works after transfer
 33. Demarcation of responsibilities after transfer
 34. Mechanism to resolve matters arising
- X. Implementing organization
 35. Update on transferring implementation organization of MOT
 36. Comprehensive transferring implementation organization of HPC

37. Transferring implementation organization of MRB

38. Coordination between stakeholders

- Attached documents
- Reference documents

V. POLICY OF LINE 2A TRANSFER

The policy for transfer of Line 2A will establish the basic principles for orienting concerned parties to implement the transfer, including:

- 1) Planning of transfer;
- 2) Mobilizing resources for transfer
- 3) Organizing the implementation of transfer
- 4) Coordinating schemes
- 5) Studying on applying mechanism
- 6) Dealing with matters arising
- 7) Defining transferring roadmap

Analyzing the content of Policy for transfer

No.	Contents	Signification
1	Line 2A transfer is a process, from the surveying, collecting information, planning, preparing, and studying mechanisms/policies applicable to the organizing, the implementing and the finalizing of the transfer of Line 2A from MOT to HPC.	Determining the basic steps of transfer
2	Line 2A transfer consists of the transfer of all assets; workers and mechanisms and policies applicable to workers; plans, processes, procedures and operation and maintenance technology of Line 2A; documents, possession rights raised up in the performance of Line 2A investment construction project; and the institution of responsibilities and obligations between MOT, HPC and the third party (As applicable) upon the completion of Line 2A transfer from MOT to HPC.	Determining the scope of transfer
3	MOT and HPC are responsible for immediately starting up Line 2A transfer; relevant ministries and branches are responsible for monitoring and supporting Line 2A transfer.	The urgency of implementation of the transfer; requiring coordination of relevant parties

4	MOT and HPC are responsible for jointly studying mechanisms and policies applicable for Line 2A transfer; submitting to the Government for decision of contents beyond the competence of MOT or HPC.	Basis for studying applicable specific mechanism
5	MOT and HPC are responsible for cooperating for adjustment of plans and activities of Line 2A into relevant common programs, plans of HPC; ensuring the long-term effectiveness of Line 2A transfer, mitigating conflicts which may arise up from Line 2A transfer.	Basis for giving comments to Line 2A
6	Right upon the approval of the Government on Line 2A transfer policy, at the soonest and during the implementation of Line 2A transfer mission, MOT and HPC are responsible for supplying to each other all necessary information and documents for the purpose of preparation and implementation of Line 2A transfer.	Basis for requesting and exchanging of information
7	Line 2A transfer from MOT to HPC is considered completed as Line 2A commissioning performed by MOT and HPC with the support of MOT can initiate the safe and reliable operation upon Line 2A. Concurrently, all responsibilities which may occur upon Line 2A transfer will have been agreed between MOT and HPC. Contents that could not be agreed between MOT and HPC shall be submitted to the Government for consideration and decision.	Basic requirement for finalization of the transfer; Principle of dealing with disagreements

VI. Organization alternative for receiving Line 2A

11. General organization (HPC side)

- (1) Receiver: HPC
- (2) Permanent agency: MRB
- (3) Advising agency: JCC
- (4) Coordinating agency: HPC's departments, City's security, HPC's cabinet, People's committees of related districts (Ha Dong, Dong Da, Thanh Xuan); other concerned organizations
- (5) Directly using and managing body: Hanoi Metro Company

12. Classification and division into stages for implementation of receiving

12.1. Feature of Line 2A transfer

The Line 2A transfer has common and specific features as follows:

12.1.1. Common feature of Line 2A transfer

Transfer of assets and property rights, the right to use (between MOT and HPC).

12.1.2. Specific features of Line 2A transfer

- (1) There are several levels of implementation: One party is MOT, VNRA (and other departments) and RPMU, another party is HPC, MRB (and the relevant Departments) and Hanoi urban railway company (HMC: expected to be established).
- (2) The process of transferring Line 2A is incorporated into technology transfer activities.
- (3) The formation of institutions, capacity building for management and use of assets to be transferred is incorporated into transfer process.
- (4) Recruitment/training of a large number of personnel is incorporated into transfer process.
- (5) The Scale and value of transfer is large.
- (6) The high safety requirements.
- (7) The resources and organization scale to operate are large.

12.2. Classification of transfer, overall implementation method

According to the feature of the transfer task as described above, the transferred content is divided into two main fields:

12.2.1. Transferring/Receiving of technology:

MRB will directly perform management tasks of urban railway as regulator. HMC will directly perform management, operation and maintenance for Hanoi urban railway (including Line 2A). Therefore, MRB is in charge of receiving for this field, HMC is in charge of operation and maintenance.

12.2.2. Transfer of general rights, responsibility for assets, organizations:

This task will classify into each field, and assign each department/agency to perform a task. However, MRB will be the principal unit for implementation. HMC, as operation and maintenance agencies, will be engaged in the specific transfer process.

12.3. Division into stages for implementation

The purpose of division of implementation stages is to meet the objectives of the transfer in accordance with the feature of Line 2A transfer; to meet the overall schedule of transfer as well as comprehensive requirements and adequacy with specific and general from preliminary/principle stage to official stage. In it,

Transferring/Receiving of technology: it means that technical transfer. It

should be carried out early in accordance with the process of Line 2A project implementation and to the completion of the basic investment construction project of Line 2A. Referred to as Stage 1 – Technical transfer

Transfer of general rights, responsibility for assets, organizations: it will be implemented directly by each department and agency. This stage will develop the full necessary documents when each transfer is completed. The completion of this stage (Stage 2 – Transfer at working level) is the important base to implement a procedure of official transfer.

Official transfer (Stage 3 - Official Transfer): The procedure of official transfer will be the base for operational company to perform concrete activities on the object to be transferred. In this case, HMC will carry out organized activities, commissioning, preparing for the official commercial operation. The official transfer will be done through the ceremony between MOT and HPC. It will be carried out after the completion of Stage 1 and 2.

Completion of the transfer (Stage 4 – Finalization of transfer): It is particularly important task to put Line 2A into commencement of commercial operation as public transportation, and the Line 2A transfer is large-scale, more specific. So, it is not possible to apply the principle of "Receiving will be carried out after full implementation of Line 2A overall project has been finished". Receiving in the stage 1, stage 2 just meet the basic requirements, particularly the safety of the operation, and can be accepted as completed. The problems existing will be transferred to Stage 4.

13. The overall plan for the organization to receive Line 2A

13.1. STAGE 1. Technical Transfer:

1. Presided agency

MRB

2. Receiving agencies

MRB, HMC

3. Purpose

To get technical documents and records early, in order to understand the project, access to technology, in collaboration between the implementing organizations of Line 2A with TA project.

4. Method

(1) Updating, exchanging of the plan regularly and timely between HPC/MRB and MOT/VNRA

(2) Planning to exchange the documents on the basis of each party's plan.

(3) To make comments for the plan and the related documents.

5. Execution period

(1) Start: Under implementation of TA project

(2) Finish: After MOT/VNRA accomplished successfully the commissioning and the procedures of internal acceptance, has received the relevant certification (safety, fire protection, environment, etc.) (After about 7 days).

6. Results:

(1) The documents of transferring records

(2) The agreement between VNRA and MRB or between MOT and HPC

(3) The mechanism to apply to the project and/or the transfer

13.2. Stage 2. Transfer at working level

1. Implementation agencies

Department of Finance, Department of Planning and Architecture, Department of Environment & Resources, the relevant District People's Committee, MRB, HMC

2. Invited agency

General affairs office of HPC

3. Purpose

To receive each item; assets, financial obligations, civil works, safety corridors for operation, landmarks, and so on.

4. Principles

The overall handover of the each principal content between competent agencies

5. Method

(1) Consideration on the completed documents

(2) Carry out early, depending on the results of the project implementation

6. Results

(1) The documents for each item transfer, attached documents

(2) The agreement on the problems existing

7. Execution period

(1) Start: When finished with the main contents of each relevant legal documents; scheduled after one month from the completion of construction works

(2) Finish: After MOT/VNRA accomplished successfully the commissioning and the procedures of internal acceptance, has received the relevant certification (safety, fire protection, environment, etc.) (After about 14 days).

13.3. Stage 3. Official Transfer

1. Presided Agency

MOT - HPC

2. Invited agencies

Government Office, Ministry of Finance, Ministry of Planning and Investment

3. Purpose:

Official transfer of Line 2A from MOT to HPC is the basis for MRB, HMC to implement preparatory activities, commissioning in order to put Line 2A into commercial operation.

4. Principles

When the handover of the contents is basically approved, completed (Stage 2 has been completed), the integrated documents of transfer is reported to HPC

5. Method:

(1) The completion of transfer activities at working level, and compiling the integrated document of transfer

(2) The integrated document of transfer describes the process and results of transfer; commitments of each agency, the problems existing

6. Ceremony

Official transfer ceremony – Conclusion of the records of handover

7. Execution period

For seven days after completion of the Stage 2 – transfer at working level

8. The attached documents

(1) The records of handover

(2) The integrated documents of transfer

9. Results

Report to the Prime Minister by attaching the records of handover (between HPC and MOT)

13.4. Stage 4. Finalization of transfer

1. The principal unit for implementation:

MRB

2. Agencies for operation and maintenance

HMC

3. The coordination agencies

(1) Department of Finance, Department of Planning and Investment, Department of Home Affairs, Department of Planning and Architecture, Department of Environment & Resources, Public Security, the relevant District.

(2) General affairs office of HPC

4. Purpose

To finalize the remaining content; unifying plan of measures to resolve existing disagreement.

5. Principles

Exhaustively resolving for the point of complaining, existing problems

6. Method

Organize the activities for each problem, identify the feature of problem and determine the settlement plan; authority decisions; applying mechanism if necessary.

7. Results

- (1) The records of the completion for confirmation of the transferring contents.
- (2) The agreement on plan of measures to resolve existing disagreement
- (3) The consent and approval of the competent authority: Government, Ministry, HPC (depending on the problem).
- (4) The integrated records of the completion of Line 2A transfer between MRB and VNRA

8. Execution period

- (1) Start: After the official transfer
- (2) Finish: 6 months or less from the date of official transfer

VII. Action Plan

To ensure the preparation required for the transfer, in accordance with plan implementation schedule Line 2A project, proposed action plan as a basis for cooperation between the parties as follows:

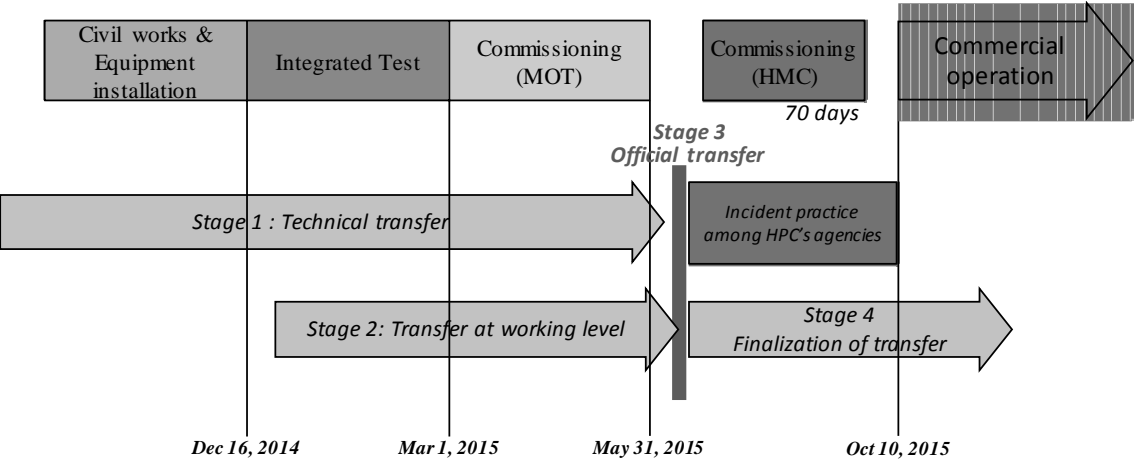
- Comprehensive plan for Line 2A transfer: Sep, 2013
- Component plan: Dec, 2013
- Alternative for transfer implementation: Feb, 2014
- Proposal of mechanisms applicable for the transfer: Apr. 2014

VIII. Proposal

On the basis of content analysis, report on, through the proposed master plan for Line 2A transfer, including:

- (1) Transfer policy
- (2) The process of implementation
- (3) Organization alternative for implementing
- (4) Action Plan

Process chart of Line 2A transfer



BAN QUẢN LÝ ĐƯỜNG SẮT ĐÔ THỊ HÀ NỘI
HANOI METROPOLITAN RAILWAY MANAGEMENT BOARD-MRB

DỰ ÁN TĂNG CƯỜNG NĂNG LỰC CƠ QUAN QUẢN LÝ ĐSĐT
VÀ THÀNH LẬP CÔNG TY VẬN HÀNH BẢO DƯỠNG ĐSĐT HÀ NỘI
TA PROJECT TO STRENGTHEN THE CAPACITY OF REGULATOR AND TO ESTABLISH OPERATION AND
MAINTENANCE COMPANY OF METROPOLITAN RAILWAY LINES IN HANOI CITY

CHUYỂN GIAO DỰ ÁN TUYẾN 2A – LINE 2A PROJECT TRANSFER

KẾ HOẠCH TỔNG THỂ CHUYỂN GIAO DỰ ÁN TUYẾN 2A
MASTER PLAN FOR LINE 2A PROJECT TRANSFER

(Dự thảo – Draft)

MÃ SỐ/CODE: OM-DOC 001 - 001

Hà Nội, 2/2014

BẢNG THEO DÕI / UPDATION SHEET

Tên dự án: Project title:	Tăng cường năng lực Cơ quan quản lý ĐSDT Hà Nội Và Thành lập công ty vận hành bảo dưỡng ĐSDT Hà Nội TA project for Hanoi Metro			
Tên tài liệu: Title of the procedure	KẾ HOẠCH TỔNG THỂ CHUYỂN GIAO TUYẾN 2A MASTER PLAN FOR LINE 2A TRANSFER			
Tham chiếu: Ref. no.	Số/No.:	OM-DOC 001 - 001	Ngày/date:	21/02/2014
Tài liệu liên quan chính / Principal related documents	Số No.:		Ngày/date:	
LẬP VÀ PHÊ DUYỆT – elaborating and approving				
Người soạn 1 Writer 1	Người soạn 2 Writer 2	Kiểm tra 1 Verifier 1	Kiểm tra 2 Verifier 2	Phê duyệt approver
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Tham chiếu: Ref. no.	Số:		Ngày:	
Tài liệu liên quan chính / Principal related documents	Số:		Ngày:	
LẬP VÀ PHÊ DUYỆT				
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MINISTRY OF TRANSPORTATION

UBND THÀNH PHỐ HÀ NỘI
HANOI PEOPLE'S COMMITTEE

CHUYỂN GIAO DỰ ÁN TUYẾN 2A
LINE 2A PROJECT TRANSFER

KẾ HOẠCH TỔNG THỂ CHUYỂN GIAO DỰ ÁN TUYẾN 2A
MASTER PLAN FOR LINE 2A PROJECT TRANSFER

Hà Nội,/2014

Acronyms and Abbreviations

AFC	Automatic Fare Collection systems
ĐSDT	Urban railway
Dự án HTKT	TA project to strengthen the capacity of regulator and to establish operation and maintenance company of metropolitan railway lines in Hanoi city
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
MRB	Hanoi Metropolitan Railway management Board
OCC	Operation Control Center
O&M	Operation and Maintenance
RPMU	Railway Project Management Unit (VNRA)
SCADA	Supervisory Control And Data Acquisition
SIG	Signal Communication system
TA Team	Japanese experts team to implement TA project
VNRA	Vietnam Railway Administration

Short List of Contents

ACRONYMS AND ABBREVIATIONS.....	4
SHORT LIST OF CONTENTS.....	5
DETAILED LIST OF CONTENTS	6
INTRODUCTION.....	9
CHAPTER I. GENERAL DESCRIPTION.....	11
1. POLICY FOR LINE 2A PROJECT TRANSFER	11
2. OBJECTIVES OF THE MASTER PLAN FOR LINE 2A TRANSFER	12
3. METHODOLOGY FOR PLANNING	12
4. SCOPE OF USERS	13
CHAPTER II. CONTENTS OF THE MASTER PLAN FOR LINE 2A PROJECT TRANSFER.....	14
5. GENERAL INTRODUCTION.....	14
6. MASTER APPROACH OF LINE 2A PROJECT TRANSFERRING	17
7. SPECIFIC TRANSFERRING APPROACH.....	21
8. COMPONENT TRANSFER PLANS	31
9. ENSURANCE ALTERNATIVES	40
10. ORGANIZATION ALTERNATIVE FOR LINE 2A PROJECT TRANSFER.....	42
11. ACTION PLAN FOR LINE 2A PROJECT TRANSFER	45
ATTACHMENTS.....	48

DETAILED LIST OF CONTENTS

ACRONYMS AND ABBREVIATIONS.....	4
SHORT LIST OF CONTENTS	5
DETAILED LIST OF CONTENTS	6
INTRODUCTION.....	9
CHAPTER I. GENERAL DESCRIPTION	11
1. POLICY FOR LINE 2A PROJECT TRANSFER	11
2. OBJECTIVES OF THE MASTER PLAN FOR LINE 2A TRANSFER	12
2.1. <i>Objectives of the Master plan for Line 2A transfer</i>	12
2.2. <i>Objective of the Document</i>	12
3. METHODOLOGY FOR PLANNING	12
3.1. <i>Principles of Planning</i>	12
3.2. <i>Planning Requirements</i>	13
3.3. <i>Planning Approach</i>	13
3.3.1. Requirements of planning.....	13
3.3.2. Basic steps to be carried out	13
4. SCOPE OF USERS	13
CHAPTER II. CONTENTS OF THE MASTER PLAN FOR LINE 2A PROJECT TRANSFER.....	14
5. GENERAL INTRODUCTION.....	14
5.1. <i>General introduction of Line 2A project context</i>	14
5.1.1. General information.....	14
5.1.2. Schedule plan.....	14
5.1.3. Outputs of Line 2A project	15
5.2. <i>Legal Basis for Proceeding with the Line 2A project Transfer</i>	15
5.3. <i>Features of Transferring for urban railway projects</i>	15
5.4. <i>Common challenges of the Line 2A project Transfer</i>	16
5.5. <i>Preparations for Transferring</i>	16
5.5.1. Preparations of HPC	16
5.5.2. Preparations of MOT	17
6. MASTER APPROACH OF LINE 2A PROJECT TRANSFERRING	17
6.1. <i>Objectives, Scope and Contents of Line 2A project Transfer</i>	17
6.1.1. Common Goal of Line 2A project Transfer.....	17
6.1.2. Specific Objectives of Line 2A project Transfer	17
6.1.3. Scope of Line 2A project Transfer.....	17
6.1.4. Line 2A project transfer Contents.....	18
6.2. <i>Principles of the Line 2A Project Transfer</i>	18
6.2.1. To mitigate negative impacts on the progress of Line 2A project.....	18
6.2.2. To mitigate differences and losses as may arise after the transfer of Line 2A project	18
6.2.3. To optimize resources to be mobilized for the transferring	19
6.2.4. To mitigate disagreements as may arise in and after the transferring	19
6.2.5. To mitigate differences and losses as may be incurred by the Third Party (For example: labores, passengers)	19
6.2.6. The Transfer is feasible	20
6.3. <i>Bases and Reference Materials</i>	20
6.4. <i>Master approach for the Transferring</i>	20
6.4.1. Features of the Receiver and the Transferor	20
6.4.2. Master Approach for the Transferring	20
6.4.3. Steps to be carried out.....	21
7. SPECIFIC TRANSFERRING APPROACH.....	21
7.1. <i>Meaning and requirements of the transferring approach</i>	21

7.2.	<i>To group the transfer mission into transfer arrays</i>	<i>21</i>
7.3.	<i>To group the transfer mission into stages</i>	<i>21</i>
7.3.1.	Responsibilities in/after the transferring of transfer array.....	22
7.3.2.	Responsibilities before/afeter the Transfer agreement.....	23
7.3.3.	Responsibilities before/afeter the Minutes of Transfer finalization	23
7.4.	<i>To integrate transfer contents and requirements into component transfer plans.....</i>	<i>23</i>
7.4.1.	Human resources Transfer Plan.....	24
7.4.2.	Civil Works Transfer Plan	25
7.4.3.	Equipment Transfer Plan	25
7.4.4.	Operation Transfer Plan.....	26
7.4.5.	Financial Transfer Plan.....	26
7.4.6.	Urban railway Exploitation, Business Transfer Plan	27
7.4.7.	Overall Management of Line 2A project Transfer Plan (Safety-quality, Materials, General Affairs)	27
7.5.	<i>List of Checking Items for Transfer.....</i>	<i>28</i>
7.5.1.	Quality Determination	28
7.5.2.	Safety Determination.....	29
7.5.3.	Line 2A project Commissioning	29
7.5.4.	Acceptance, Certification of Compliance	30
7.5.5.	Warranty after the Ttransfer agreement	30
7.6.	<i>Resources for transferring</i>	<i>31</i>
7.7.	<i>Coordination in organization and planning of both Parties</i>	<i>31</i>
8.	COMPONENT TRANSFER PLANS	31
8.1.	<i>Urban Railway Human resources Transfer</i>	<i>31</i>
8.1.1.	Overview of Line 2A project regarding Human resources	31
8.1.2.	Scope of Human resources transfer	32
8.1.3.	Human resourcest transfer principles.....	32
8.1.4.	Master schedule, milestones of Human resources transfer	32
8.1.5.	Outline of Human resources transfer plan	33
8.2.	<i>Civil works transfer.....</i>	<i>34</i>
8.2.1.	Scope of Civil works transfer	34
8.2.2.	Civil works transfer principles.....	34
8.2.3.	Master Schedule, Milestone of Civil works transfer.....	35
8.2.4.	Outline of Civil Works Transfer Plan	35
8.3.	<i>Equipment Transfer.....</i>	<i>37</i>
8.3.1.	Scope of Equipment Transfer.....	37
8.3.2.	Equipment Transferring Principles	38
8.3.3.	Master Schedule, Milestones for Equipment transfer	38
8.3.4.	Outline of Equipment Transfer Plan	38
8.4.	<i>Operation Transfer</i>	<i>40</i>
8.5.	<i>Financial Transfer</i>	<i>40</i>
8.6.	<i>Urban railway Exploitation, Business Transfer.....</i>	<i>40</i>
8.7.	<i>Overall Management of Line 2A project Transfer (Safety-Quality, Materials, General Affairs)</i>	<i>40</i>
9.	ENSURANCE ALTERNATIVES	40
9.1.	<i>Adjustment between the TA project and the Progress of Line 2A Project.....</i>	<i>40</i>
9.1.1.	Objectives of the Adjustment between the TA project and the Progress of Line 2A Project.....	40
9.1.2.	Principles of Adjustment between the TA project and the Progress of Line 2A Project.....	40
9.1.3.	Methods of Adjustment between the TA project and the Progress of Line 2A Project.....	40
9.2.	<i>Initial proposals, List of Tentative Mechanisms</i>	<i>41</i>
9.2.1.	Initial Proposals	41
9.2.2.	Tentative Mechanisms to be Proposed.....	41
9.3.	<i>Responsibilities of Relevant Organizations.....</i>	<i>41</i>
9.4.	<i>Resources Mobilization Schedule</i>	<i>42</i>
9.4.1.	For MOT side	42
9.4.2.	For HPC side	42
10.	ORGANIZATION ALTERNATIVE FOR LINE 2A PROJECT TRANSFER.....	42
10.1.	<i>Organization Alternative from HPC</i>	<i>42</i>
10.1.1.	General Organization Alternative	42
10.1.2.	Principles of Organization	42
10.1.3.	Procedures of Transferring	44
10.2.	<i>Organization Alternative from HPC</i>	<i>44</i>

10.3.	<i>Coordination Mechanism between MOT/VNRA and HPC/MRB</i>	<i>44</i>
10.3.1.	Coordination between MOT and HPC	44
10.3.2.	Coordination between VNRA and MRB/Hanoi Metro Company.....	44
11.	ACTION PLAN FOR LINE 2A PROJECT TRANSFER	45
11.1.	<i>Master schedule for the Transfer</i>	<i>45</i>
11.2.	<i>Line 2A project Transfer Program.....</i>	<i>46</i>
11.3.	<i>Action Plan.....</i>	<i>46</i>
11.4.	<i>Action Plan management alternative</i>	<i>46</i>
11.5.	<i>Alternative for implementation of the Master plan for transfer</i>	<i>46</i>
11.5.1.	Alternative for Management of Master plan for transfer	46
11.5.2.	Alternative for starting, implementing the Master plan for transferr	46
ATTACHMENTS.....		48

Introduction

On Hanoi urban railway project (construction investment), Line 2A (Cat Linh – Ha dong) was studied in 2004; in this period, Line 2A (Cat Linh – Ha dong) was located on Hanoi city and the province of Ha Tay. Therefore, MOT shall be management agency in accordance with the Law on railways; approval on Project plan (dated Oct. 15, 2008).

On May 29, 2008, The National Assembly issued the resolution to adjust the administrative boundaries of Hanoi city and some concerned provinces, the geographical area of Line 2A became completely in Hanoi city; so, Line 2A would need to be transferred to HPC in accordance with the Law on railways.

On the other hand, Line 2A project is the first urban railway project in Vietnam and will be put into the first operation. Therefore, it is necessary to prepare the conditions to be able to operate Line 2A; including the Human resources training, construction management systems to operate and exploit, preparation of institution and capacity for Line 2A management. These contents, according to the research results of the consulting and the relevant authorities in the country, should be done firstly through the establishment of company to manage, operate, exploit.

So, on Feb. 20, 2010, Deputy Prime Minister Nguyễn Sinh Hùng has directed the agency assigned the project management (MOT or HPC) to establish operating company or to handover to a business functions company at least one year before the end of the construction project phase (Official letter No. 968/VPCP-KTTH); On Mar. 29, 2013, Minister Đinh La Thăng proposed that HPC immediately would establish the company for operation and maintenance of urban railway Cát Linh – Hà Đông in order to meet the requirement of the project schedule for the recruiting organizations and training; agreed to the transfer of project contents (Meeting conclusion notice No. 182/TB-BGTVT); Meeting conclusion notice No. 463/TB-VPCP dated Dec. 30, 2013, Deputy Prime Minister Hoàng Trung Hải has instructed and requested HPC to urgently complete dossier, submit competent authority's reviews, approve the establishment of company in accordance with regulations.

Under the guidance of the Government and the requirements of MOT, HPC urgently complete these procedure to submit the documents of the establishment of urban railway company in Hanoi to Government, and HPC also directed concerned agencies to coordinate with the agencies of MOT in order to prepare recruitment and enrollment for the first training phase of Human resources to be sent to China.

Actually, the mission of Line 2A project transfer has huge scope and complexity; including the transfer of all assets; workers and mechanisms and policies applicable to workers; urban railway system of Line 2A project; plans, procedures and operation and maintenance technology of Line 2A; documents, ownership, possession, assets right, right of use, responsibility raised up in the performance of Line 2A project; the institution of responsibilities and obligations between MOT, HPC and the third party (if any) after completion of Line 2A project transfer.

The mission of transfer should be considered comprehensively based on the transfer policy; sufficient preparation to consider the legal basis, planning of roadmap, determining issues to be managed, the principles and conditions for transfer, the resources and the alternative for transfer implementation. So, from March/2013, MRB has started to draft the Master plan for Line 2A project transfer with support project of Japanese experts. This plan should be coordinated closely between the construction agency under MOT and HPC; finally, the Master plan for Line 2A project transfer should be adopted to MOT and HPC, as the basis for coordinating and directing of the implementation../.

Chapter I. General Description

1. Policy for Line 2A Project Transfer

*Purpose:*The policy for Line 2A project transfer will establish the basic principles for orienting concerned parties to implement the thransfer, including:

- (1) Determining scope, objectives, priorities, important constraints of the transfer;
- (2) Overall planning of the transfer;
- (3) Determining basis for mobilizing transferring resources;
- (4) Developing alternative to implement the transfer;
- (5) Developing coordination scheme;
- (6) Study on application mechanism;
- (7) Handling on arisen issues.
- (8) Determining transferring roadmap

Table 1: CONTENTS OF TRANSFER POLICY

No.	Contents	Meaning
1	The mission of Line 2A project transfer is a process, from the surveying, collecting information, planning, preparing, studying mechanisms/policies applicable to the organizing, the implementing and the finalizing of Line 2A project transfer from MOT to HPC.	Determining the basic steps of transfer
2	The mission of Line 2A project transfer consists of the transfer of all assets; workers and mechanisms and policies applicable to workers; urban railway system of Line 2A project; plans, procedures, operation and maintenance technology of Line 2A; documents, ownership, possession, assets right, right of use, responsibility raised up in the performance of Line 2A project; and the institution of responsibilities and obligations between MOT, HPC and the third party (if any) after the completion of Line 2A project transfer form MOT to HPC.	Determining the scope of transfer
3	MOT and HPC are responsible for immediately starting up Line 2A project transfer; relevant ministries and branches are responsible for monitoring and supporting transfer of Line 2A project.	The urgency of implementation of the transfer; requiring coordination of relevant parties
4	MOT and HPC are responsible for jointly studying mechanisms and policies applicable for Line 2A transfer; submitting to the Government for decision of contents beyond the competence of MOT or HPC.	Basis for studying applicable specific mechanism
5	MOT and HPC are responsible for cooperating for adjustment of plans and activities of Line 2A project into relevant common programs, plans of HPC; ensuring the long-term effectiveness of Line 2A project transfer, mitigating conflicts which may arise from Line 2A project transfer.	Basis for synchronizing with the process of Line 2A project to build institutional urban

No.	Contents	Meaning
		railway system in Hanoi
6	Immediately after the Policy for Line 2A project transfer was approved by the Government, at the soonest and during the implementation of Line 2A project transfer, MOT and HPC are responsible for supplying to each other all necessary informations and documents for the purpose of preparation and implementation of Line 2A project transfer.	Basis for requesting and exchanging of information
7	The mission of Line 2A project transfer from MOT to HPC is considered completed when Line 2A project commissioning performed by MOT, issued the necessary certificates for completing the urban railway construction investment project, and HPC with the support of MOT can commence the safe and reliable operation of Line 2A. Concurrently, all responsibilities which may occur upon Line 2A project transfer will have been agreed between MOT and HPC. Contents that could not be agreed between MOT and HPC shall be submitted to the Government for consideration and decision.	Basic requirement for finalization of the transfer; Principle of dealing with disagreements

2. Objectives of the Master Plan for Line 2A transfer

2.1. Objectives of the Master plan for Line 2A transfer

The Master plan for Line 2A transfer provides an instruction for overview of the agency under MOT and HPC organization, detail plan, implementation of Line 2A project transfer from MOT to HPC; simultaneously it is an important basis for MOT and HPC to assume prime responsibility, coordinate and direct the Line 2A project transfer from MOT to HPC.

2.2. Objective of the Document

- (1) To comprehensively review conditions of the Line 2A.
- (2) To make a tool for discussion between MOT and HPC and between different stakeholders of the Line 2A transfer.
- (3) To make basis for carrying out component plans
- (4) To instruct the implementation of the TA project, including organization for implementation, relevant studies.
- (5) To make basis for coordinating activities and plans under Line 2A project with the progress of the TA project.
- (6) To make basis for mobilizing necessary resources for Line 2A project transfer.

3. Methodology for Planning

3.1. Principles of Planning

- (1) The planning needs to balance the points of view of both MOT as transferring party and HPC as receiving party.
- (2) Transfer object is adequately assessed
- (3) Context of the transfer is adequately assessed
- (4) Proposals in accordance with the capacity of principal stakeholders.

- (5) Differences and risks which may arise from the transfer are soon figured out and mitigated.
- (6) Provision of adequate basis and guidelines for establishing component plans.
- (7) To figure out and follow applicable regulations

3.2. Planning Requirements

- (1) Timely updates of progress and condition of Line 2A project;
- (2) To promote discussions and initiatives between MOT and HPC;
- (3) In accordance with the actual conditions, satisfy feasibility.

3.3. Planning Approach

3.3.1. Requirements of planning

- (1) To request the transfer of project;
- (2) Characteristics of urban railway project;
- (3) The legal system of urban railway in Vietnam should be perfected;
- (4) Institutional urban railway system in Hanoi under construction;
- (5) The characteristics of project.

3.3.2. Basic steps to be carried out

- (1) Comprehensive assessment on the transfer object
- (2) Legal status
- (3) Stakeholders
- (4) Assumptions, reference
- (5) Challenges; recommendation of alternatives for implementation
- (6) Responsibilities of stakeholders
- (7) Applicable strategy
- (8) Organization for implementation
- (9) Steps to be carried out
- (10) Necessary resources for the transfer
- (11) Coordination requirements are presented for each stage
- (12) Milestones
- (13) Principles for schedule adjustment

4. Scope of users

The agencies and organizations under the MOT, HPC are responsible for coordinating, implementing this plan, contractors, consultants and other units related to Line 2A project which are responsible for complying with the requirements and objectives of this Plan.

This document is subject to review, comparing the importance of the ministries and government offices in the evaluation process, advising the government on Line 2A project transferring tasks.

Chapter II. Contents of the Master Plan for Line 2A Project Transfer

5. General Introduction

5.1. Geneneral introduction of Line 2A project context

5.1.1. General information

Line 2A project was approved following Decision 3136/QĐ-BGTVT dated 15/10/2008, with main features as following:

- (1) Line: First departure is from Cat Linh (connected with Line 3), ending at new Ha Dong bus station, total length: 13.05km, 12 stations on the line, platform length: 80m, permanent land acquired: 49.57ha.
- (2) Main technical standards: Design standards GB 50157-2003; track gauge 1435mm, maximum velocity: 80km/h; average velocity (minimum): 35km/h.
- (3) Civil works Level I
- (4) Axle load 14t
- (5) Maximum headway: 2minutes
- (6) Maximum transport capacity: 28,500 passengers/hour/direction
- (7) Depot 19.63ha
- (8) Total investment : 552 mil. USD
- (9) Implementation method: EPC
- (10) Project owner: VNRA
- (11) Governing body: MOT

5.1.2. Schedule plan

Master plan updated in Feb, 2014 are mentioned as following:

No.	Items	Implementation		Duration (month)
		Start	Finish	
1	Official operation commencement	20/12/2015		
2	Commissioning	20/09/2015	19/12/2015	3
3	Inter-system adjustment	07/07/2015	19/09/2015	2.5
4	Equipment installation, decoration	20/09/2014	20/06/2015	6.1
5	Track installation	01/07/2014	20/04/2015	9.8
6	Superstructures of section, stations	14/04/2014	19/08/2015	16.4
7	Transport, launching box beam of main line	01/03/2014	15/02/2015	11.5
8	Beam casting yard construction	20/07/2013	30/11/2013	4.4
9	Handling with soft soil foundation at Depot	01/12/2012	31/12/2014	25.3

No.	Items	Implementation		Duration (month)
		Start	Finish	
10	Dong Da lake viaduct – initial stage	01/03/2010	30/09/2010	7.1
11	Construction at Nhue river	01/08/2012	31/05/2014	22.3
12	Entering/exit approach sections	01/03/2014	31/12/2014	10
13	Construction of stations	11/04/2013	19/08/2015	28.7
14	Construction of substructures at section's viaducts	01/04/2010	21/12/2014	57.5
15	Infrastructure construction at Depot	16/02/2014	30/04/2015	14.6
16	Construction of side-road of National way 6	01/01/2014	30/04/2014	4
17	Rolling stock related works	01/03/2013	30/09/2015	19
18	Training	01/01/2014	08/08/2015	19
18.1	Recruitment	01/01/2014	25/03/2014	3
18.2	Training at China	01/04/2014	20/06/2015	15
18.3	Training at Vietnam	01/06/2015	08/08/2015	14

5.1.3. *Outputs of Line 2A project*

Till early Feb, 2014, Line 2A project has gained the following main results:

1. Land acquisition: on-going, basically satisfy construction schedule;
2. Design: EPC contractor submitted all technical designs and cost estimate
3. Equipment procurements: Contractor is preparing to report to Project owner about bidding results to select manufacturer of rolling stock.
4. Civil works: Completing more than 70% of part till the pier cap, starting the casting of girder, the handling of soft soil foundation in Depot on-going.
5. Training and preparation of O&M personnel: EPC contractor amended the training plan, training cost estimate and submitted to Project owner since Jan 22, 2014

5.2. *Legal Basis for Proceeding with the Line 2A project Transfer*

The legal basis: The direction and opinions of the Government, the Ministry, HPC and the implementation results of the subordinate units related to Line 2A project transfer or the relevant contents of Line 2A project transfer.

List of the legal basis is presented in *Appendix 1*.

5.3. *Features of Transferring for urban railway projects*

The transfer of urban railway project has basic features as follows:

- (1) The scope of transfer is huge;
- (2) Transfer including complicated operation and maintenance technology;
- (3) Transfer including important transfer contents in terms of finance, authorities and responsibilities;
- (4) Requiring on verification of safety and operation capacity, maintenance of project items, the railway system of the project, personnel, management system and other resources;
- (5) Need to be tested more complicated, long time;
- (6) Need to be evaluated about safety by experienced and authorized organizations;
- (7) Difficult to identify on the project performance in comparison with design of the project (Feasibility Study);
- (8) Many parties join in the transfer;
- (9) Many issues, responsibilities may occur after transfer;
- (10) Need to prepare much on financial conditions, management system, social conditions, to be able to operate and maintain after transfer.

5.4. Common challenges of the Line 2A Project Transfer

Line 2A project transfer has following basic challenges:

- (1) Objects of transfer are complicated: long line, big amount, complex scope of transfer including elements of railway system, elements in terms of human being and elements of organizations.
- (2) Construction contractors and the acceptance of any urban railway projects domestically have not been satisfactory, need to gradually receive and adjust foreign experiences in compliance with the real context in Vietnam.
- (3) Personnel capability and administration system have not been developed sufficiently to accept and operate urban railway project.
- (4) Changes on implementation progress of the project.
- (5) Policy and mechanism for coordination between MOT and HPC on the transfer of this project have not been determined comprehensively.

5.5. Preparations for Transferring

5.5.1. Preparations of HPC

** Several initial preparation:*

- (1) TA Project to strengthen the capacity of regulator and to establish operation and maintenance company for urban railway lines in Hanoi city has provided important basis for the receiving of Line 2A:
 - Strengthen the capacity of regulator for urban railway in Hanoi city
 - Establish Hanoi Metro Company
 - Clarify the transfer conditions of Line 2A
- (2) DOHA coordinates in the establishment of Hanoi Metro Company, recruit and train for personnel of Line 2A

** Several outstanding issues:*

- (1) The establishment of Hanoi Metro Company is not paid much attention yet;
- (2) The policy for Line 2A project transfer is not clear yet;
- (3) Alternative to receive Line 2A is not confirmed yet.

5.5.2. *Preparations of MOT*

** Several initial preparation:*

- (1) Ministry's leaders have had meetings to steer the transfer, in terms of personnel.
- (2) VNRA - project owner, RPMU of VNRA still coordinate in transfer works, preparing contents of transfer in terms of Human resources.
- (3) Dept. of Organization, Dept. of Legal Affairs, Dept. of Transport participate into the transfer of Human resources.

** Several outstanding issues:*

- (1) The policy for Line 2A project transfer is not clear yet;
- (2) Alternative of transfer implementation is not approved yet.

6. Master Approach of Line 2A Project Transferring

6.1. Objectives, Scope and Contents of Line 2A project Transfer

The Line 2A project transfer must satisfy the following common and specific objectives:

6.1.1. Common Goal of Line 2A project Transfer

Satisfy requirements in Railway Law no. 35/2005/QH11 dated 14/6/2005 and direction of the Government, Ministries relating to Line 2A transfer from MOT to HPC; developing sufficient basis for HPC to get consensus on the management of Line 2A in terms of operation and maintenance in safety, self-controlling, unified manner, which can also satisfy all initial investment targets of the project as well as common strategies, plans of Hanoi City.

6.1.2. Specific Objectives of Line 2A project Transfer

- Line 2A project must be transferred (in terms of assets, personnel, technology and related contents) timely, to ensure timely commencement of operation, and shall continue to manage and operate effectively.
- Enhance effective implementation responsibilities of related parties before and after the transfer.
- Define sufficient and correct objects of transferring, including responsibilities of concerned parties, ensuring the transfer of the entire Line 2A project which has been constructed, taken over and certified as conformity and settled completely from MOT to HPC, construction works database to help to properly identify responsibilities of related parties before and after the transfer.
- HPC will manage all urban railway lines in Hanoi City, unifying the management institution and mobilizing resources to organize, manage, operate and support the operation, increasing the feasibility and operation effectiveness.
- Minimize damages and inadequates that may arise from the transfer.

6.1.3. Scope of Line 2A project Transfer

Line 2A transfer includes the transfer of the entire assets, laborers, policies applicable for the laborers; urban railway system of Line 2A; plans, procedures and technology to operate and maintain Line 2A; documents, ownership, possession, assets right, right of use, responsibilities formed during the implementation to complete Line 2A construction project, the demarcation of

responsibilities and obligations between MOT, HPC and a third party (if any) after completion of Line 2A transfer from MOT to HPC.

6.1.4. Line 2A project transfer Contents

According to the transfer policy, Line 2A transfer shall be conducted early to satisfy objectives of the transfer, the contents of the transfer are developed based on the scope of transfer, which can be separated into large parts as following:

- (1) Unifying the programs, plans to implement Line 2A project, with programs, plans relating to Hanoi City. Results include Agreements and contents, outputs conducted as agreements.
- (2) Transfer of Line 2A project works: results include As-built dossiers of the works (find reference details in **Appendix 2**);
- (3) Transfer of Technology: management system, procedures, plans, manuals for operation and maintenance of Line 2A;
- (4) Transfer of personnel for urban railway: personnel to be trained, certified, have suitable knowledge and skills for operating Line 2A;
- (5) Transfer of Finance: Dossier of project settlement; criteria, indices, financial calculation.
- (6) Transfer of exploitation, business of Line 2A: documents, data relating to exploitation and business of Line 2A;
- (7) Transfer of rights : land use right, design and design developing right, right to use and update for software, warranty right and insurance right.
- (8) Transfer of responsibilities: responsibilities for transferred personnel, responsibilities for a third party relating to management, operation of Line 2A, responsibilities for loan repayment.

** The contents of the transfer shall be clarified and developed in details in component transfer plans and during the implementation of the transfer.*

6.2. Principles of the Line 2A Project Transfer

6.2.1. To mitigate negative impacts on the progress of Line 2A project

To mitigate negative impacts on the progress of Line 2A project, the following principles should be followed:

- (1) MOT shall be proactively in implementing Line 2A project, HPC shall approach the implementation process of this project, contributing opinions early, on the basis of current regulation and commonly international practices or international standards which are permitted for application.
- (2) The development of component plans, or ganization alternative, implementation methods for Line 2A transfer shall be made, updated with the progress and results of implementation of Line 2A project.

6.2.2. To mitigate differences and losses as may arise after the transfer of Line 2A project

To mitigate any inaquadates or damages may arise after Line 2A transfer from MOT to HPC, the following principles shall be followed:

- (1) Exchange information, discussing and contributing opinions to enhance the unification between MOT and HPC on the progress and plan to implement Line 2A project, with related programs, plans of Hanoi City;

- (2) Conduct inspections, evaluations properly on the implementation progress, commissioning for Line 2A project;
- (3) Prepare sufficient and systematic transfer documents, as a basis for monitoring, testing, preventing and recovering issues;
- (4) Develop and implement plans, methods to compensate on any shortages, handling with problems in the implementation of Line 2A project to ensure general requirements.

6.2.3. *To optimize resources to be mobilized for the transferring*

To optimize resources to be mobilized for the transfer, the following principles shall be followed:

- (1) Evaluate, select options to transfer Line 2A within a overall program to develop the urban railway system in Hanoi city;
- (2) Define policies, prepare sufficient and updated plans for transfer;
- (3) Unify the implementation of Line 2A project with related programs, plans in Hanoi City;
- (4) Allocate related activities of the Line 2A transfer to suit the updated progress plan of Line 2A project;
- (5) Coordinate to develop foundations of personnel, institutional - administrative systems before implementing specific transfer;
- (6) Develop alternatives to organize proper implementation on the basis of task assignment to the appropriate agencies, correct use of objects, optimizing the capability of specialized agencies;
- (7) Mobilize relevant components of urban railway programs, plans in Vietnam;
- (8) Study and apply international standards, practices relating to construction and operation of urban railway.

6.2.4. *To mitigate disagreements as may arise in and after the transferring*

To mitigate disagreements as may arise in and after the transferring, the following principles shall be followed:

- (1) Comply with the transfer policy.
- (2) Conduct early and intensive discussions between relative parties from transfer policy to alternatives, plans, mechanism of Line 2A transfer and challenges that may arise.
- (3) Treat the making of dossiers of progress and defining the current status as target, without any stress on whether they are correct/ incorrect.
- (4) Treat long-term targets, overall effectiveness as criteria for implementation and coordination.
- (5) MOT and HPC to early develop alternative to implement the transfer, including assigning tasks and mobilizing sufficient personnel and resources for the implementation of the transfer.
- (6) Develop effective coordinating mechanism.
- (7) Mobilizing domestic and foreign expert participation by contributing opinions.

6.2.5. *To mitigate differences and losses as may be incurred by the Third Party (For example: labores, passengers)*

This can be satisfied by following below principles:

- (1) Implement requirements as regulation at the same time with focus points (labor law, social insurance law, health insurance law).

- (2) Learn international experience, practices which relate to the responsibility of urban railway transport service provision.
- (3) Consent and develop the mechanism, resources to execute responsibilities relating to the third party.

6.2.6. *The Transfer is feasible*

The feasibility of the transfer plan shall be satisfied by following below principles:

- (1) Defining suitable objectives, requirements with the transfer (on the basis of proper evaluation of current situation, progress, plan to implement Line 2A project, properly evaluate the capability, viewpoints, demand of related parties);
- (2) Considering that the alternative of implementing the transfer as the foundation;
- (3) Implementing overall plans, proper solutions for problems, challenges of the transfer;
- (4) Intensively participating and getting consensus by concerned parties, especially MOT and HPC, on the making of plans. Satisfying the demand of unifying guidance from the Government level to Ministries, and HPC, and the flexibility in the implementation of different levels; complying with legal regulations, which are in accordance with international practices and international standards which are applicable.

6.3. **Bases and Reference Materials**

Bases: including legal related regulation, need to consider, implement and refer to during the implementation of the project, and during the transfer.

Documents to refer to: include standards applied worldwide.

Find details of bases and reference documents in **Appendix 3**.

6.4. **Master approach for the Transferring**

6.4.1. *Features of the Receiver and the Transferor*

- (1) *Receiving agency:* Hanoi City has currently been developing the capacity (for urban railway operator and regulator and other related agencies) to be able to manage and operate Line 2A safely and efficiently.
- (2) *Transferring agency:* MOT is both specialized ministry of transport and managing agency of Line 2A project. Experience and investment capacity to build and put urban railway into operation is in the process of establishment and completion.

6.4.2. *Master Approach for the Transferring*

- (1) Determine sufficient scale, content, progress and transfer requirements.
- (2) Classify objects/ transfer request: Transfer of ownership/ responsibility and technical transfer of civil works, technology, equipment, personnel.
- (3) Combine and integrate the process of building up capacity of the operator (and the relevant agencies of Hanoi) with the receiving of Line 2A.
- (4) MOT and HPC assigns the subordinate units, especially VNRA, MRB, Hanoi Metro Company (when established) to proactively coordinate, study alternatives, plans, appropriate mechanisms and policies before and during the implementation process of Line 2A transfer.

6.4.3. Steps to be carried out

No.	MAIN WORK ITEMS
I	TRANSFERRING GUIDELINE/ POLICY
II	TRANSFERRING PREPARATION
1	OVER ALL TRANSFER PLAN AND IMPLEMENTATION.
2	DETAIL PLAN OF TRANSFER IMPLEMENTATION
3	MECHANISMS AND POLICIES APPLIED TO TRANSFER (able to submit, approve many items, many times)
III	TRANSFERRING IMPLEMENTATION

7. Specific Transferring Approach

7.1. *Meaning and requirements of the transferring approach*

The transferring approach of Line 2A provides orientation of component transfer plan to meet the best purpose of the transfer as shown below:

- (1.) Fully assess the scope, contents of transfer or related to the transfer process, the matters that may arise after the transfer.
- (2.) Verify the quality, responsibility for quality (Project implementation).
- (3.) Determine the required adjustment/ harmony between the two parties (MOT and HPC) during the transfer implementation.
- (4.) Complete condition for transfer stages.
- (5.) Effective utilization of resources for transfer; promote efficiency of Line 2A project.

Accordingly, contents of transfer need to be analyzed, categorized and solutions for appropriate implementation:

7.2. *To group the transfer mission into transfer arrays*

To groupe the transfer mission into transfer array needs to mobilize capable professionals and experts in each appropriate field; ensuring thorough implementation, working full transfer. The transfer arrays, including:

- (1) Human resources
- (2) Civil works
- (3) Equipment
- (4) Operation
- (5) Finace
- (6) Exploitation, business of urban railway
- (7) Overall management (safety – quality, materials, general affair)

Each transfer array will be divided into smaller transfer arrays to facilitate the implementation.

7.3. *To group the transfer mission into stages*

As transfer volume is huge, the transfer aspects will be different implementation schedule, there will be sometimes that work are conducted at the same time. Therefore, it is necessary to

divide into stages to ensure early implementation of transferring, well prepared for official transfer agreement, building up the basis for timely putting Line 2A into operation promptly after completion of construction, acceptance, and commissioning. Accordingly, transferring activities are divided into three main stages, Stage 1: Conducting transfer according to the arrays; Stage 2: Preparing overall transfer agreement; and Stage 3: Completing transfer.

7.3.1. Responsibilities in/after the transferring of transfer array

Exchange of information, opinion during project implementation process (related transfer array), including thoroughly awareness of the project implementation process, gathering all comments and assessments of the Project's concerned stakeholders.

Performing transfer array is a temporary transfer form. Both parties (the agencies assigned by MOT and HPC to be in charge of related array) sign the Minutes of transfer completion, confirming the operation of transfer array within the framework of Line 2A project implementation which has been done, related necessary documents for project implementation already transferred to HPC, the outstanding issues and actions need to be completed by MOT in a specific time, the mechanism to determine the responsibilities for the pending and arising problems.

The Minutes of transfer completion may be prepared after MOT finishes the procedure of acceptance with the contractors in charge of related transfer array.

- Time for signing the Minutes of transfer completion:

HPC is responsible for organizing, mobilizing manpower and resources necessary to carry out the transfer activities related to the transfer array, including the receipt of project documents and information, contribution of comments on the process of implementation, acceptance of the results of the project related to the transfer array. Contribution comments are executed on the basis of Vietnam regulations, applicable international standards and international common practice, satisfying the defined targets.

MOT is responsible for managing the project implementation, organizing, mobilizing manpower and resources necessary to implement transfer activities related to transfer array (providing timely HPC of project documents, results of the project implementation, project implementation program and plan, receiving opinions of HPC, organizing the meeting to clarify and define the way to handle the given requests).

- After the time for signing the Minutes of transfer completion:

HPC is responsible for keeping the received documents, and participating in the preservation of assets, vehicles, equipment, works on the site; preparing conditions for ready management and operation of the transferred arrays immediately after reaching the transfer agreement.

MOT is responsible for organizing and preserving the assets, vehicles, equipment, construction on the site; ready for conducting transfer procedure for HPC.

Transfer procedure shall be carried out by officially signing to the Minutes of transfer array completion made before signing the transfer agreement.

After the completion of the transfer procedure, HPC is responsible for managing transferred contents, including assets, vehicles, equipment, construction on the site; MOT is responsible for the role of Project management agency, the Employer of project implementation and the other agreements indicated in the Minutes of transfer array completion.

7.3.2. Responsibilities before/after the Transfer agreement

The time for execution of the Transfer agreement: Completing basically the contents and requirements of the transfer (including the transfer procedure of all transfer arrays), only some less important contents are unfinished and/or several issues is not yet to be clarified/agreed; the Transfer agreement shall be signed by the representatives of MOT and HPC, the Minutes of transfer array completion is considered a part of the Transfer agreement.

After completion of the Transfer agreement:

- HPC is responsible for management and operation of all transferred contents including, assets, vehicles, equipment, construction on the site, human resources being transferred; and takes other responsibilities stated in the Transfer Agreement.

- MOT is responsible for the role of Project management agency, the Employer of project implementation dealing with matters and/or implementing unfinished contents within the defined period and undertaking other responsibilities stated in the Transfer agreement.

7.3.3. Responsibilities before/after the Minutes of Transfer finalization

Transfer finalization: Issues and/or outstandings specified in the Transfer agreement are settled, implementing and unifying responsibility mechanism. The representatives of the both parties sign the Minutes of Transfer finalization.

** For each transfer array, it is possible to divide into various stages depending on the characteristics of each transfer arrays:*

+ *For Construction and Equipments:*

- (1.) Design stage; bidding invitation (if any);
- (2.) Construction stage
- (3.) Acceptance and commissioning stage
- (4.) Completion stage (preparation of facility completion documents)
- (5.) Warranty period
- (6.) After the warranty period

+ *Human resources*

- (1.) Recruitment stage
- (2.) Training stage
- (3.) Rehearsal stage
- (4.) After the transfer stage

** Specific detail responsibility agreement shall be developed in the component transfer plan.*

7.4. To integrate transfer contents and requirements into component transfer plans

Transfer activity is based on the preparation of component transfer plan. The required contents of such component plan have a relationship with implementation of Line 2A project and operation of Line 2A in future. Therefore, there will be the same requirements among the component transfer plans, but in various levels. It is necessary to unify planning and implementation coordination when performance is carried out.

From the Master plan for transfer, component transfer plans shall be developed, including:

- (1) Human resources transfer plan

- (2) Civil works transfer plan
- (3) Equipment transfer plan
- (4) Operation transfer plan
- (5) Financial transfer plan
- (6) Urban railway exploitation, business transfer plan
- (7) General management transfer plan (safety – quality, materials, general affair)

Table 2: Analysis of the scope of transfer

Transfer plan	Pers o nnel	Organ i zation	Techno logy, Manag e ment	Fin a nce	Safety , Qua lity	Commi s sioning	Materials , spares	Respo n sibility	Implem entatio n mecha nism
Human Resources	C1	C2	C1	C3	C3	C2	C3	C1	C1
Civil works	C3	C3	C1	C2	C1	C2	C3	C2	C3
Equip ment	C2	C3	C1	C2	C1	C1	C3	C2	C3
Operatio n	C2	C2	C1	C3	C3	C1		C1	C2
Finance	C3	C3	C2	C1	C3	C2	C2	C1	C2
Urban railway exploitation, business	C3	C3	C1	C2	C3	C2	C3	C3	C3
General management (safety - quality, materials general affair)	C2	C2	C1	C3	C2	C2	C2	C3	C3

Note: C3, C2, C1 indicates increasing level of the importance.

Following are descriptions of the relations between component plans and characteristics to be considered in transfer:

7.4.1. Human resources Transfer Plan

- (1) Personnel: Related to job position, capacity, social responsibilities (wages, social insurance, job guarantee, work safety, etc.), training for Line 2A.
- (2) Organization: Organization model for site operation unit, implementation of different activities;

- (3) Technology and management: Technological transfer for Human resources; management system, procedure, manuals, databases, facilities for general human resources management.
- (4) Finance: Costs of training, management, staff before and after transfer.
- (5) Safety, quality: quality of staff training.
- (6) Commissioning: Human resources plays major role in commissioning.
- (7) Material, spare parts: Vehicles, equipment, conditions prepared for human resource management.
- (8) Responsibility: Urban railway human resource transfer related remarkably to responsibilities for the employees before and after transfer.
- (9) Implementation mechanism: the mechanism for transferring urban railway human resource, including mechanisms apply to employees is very important, on one hand, it ensures smoothness of the project implementation and transfer, on the other hand, ensures efficient use of labor, promotes operational efficiency of the company in the operation phase.

7.4.2. *Civil Works Transfer Plan*

- (1) Personnel: Capacity of operation and management personnel.
- (2) Qualified personnel (number, knowledge, skills) to plan, organize, manage, and carry out operation and management of civil works of Line 2A.
- (3) Organization: Organizational model for operation and maintenance of civil works of Line 2A.
- (4) Technology and management: management system, procedures, manuals, databases, material facilities, civil work operation and maintenance plan.
- (5) Finance: Investment and construction costs, civil work operation and maintenance costs; durable period of civil works.
- (6) Safety and quality: civil work records; plans, operation and maintenance alternatives to ensure safety.
- (7) Commissioning: Commissioning of Line 2A satisfies design requirements and safety in the aspect of civil works.
- (8) Material and spare parts: Including materials, and spare parts, vehicles and equipment are prepared for civil work maintenance.
- (9) Responsibilities: Civil work transfer, basically based on results to be obtained. Management and operation responsibilities of civil work will be transferred, including right of using and operating the spaces of urban railway civil works. Responsibilities related to the quality of civil works will be further defined in the operation process based on applicable standards and regulations.
- (10) Implementation mechanism: Several mechanisms need to be studied, applied to promote the transfer and build up the basis for determining responsibility after transfer.

7.4.3. *Equipment Transfer Plan*

- (1) Personnel: Qualified personnel (number, knowledge, skills) to plan, organize, manage, and carry out equipment operation and maintenance of Line 2A (including urban railway systems, station facility and equipment and other equipment invested in Line 2A project).
- (2) Organization: Organizational model for operation and maintenance of equipment.
- (3) Technology and management: management systems, procedures, manuals, databases, facilities, (various) equipment operation and maintenance plan.

- (4) Finance: Investment and purchasing costs, equipment operation and maintenance costs, durable period of equipment.
- (5) Safety and quality: Equipment records; plans, operation alternatives, maintenance to ensure safety.
- (6) Commissioning: Commissioning of Line 2A satisfies design requirements and safety in the aspect of equipment.
- (7) Material and spare parts: Including materials, and spare parts, vehicles and equipment are prepared for equipment maintenance.
- (8) Responsibilities: equipment transfer, basically based on results to be obtained. Responsibilities related to the quality of equipment will be further defined in the operation process based on applicable standards and regulations. The records of handing-over equipment are an important content of equipment handover.
- (9) Implementation mechanism: Several mechanisms need to be studied, applied to promote the transfer and build up the basis for determining responsibility after transfer, creating the basis for equipment operation management.

7.4.4. Operation Transfer Plan

- (1) Personnel: Qualified personnel (number, knowledge, skills) to plan, organize, manage, and carry out safe operation of Line 2A.
- (2) Organization: Organizational model for personnel to ensure safe operation and self-control.
- (3) Technology and management: management system, procedures, manuals, databases, facilities, operation plan of Line 2A, safety plan and other related documents to ensure reliable and safe operation.
- (4) Finance: Financial plan in operation.
- (5) Safety and quality: Procedures, manuals, operation plans to ensure safety and quality
- (6) Commissioning: Determining the capacity and suitability of project implementation results in general; training results, organization models, management processes in particular; plans, results, commissioning records.
- (7) Material and spare parts: Including materials, and spare parts, vehicles and equipment are prepared for operation.
- (8) Responsibilities: Operation transfer is the most important and complex content of transfer. It relates to other transfer items, including civil works, equipment and human resource. Determination of responsibilities is based on the identification and uniform of standards to be applied; method for preparation of documents, plans, control process, based on controlling and minimizing risks. The handover basically follows the principles of "existing status handover", specific responsibility shall be determined depending on situations on the basis of prepared transfer documents and relevant regulations.
- (9) Implementation mechanism: Regulations on urban railway operation in Vietnam are currently not sufficient. Therefore, it is necessary to propose some implementation mechanisms to meet transfer requirements and initial operation preparation.

7.4.5. Financial Transfer Plan

- (1) Personnel: Qualified personnel (number, knowledge, skills) to plan, organize, manage financial activities of Line 2A.
- (2) Organization: Organizational model for management of costs, revenues, accounting profession for line operation;

- (3) Technology and management: management systems, procedures, manuals, databases, facilities, financial plan and accounting profession for Line 2A.
- (4) Finance: Cost of project implementation, project operation costs (of the operation and maintenance of buildings, equipment, personnel costs, sales costs, management costs and other costs).
- (5) Safety and quality: costs for safety and quality assurance.
- (6) Commissioning: Commissioning costs.
- (7) Materials and spare parts: cost of materials, spare parts, vehicles and reserved equipment.
- (8) Responsibilities: Determination of financial responsibility is an important content of transfer including accuracy of the financial evaluation, basis for determining responsibility after transfer.
- (9) Implementation mechanism: Financial transfer shall include financial responsibilities for project implementation costs and responsibilities for personnel before and after the transfer and other financial responsibilities. Currently, financial policy applies to the on-going urban railway project is being completed, therefore, for the transfer, several financing mechanisms will need to be clarified to facilitate the transfer process also as the launch process of Line 2A by the Company.

7.4.6. Urban railway Exploitation, Business Transfer Plan

- (1) Personnel: Qualified Personnel (number, knowledge, skills) to plan, organize, manage, and carry out operation and maintenance of Line 2A.
- (2) Organization: Organization model for urban railway business operation of Line 2A (station, on train, in office, including types of urban railway business operation).
- (3) Technology and management: management systems, procedures, manuals, databases, facilities, exploitation and business plan.
- (4) Finance: costs for operation preparation; financial plan for business plans.
- (5) Safety and quality: procedures, databases, safety and quality guarantee plan in operation of Line 2A.
- (6) Commissioning: Plan and preparation (related to exploitation and business activities of Line 2A) for commissioning of Line 2A.
- (7) Material and spare parts: Including materials, and spare parts, vehicles and equipment are prepared for business operation of Line 2A.
- (8) Responsibilities: responsibilities arisen in the preparation stage for operating Line 2A.
- (9) Implementation mechanism: Related to the preparation activities, business prior to the official transfer of Line 2A and urban railway business, the type of condition, several implementation mechanisms may need to be studied to ensure overall benefits of the Line 2A project.

7.4.7. Overall Management of Line 2A project Transfer Plan (Safety-quality, Materials, General Affairs)

- (1) Personnel: qualified personnel to manage and carry out activities to ensure safety and quality regarding management of material and general affairs for Line 2A.
- (2) Organization: Organization model for management and execution of safety, materials and general affairs for Line 2A.
- (3) Technology and management: management system, procedures, manuals, databases, facilities, plan of management and execution of safety, materials and general affairs for Line 2A.

- (4) Finance: Costs for preparing and satisfying requirements of management and execution of safety, materials and general affairs for Line 2A.
- (5) Safety and quality: procedures, manuals, database, safety and quality assurance plan in general; safety and quality assurance in material and administrative activities.
- (6) Commissioning: Plan and preparation (regarding safety, materials and general affairs) for commissioning of Line 2A.
- (7) Material and spare parts: preparation of materials and spare parts for safety management, general affair management for operation of Line 2A in the initial stage.
- (8) Responsibilities: Basically, handover shall be applied in principle of existing status handover; the parties shall unify safety requirements/standards in commissioning and operation as a basis to coordinate activities of commissioning, acceptance and determination of responsibility after transfer.
- (9) Implementation mechanism: some mechanisms may need to be studied and applied to promote transfer of safety, materials and general affair; prepare conditions for operation and determine responsibility after transfer (regarding safety, materials and general affairs of Line 2A).

7.5. List of Checking Items for Transfer

Line 2A project transfer is mainly conducted based on consideration and transfer of project documents which are gathered systematically and comprehensively, reflecting the project implementation process (including conditions for implementation of the project, instructions of authority level, the coordination with the stakeholders) to meet the requirements of a urban railway project and regulations on quality management, cost management, safety management, environmental management, liability management, human resource management (project implementation); preparation for exploitation of projects, including the processes, operation and maintenance plan, human resources, safety and business (for project operation).

The list of checking items includes overall items, activities and requirements of the transfer objects analyzed, evaluated and classified appropriately as the basis for the development of the transfer plan; the list of checking items will be verified and certified among the concerned parties as an important part of the transfer.

The list of checking items is the overall components transfer plan and the detailed checking items is prepared in the component transfer plan, including checking contents, methods and requirements.

Following are general basic requirements:

7.5.1. Quality Determination

Verification of quality in transfer activities is to provide database for the following purposes:

- (1.) Promptly repair damage; appropriate solution for detection of the noncompliance.
- (2.) Operation of the project.
- (3.) Identify the responsibilities of the parties before/after transfer.

Verification of quality in compliance with Vietnam regulations, applicable standards and common international practice, is carried out by clarifying and uniforming standards and requirements for quality management, plans and implementation steps.

Discuss on steps, the requirements in urban railway project management will be carried out during transfer of Line 2A project implementation in order to obtain early understanding and consensus on the implementation of the project, well prepared for checking for official transfer procedure.

The verification of the quality, transfer of quality projects are integrated into the transfer component plans.

7.5.2. Safety Determination

“Safety requirement” is the most important issue of “Quality” requirement. To ensure safety of the project in the commissioning phase is a particularly important requirement. Therefore, the parties will have to consider in close collaboration, especially safety work.

Safety verification shall be on the basis of safety guarantee for the systems, including consideration of the safety of each sub-system, works, work items, facilities, equipment, etc. Consideration methods, safety assessment for the system will be based on the regulations of Vietnam, international practices, including standards EN 50126.

Safety verification result is a basis for preparation and implementation of operation and maintenance plan and planning and operating activities applied to Line 2A.

The stakeholders can hire qualified consultants to support the safety verification.

Safety verification and transfer of Line 2A project shall be done through the component transfer plans combined and connected in safety transfer plan (as described in the safety, materials, general affair transfer plan).

The contents of safety transfer will be built comprehensively on the safety and quality transfer plan and will be planned and implemented plans in other component plans at the same time.

7.5.3. Line 2A project Commissioning

Entire line commissioning is the most important stage in implementation of Line 2A Project, including provision of initial results:

- (1.) All items of the project, the related technical documents;
- (2.) Operation and maintenance documents
- (3.) Trained human resources
- (4.) Defined organizational model
- (5.) Commissioning plan and the operation plan, initial operation stage
- (6.) Facilities, equipment, materials, fuel, spare parts for commissioning and initial operation stage.

Commissioning results provide information and important database, including:

- (1.) Compliance with design: compatibility of the design task.
- (2.) Suitability of construction compared to the design;
- (3.) Safety
- (4.) Integrated system and performance.
- (5.) Personal capacity
- (6.) Organizational capacity
- (7.) Compatibility of the application process on operation of Line 2A.
- (8.) Compatibility of the applicable plan on operation of Line 2A.
- (9.) Responsibilities of the parties related to the project implementation
- (10.) Related issues.

Therefore, commissioning stage is both opportunity and an important basis for assessing and making decisions on transfer. Both parties need to agree on the coordination level and manner in commissioning, including the following main contents:

- (1.) Commissioning plan;
- (2.) Monitoring plan, commissioning documentation;
- (3.) Personnel coordination and control method;
- (4.) Involvement of the third party;
- (5.) Method of solving the problem;
- (6.) Method of evaluation and certification, not verifying each item.

The transfer contents of commissioning shall be built on the overall transfer plan; at the same time, shall be planned and implemented specifically in other component plans.

7.5.4. Acceptance, Certification of Compliance

Acceptance and certification of compliance are important activities during the implementation and management of the project; and important basis to certify quality, safety and reliability of the project. As a result, concerned parties should discuss and negotiate on the acceptance and certification of compliance.

HPC needs to receive and update information during the implementation of Line 2A, including the following main documents.

- (1.) Plan of project implementation: including procedures of project implementation, results of implementation, plan of operation progress, alternatives of implementation;
- (2.) Applicable standards (for each project item, each period)
- (3.) Component plans: plans to design/ construct each item, monitoring plans, quality plans, safety plans, etc.
- (4.) Procedures, plans to accept, the method to accept the works.
- (5.) Participation of a third party;
- (6.) Procedures of documents making;
- (7.) Report on issues;
- (8.) Documents of acceptance, certifying the conformity.

On the basis of receiving and approaching early to above information, HPC shall timely provide necessary guidances during the implementation of the project, participating into the acceptance progress, preparation of important basis to be ready for getting consensus on the Transfer agreement.

The transfer contents in terms of acceptance, certification of conformity shall be built on the overall quality transfer plan; at the same time, shall be planned and implemented specifically in other component plans.

7.5.5. Warranty after the Ttransfer agreement

After the Transfer agreement, HPC shall play the role of Project owner of the Project to execute right and work out requirements for contractors under contracts signed with MOT or with subordinate organizations of MOT during the implementation of the project.

MOT is responsible for assisting, participating in evaluation and acceptance for works under the warranty liability of contractors. Any responsibility arisen during the implementation of the project defined even after the agreement shall belong to parties ever taking part in the project in accordance with regulations and related agreements (or contracts).

7.6. Resources for transferring

The transfer shall mobilize a huge amount of human resources and other resources, the basic principles for mobilizing resources are identified as following:

- (1.) Personnel of mobilizing organizations shall be under the management and responsibilities of their respective monitoring organizations; including wages, social costs, servicing costs, other related costs.
- (2.) Any activities following regulations or customs in Vietnam which belong to the project (Construction Investment) shall be taken into account of project implementation costs by MOT.
- (3.) Costs for printing, copy of Project's documents to provide to HPC shall be mobilized, accounted in the project implementation costs by MOT.
- (4.) Costs to hire consultants to check, supervise and evaluate the progress and results of the project implementation following requirements of HPC shall be under HPC's responsibilities (not including activities of above Item 2).

** Plans of resources and allocation of responsibilities for transfer implementation shall be clarified at component transfer plans.*

7.7. Coordination in organization and planning of both Parties

The transfer shall request close coordination between two parties. Pursuant to discussion about objects of transfer and methodology of the transfer, two parties shall develop alternatives to organize, as well as plans to implement the transfer. All alternatives of organization and plans of implementation of two parties shall need to be unified and harmonized to optimize the transferring resources, enhancing the effectiveness of the transfer.

- Alternative of organization: developing counterpart structures between two parties.
- Implementation plan: jointly developing on the basis of implementation plan of Line 2A, to be developed by each part/transfer array, ensuring the feasibility and efficiency (Through the development and implementation of component transfer plans).

8. Component Transfer Plans

8.1. Urban Railway Human resources Transfer

8.1.1. Overview of Line 2A project regarding Human resources

(1) Training demand

Based on Training schedule V13 of the Contractor (Jan. 22, 2014) in the meeting on Feb. 14, 2014 in MOT, number of trainees is 643 staff, including:

- Staff to be trained in China: 194 people, from Apr. 1, 2014 to Jun 20, 2015
- Staff to be trained in Vietnam: 449 people, from Jun 1, 2015 to Aug 8, 2015.

(2) Coordination between VNRA and MRB

On Nov. 14, 2013, VNRA, MRB and Consultants jointed the meeting and unified the organization models:

- Organization model of Hanoi Metro Company's Headquarter (in accordance with the results already submitted to HPC):
- Organization model of Site Operation Units (Line 2A).

8.1.2. *Scope of Human resources transfer*

The scope of Human resources transfer includes transferring of the trained staff, staffing usage and development plan of Line 2A project; Human resources management system; related programs and projects; facilities for Human resources management and development of Line 2A project.

8.1.3. *Human resources transfer principles*

HPC (through the subordinate agencies) shall coordinate with MOT (including subordinate departments) to select, train and evaluate the human resources to be trained and developed in the Line 2A project; supply and mobilize human resource and facilities for implementation of Human resources development for Line 2A.

Organization model of site operation units is compatible with management model of Hanoi Metro Company instructed by HPC, agreed between VNRA and MRB (Minutes of Meeting on Nov. 14, 2013), Human resources training for Line 2A shall be oriented in order to meet the long term effectiveness of the Project.

Simultaneously, both sides shall closely work together to unify the staff recruitment options of the site operation units, ensure that the personnel to be recruited and trained shall be utilized in the long term. The rights of the personnel shall be considered and satisfied properly.

Line 2A recruitment and training mechanism and policy shall be unified for long term benefits of Line 2A project and suitable with the common orientation of HPC on urban railway Human resources development.

Human resources and urban railway Human resources management and development contents received by HPC shall be made and developed to be suitable with urban railway system development strategy and plan, and conditions of HPC.

8.1.4. *Master schedule, milestones of Human resources transfer*

Human resources transfer is considered to be started when the Master plan for Line 2A transfer is approved. Main contents and time-limit are as follows:

No.	Transfer contents	Purpose	Requirement	Time-limit
1	Human resources training plan	Make overall Human resources plan for Line 2A. As the basis for coordination between MOT and HPC	Training plan is approved; documents are updated.	Suitable with the overall schedule of Line 2A project
2	Organization model of the site operation unit	Integrate Line 2A project with Hanoi urban railway system program; As an important basis for Human resources training plan of Line 2A	Match with general organization model of Hanoi Metro Company	Already agree with the model; coordinate with setting up training plan.
3	Labor usage mechanism and policies	Consist with urban railway labour usage and development policies before and after transfer process	Clarify requirements after transfer	Before recruiting staff for the Project

No.	Transfer contents	Purpose	Requirement	Time-limit
4	The results of training, evaluation of Human resources	The basis for using of Human resources who have been trained, and developing Line 2A operation Human resources plan in next stage.	Staff certified by MOT to complete training program; certified accordingly.	Sign the Minutes of completion of Human resources transfer.
5	Information, and agreement with training agencies	The basis for HPC to continue reviewing and coordinating in the next stage.	Satisfy the benefits of Line 2A project.	Sign the Minutes of completion of Human resources transfer.
6	The program, curriculum, training materials	One of the bases to confirm the capacity of the trained personnel. Continue using for Human resources development process of the next stage.		Right after MOT (VNRA) is available.
7	Agencies for training and developing urban railway Human resources	Continue serving for training and developing Human resources for Hanoi urban railway system	Provide the existing condition with operation documents and alternative.	Sign the Minutes of completion of Human resources transfer.
8	Staffing plan of Line 2A	Long-term Human resources development for Line 2A	Human resources evaluation and plan of Line 2A	Before overall Human resources transfer of Line 2A.
9	Overall Human resources transfer – Minutes of completion of Human resources transfer	Complete the above transfer procedures.	Basically complete transfer of the contents. Certify responsibilities and accountability mechanisms after transfer.	At least one week Before official transfer of Line 2A.

8.1.5. *Outline of Human resources transfer plan*

(I) **OUTLINE**

- (1) General introduction on Line 2A Project regarding urban railway Human resources
- (2) Human resources plan of Line 2A
- (3) Definitions and terms
- (4) Purpose of Human resources transfer
- (5) Scope of Human resources transfer

- (6) Related regulation
(General regulations necessary to refer in urban railway Human resources transfer)
 - (7) Basic requirements of the Human resources transfer
 - (8) Preparation of HPC, role of the TA Project
 - (9) Major issues, priorities of MOT - HPC
 - (10) Legal basis for transfer
 - (11) Issues to be settled
- (II) TRANSFER PLAN FOR HUMAN RESOURCES**
- (1) Check List for Human resources transfer
(Items of Human resources transfer; related documents to be considered and agreed in the transferring)
 - (2) Approach
 - 1) *Transfer contents*
 - i. Recruitment/enrollment stage
 - ii. China training stage
 - iii. Vietnam training stage
 - iv. Commissioning stage
 - v. Overall transfer
 - 2) *Requirements – Coordination mechanism*
 - i. Quality assurance
 - ii. Safety assurance
 - iii. Responsibility determination
 - (3) Schedule, steps to be carried out
 - (4) Alternatives, implementation methods
 - (5) Mechanisms to be studied
 - (6) Adjustment activities between TA project and progress of Line 2A project
 - (7) Necessary resources Plan for transferring
- (III) ORGANIZATION FOR IMPLEMENTATION**
- (1) Organization alternative for implementation
 - (2) Coordination between MOT/VNRA-HPC/MRB

8.2. Civil works transfer

8.2.1. Scope of Civil works transfer

Transfer is carried out for the whole of civil works, railway protection area and railway right of way under the Line 2A project; completion documents of civil works, planning documents; documents of land use right; process, plan and documents of facilities for operation and maintenance of the Line 2A project.

8.2.2. Civil works transfer principles

Overall and existing transfer is carried out for Civil works includes transferring of management, operation and maintenance of civil works.

Sufficient database is determined (regarding Civil works to be transferred) for preparation of operation plan and operation of Line 2A.

It is required to comply with Vietnam's regulation, applicable standard and international practices on management of construction investment project, including quality management, cost management and safety management.

Review and preparation of civil works documents shall be referred, satisfying overall purpose of Line 2A project to be safe urban railway operation and designed capacity achievement.

8.2.3. *Master Schedule, Milestone of Civil works transfer*

Civil works transfer is considered to be started when the Master plan for Line 2A transfer is approved. Following are the milestones of the transfer:

No.	Transfer contents	Purpose	Requirement	Schedule
1	Project preparation stage	General approach to the Project	Legal documents related to the investment guidelines, investment preparation stage, feasibility study, standard framework, basic design, the contract documents etc.	After reaching common consensus on the Master plan for transfer
2	Design stage	Approach to the design documents	Design documents; including planning, contract documents, survey documents, technical design, construction design, and agreements etc.	Provision of documents according to schedule. Depending on type of documents and packages
3	Construction and acceptance stage	Work items completion Records	Plans, inspection methods, quality control of construction works, completion drawings, etc.	Compliance with the schedule of package and work items.
4	Works completion stage	Receipt of total materials of the project's civil works	Commissioning plan; Commissioning documents; certificates of quality compliance, safety certification system etc.	When documents are available.

8.2.4. *Outline of Civil works transfer Plan*

(I) **OUTLINE**

- (1) Overview of Line 2A project related to construction
- (2) Schedule of Line 2A project
- (3) Definitions and terms
- (4) Purpose of Civil works transfer
 - To meet the policy and purpose of Line 2A transfer.
 - To provide HPC/the concerned department with the database to make timely maintenance and repair plan for the works of Line 2A before and during operation; minimize risks and increase operation effectiveness.

- To provide basis for inspection, analysis and determining responsibility for the quality of works, incidents and accidents during operation and maintenance of Line 2A by HPC (the concerned departments).
 - To provide basis for improvement of work items under the Line 2A project or new construction of Line 2A or connection with Line 2A.
 - To transfer responsibility, management right, ownership, and operation of civil works, land planning, the extent of protection area and right of way of urban railway for Line 2A.
- (5) Scope of Civil work transfer
- (6) Related regulations

The Employer, *defined in the Law on Construction*, shall be responsible for receiving the maintenance processes designed by contractors and contractor to provide equipment installed in the works; appraise and approve such processes before the acceptance for putting the work into use, unless otherwise provided by law (Decree No. 114/2010).

(Article 80, Law on Construction 16, 2003)

[1]The acceptance of construction works must comply with the following regulations:

- a/ Regulations on management of construction works quality;
- b/ Acceptance shall be done for each work, each part, each stage and each work item and acceptance for putting works into use. Particularly for hidden parts of works, the acceptance and construction completion drawings must be made before the next jobs are carried out;
- c/ Acceptance shall be done only when the accepting objects are completed and the dossiers as prescribed are completed;
- d/ Works shall be put into acceptance for use only when they satisfy the design requirements, ensure the quality and achieve the prescribed standards.

[2]The construction works transfer must comply with the following regulations:

- a/ Satisfying the requirements on principles, contents and order for handing over completed construction works for being put into use according to the provisions of construction legislation;
- b/ Ensuring safety in the exploitation when the works are put into use.

[3]The construction contractors shall have to finish the construction, clear the construction sites, make construction completion drawings and prepare documents for the acceptance and handover of the works.

[4]The construction investors shall have to organize the acceptance and reception of works. Persons taking part in the acceptance and handover of works shall bear personal responsibility for products certified by them during construction and handover of the works.

(Article 81, Law on Construction 16, 2003).

- [1] The construction contractors shall have to make payment dossiers, finalization of work volumes have been already performed. The construction investors shall have to make payment to the contractors according to the acceptance volumes.
- [2] Persons responsible for payment and/or settlement shall be held responsible by law for their jobs and shall have to make compensations for damage incurred due to their late or improper payment and settlement.
- (7) Basic requirements of Civil work transfer
- (8) Preparation of HPC and role of TA Project
- (9) Important issues and priorities of MOT/ HPC
- (10) Legal basic for Civil works transfer
(Instructions of the competent agencies related to Civil works transfer)
- (11) Issues necessary to be clarified

(II) TRANSFER PLAN FOR CIVIL WORKS

- (1) Check List for Civil works transfer
(Items of Civil works transfer; related documents to be considered and agreed in the transferring)
- (2) Approach
 - 1) *Transfer contents*
 - i. Civil works
 - ii. Operation and maintenance technology of Civil works
 - iii. Plan, space, right of use and operation
 - 2) *Requirements – Coordination mechanism*
 - i. Quality assurance
 - ii. Safety assurance
 - iii. Responsibility determination
- (3) Schedule, steps to be carried out
- (4) Alternatives, implementation methods
- (5) Mechanisms to be studied
- (6) Necessary resources Plan for transferring

(III) ORGANIZATION FOR IMPLEMENTATION

- (1) Organization Alternative for Implementation
- (2) Coordination between MoT/VNRA-HPC/MRB

8.3. Equipment Transfer

8.3.1. Scope of Equipment Transfer

Transfer is carried out for all vehicles, equipment, and urban railway systems of Line 2A Project includes documents relating to the design, testing, commissioning, operation, and maintenance, etc; copyrights, warranty right, the right to be updated, right to manufacture, right to be adjusted, related trade privileges, supplies and spare parts, and documents of facilities for operation and maintenance.

8.3.2. *Equipment Transferring Principles*

Overall and existing transfer is carried out for equipment includes transferring of management and operation of the equipment.

Sufficient database is determined (regarding equipment to be transferred) for preparation of operation plan and operation of Line 2A.

It is required to comply with Vietnam's regulation, applicable standard and international practices on management of construction investment project, including quality management, cost management and safety management etc.

Review and preparation of equipment documents shall be referred, satisfying overall purpose of Line 2A project to be safe urban railway operation and designed capacity achievement

8.3.3. *Master Schedule, Milestones for Equipment transfer*

Equipment transfer is considered to be started when the Master plan for Line 2A transfer is approved. Following are the milestones of the transfer:

No.	Transfer contents	Purpose	Requirement	Scheduled
1	Project preparation stage	General approach for the Project	Investment scale, standard framework, basic design.	After reaching common consensus on the Master plan for transfer
2	Design stage	Approach to the design documents	Contract documents, design documents;	Provision of documents based on schedule. Depending on type of documents, packages and equipment items.
3	Manufacturing, instruction and acceptance stage	Equipment documents	Acceptance test plan, acceptance test documents on operation and maintenance, completion drawing etc.	Compliance with the schedule of package and equipment items.
4	Project completion stage	Receive total equipment materials of the Project	Commissioning plan; Commissioning documents; certificates of quality compliance, safety certification system safety etc.	When documents are available.

8.3.4. *Outline of Equipment Transfer Plan*

(I) **OUTLINE**

- (1) Overview of Line 2A project related to equipment

- (2) Schedule of Line 2A project
- (3) Definitions and terms
- (4) Purpose of equipement transfer
 - To meet the policy and purpose of Line 2A transfer.
 - To provide HPC/ the concerned departments with the database to make timely maintenance and repair plan for the equipment of Line 2A before and during operation; minimize risks and increase operation effectiveness.
 - To provide basis for inspection, analysis and determing responsibily for equipment quality, incidents and accidents during operation and maintenance of Line 2A by HPC (the concerned departments).
 - To provide basis for improvement of equipment items under the Line 2A project or new investment in the equipment category of Line 2A or connection with Line 2A.
 - To transfer responsibilities, management right, ownership, operation of equipment; including copyrights, warranty right, right to be updated, right to manufacture, right to be adjusted, related trade privileges, supplies and spare parts.
- (5) Scope of equipement transfer
- (6) Related regulations
- (7) Basic requirements of Equipment transfer
- (8) Preparation of HPC and role of TA Project
- (9) Important issues and priorities of MOT/HPC
- (10) Legal basis for Equipment transfer
(Instructions of the competent agencies related to Equipment transfer)
- (11) Issues necessary to be clarified

(II) PLAN ON EQUIPMENT TRANSFER

- (1) Check List for Equipment transfer
(Items of equipment transfer; related documents to be considered and agreed in the transferring)
- (2) Approach
 - 1) *Transfer contents*
 - iv. Rolling stock
 - v. Signal Telecommunication
 - vi. Track system
 - vii. Power supply
 - viii. Station facility; AFC system

* Operation and maintenance technology, including facilities and equipment for operation and maintenance; spare parts system;
 - 2) *Requirement – coordination mechanism*
 - i. Quality assurance
 - ii. Safety assurance
 - iii. Responsibility determination
- (3) Schedule, steps to be carried out

- (4) Alternatives, implementation methods
- (5) Mechanisms to be studied
- (6) Necessary resources Plan for transferring

(III) ORGANIZATION FOR IMPLEMENTATION

- (1) Organization Alternative for Implementation
- (2) Coordination between MoT/VNRA-HPC/MRB

8.4. Operation Transfer

8.5. Financial Transfer

8.6. Urban railway Exploitation, Business Transfer

8.7. Overall Management of Line 2A project Transfer (Safety-Quality, Materials, General Affairs)

9. Ensurance Alternatives

9.1. Adjustment between the TA project and the Progress of Line 2A Project

9.1.1. Purposes of the Adjustment between the TA project and the Progress of Line 2A Project

- (1) To satisfy conditions on reception capacity of Line 2A;
- (2) To ensure the feasibility and quality of Line 2A transfer;
- (3) To meet long-term effectiveness of Line 2A (after transfer);
- (4) To utilize effectively of transfer resources;
- (5) To adjust objectives, to amend implementation progress reasonably.

9.1.2. Principles of Adjustment between the TA project and the Progress of Line 2A Project

- (1) Results and plan of progress of Line 2A as basis to make plan of transfer progress, plan of progress of developing Hanoi Metro Company's capacity;
- (2) Organization model and management system of Hanoi Metro Company as basis to receive Line 2A, including Line 2A construction implementation plan, transfer plan.
- (3) The reception and operation of Line 2A are initial objective, and is an important basis to evaluate results of TA project implementation.

9.1.3. Methods of Adjustment between the TA project and the Progress of Line 2A Project

(1) Adjustment of TA project

- Adjustment of milestones: Milestone of Company establishment, milestone of capacity development for the Company (satisfying requirements of Line 2A transfer and plan to implement Line 2A project);
- Adjustment of scope of tasks, approaching methods: via early promotion of several contents receiving from Line 2A project;

(2) Adjustment of plan to implement Line 2A project

- Adjust the progress and duration of implementation for several tasks in Line 2A project, to comply with results and milestones of TA project implementation;

- Adjust methods and contents to implement several tasks of Line 2A project, to comply with plan and results of implementing TA project: company organization model, company management system, governmental regulations about urban railway, etc.

9.2. Initial proposals, List of Tentative Mechanisms

9.2.1. Initial Proposals

- (1) MOT/VNRA shall early develop the organization alternative and mobilize personnel for implementing the transfer;
- (2) Hanoi Metro Company are permitted to operate (urban railway is not operated yet) before receiving Line 2A and shall be certified as satisfying conditions for providing urban railway business.

9.2.2. Tentative Mechanisms to be Proposed

- (1) Position and conditions of the Company before operating Line 2A;
- (2) Recruit/enroll, manage personnel by the Company before operating Line 2A;
- (3) Pay salary for personnel working in Line 2A, to satisfy an objective of attracting and encouraging skilful and well-educated personnel in operation and maintenance of urban railway;
- (4) License to drivers, Operation control center dispatchers, information/signaling staff at stations during trial and official operation of Line 2A;
- (5) Clarifying investment cost of Line 2A, defining responsibilities, scope and methods of repayment for Line 2A;
- (6) Conditions for Hanoi metro company to put Line 2A into operation;
- (7) Hire consultants, experts for supporting the transfer;
- (8) Hire consultants, experts for supporting the Line 2A operation at initial stage;
- (9) Invest and develop IT system for Hanoi Metro Company
- (10) Resources to develop quality management system for the company
- (11) Fare policy in initial stage of operating Line 2A
- (12) Method of task assignment for the Company during initial operation of Line 2A

9.3. Responsibilities of Relevant Organizations

- (1) MOT:
 - Chair the Transferring of Line 2A project;
 - Provide advices on conditions of alternatives to put Line 2A into operation;
 - Project management cost, transfer cost are under budget of MOT, VNRA, Dept. of Organization, Dept of Finance, Dept of Planning and Investment, Ministry Office, Administrations, Departments and Insitutions under MOT;
 - Chair the handling of arisen problems after transferring, which relate to Line 2A project.
- (2) HPC:
 - Chair the Receiving of Line 2A project.
 - Repayment of government loan for equipment procurement;
 - Organize and mobilize resources to operate Line 2A after receiving.
 - Chair the handling of arisen problems after transferring, which relate to Line 2a project and operation and management of Line 2A after transferring.
- (3) MOF:
 - Consult, evaluate (for the Government) financial scheme applicable for the transfer, Master plan for transfer.

- Evaluate on financial transfer of Line 2A, representing the Government sign re-lending agreement with HPC.
- Chair and manage repayment (loan for Line 2A project) as regulations.
- (4) MPI: Consult and evaluate (for the Government) about related central budget plan, other relevant mechanism.
- (5) Government office: Coordinate with Ministries, HPC, advising the Government for approval, for comments on the transfer contents and financial mechanism.

9.4. Resources Mobilization Schedule

9.4.1. For MOT side

- 1) Personnel: VNRA, Dept of Organization, Ministry Office
- 2) Finance: Line 2A project, Ministry's budget to implement transfer plan
- 3) Facilities: existing facilities, equipment shall be mobilized from relevant organizations.

9.4.2. For HPC side

- 1) Personnel: HPC Office, DOHA, HAPI, DOF, DONRE, DOT and MRB, personnel additionally mobilized for Hanoi Metro Company;
- 2) Finance: TA project, consultants, on-going projects, city's budget to implement transfer plan
- 3) Facilities: existing facilities, equipment shall be mobilized from relevant organizations.

10. ORGANIZATION ALTERNATIVE FOR LINE 2A PROJECT TRANSFER

10.1. Organization Alternative from HPC

10.1.1. General Organization Alternative

- (1) Receiving party: HPC
- (2) Standing agency: MRB
- (3) General consultation: JCC
- (4) Coordinated agencies: HAPI, DOHA, DOF, DOT, HAUPA, DONRE, City Public Security, HPC Office; the concerned People's Committee of District (Ha Dong, Dong Da, Thanh Xuan); and relevant authorities.
- (5) Management and operation company: Hanoi Metro Company.

10.1.2. Principles of Organization

- (1) *Master plan for transfer:*
 - Hanoi Metro Company (to be established) shall be the agency to receive directly;
 - MRB is the standing agency to appraise and advise. Some departments shall coordinate to appraise and advise.
- (2) *Component transfer plan, transfer arrays:*
 - Depending on the component transfer plans, transfer arrays, HPC shall assign departments to perform their roles of advisory and appraisal bodies.
 - Directly receiving agency (receiving implementation) shall be responsible for proposing and directly implementing component transfer plans.

- Standing Agency: MRB shall be responsible for coordinating, checking, monitoring, reporting the results and important contents to HPC.
- Appraisal and advising agency shall assign staff to participate in the transfer process; appraisal results of transfer, and advising to HPC on decisions under HPC authority.

Figure 1: Implementation of transfer segment

Establishment of company ▼	
Human resources transfer MRB is direct and standing agency; DOHA advises and appraises	Human resources transfer The Company is direct agency, MRB is standing agency; DOHA advises and appraises
Civil works transfer MRB is direct and standing agency; DONRE and DOF advises and appraises	Civil works transfer The Company is direct agency, MRB is standing agency; DONRE and DOF advise and appraise
Equipment transfer MRB is direct and standing agency; DOF advises and appraises	Equipment transfer The Company is direct agency, MRB is standing agency and DOF advises and appraises
Operation transfer MRB is direct and standing agency	Operation transfer The Company is direct agency; MRB is standing agency, advises and appraises
Urban railway exploitation, business transfer MRB is direct and standing agency	Urban railway exploitation, business transfer The Company is direct agency; MRB is standing agency, advises and appraises
Safety-quality, materials and general affair transfer MRB is direct and standing agency	Safety-quality, materials and general affair transfer The Company is direct agency; MRB is standing agency, advises and appraises
▲ June 2014	

10.1.3. Procedures of Transferring

No.	Transfer sequence	Signed by	Remarks
1	Initial the Minutes of transfer (transfer arrays)	Direct agencies	(MOT position, HPC not yet signs)
2	Transfer procedure (sign the Minutes of transfer)	MOT, HPC	Direct agencies already signs; Standing agency and appraisal agency sign together.
3	Transfer agreement	MOT, HPC	After completion of transfer procedure (of transfer arrays)
4	Minutes of transfer finalization	MOT, HPC	Matters and/or outstanding issues defined in Transfer agreement already solved and implemented or united of responsibility mechanism.

10.2. Organization Alternative from HPC

10.3. Coordination Mechanism between MOT/VNRA and HPC/MRB

10.3.1. Coordination between MOT and HPC

MOT and HPC shall conduct coordination as follows:

- (1) Agreement of the Master plan for transfer.
- (2) Report to the Government on transfer policy
- (3) Coordinate in management and instruction of implement of the Master plan for transfer;
- (4) Instruct to prepare and approval of program of Line 2A Project transfer
- (5) Approve and instruct implementation of the component transfer plans;
- (6) Along the instruct, study and propose mechanisms applied to transfer
- (7) Along the instruct, study proposals of the subordinate units in charge of the mission of transfer implementation.
- (8) Sign the Minutes of transfer completion to confirm completion of each transfer array.
- (9) Sign the Transfer agreement
- (10) Sign the Minutes of transfer finalization

10.3.2. Coordination between VNRA and MRB/Hanoi Metro Company

VNRA and MRB/Hanoi Metro Company shall coordinate as follows:

- (1) Coordinate to implement the Master plan for transfer
- (2) Study and propose implementation mechanisms
- (3) Propose solutions for difficulties.
- (4) Provide solutions and measures of risk management
- (5) Advise integrally programs and plans of implementation for Line 2A project with the related programs and plans of HPC
- (6) Regularly and directly coordinate transfer plans and activities
- (7) Advise solutions to complete transfer procedure

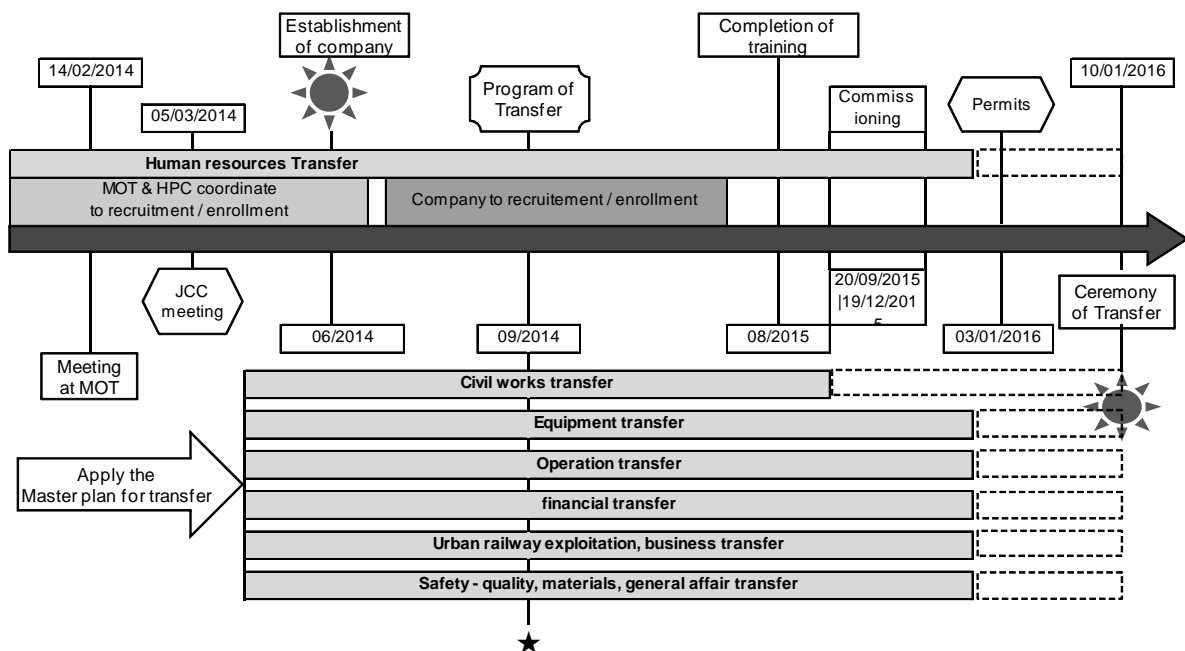
11. ACTION PLAN FOR LINE 2A PROJECT TRANSFER

11.1. Master schedule for the Transfer

Master schedule for the transfer should match the overall plan of Line 2A project. Some of proposed milestones are as following:

- (1) Minutes on the completion of civil works transfer: After 2 weeks since accepting the civil works
- (2) Minutes on completion of transferring personnel, equipment, operation, finance, safety-quality, materials, general affairs: 1 week after commissioning.
- (3) Transfer agreement: after commissioning and receiving certification of conformity in terms of quality, certificate on system safety and other certificates as required, for the investment and construction of urban railway projects; 1 week after the completion of final activities (among activities indicated in this report).
- (4) Minutes on completion of transferring: 6 months after signing the Transfer agreement.

Figure 2 : ROADMAP OF TRANSFER



* Plan of detail schedules shall be prepared for each component transfer plans.

11.2. Line 2A project Transfer Program

To study and prepare sufficiently resources and plan of activities for the Line 2A transfer, it is necessary to develop Proposal/Program on the Line 2A project transfer. Proposed outline of this Program is as following:

- (1) Necessity and meaning of Line 2A project transfer
- (2) Scope and contents of the transfer
- (3) Alternatives for implementation
- (4) Plan of implementation
- (5) Resources of implementation

The Program on Line 2A project transfer should be approved by HPC and MOT (under authorities of each party) as basis for implementation of each party, and basis for coordination.

11.3. Action Plan

- | | | |
|-----|---|---------------------|
| (1) | Master plan for Line 2A project transfer | March/2014 |
| (2) | Plan of personnel transfer | April - June/2014 |
| (3) | Other component transfer plans | May - August/2014 |
| (4) | Program of Line 2A transfer | September/2014 |
| (5) | Proposal of transferring mechanism | June/2014-June/2015 |
| (6) | Pursuing comments of Ministries on the Program of Company establishment | March-April/2014 |
| (7) | Asking for approval of PM | April-May/2014 |
| (8) | HPC to make decision on the establishment of company | June/2014 |
| (9) | Developing Hanoi metro company | June/2014-June/2015 |

11.4. Action Plan management alternative

- (1) Action plan shall be updated, amended based on actual situation, satisfying objectives in transferring of Line 2A;
- (2) Consider and accelerate the milestone on the establishment of the Company;
- (3) Propose the implementation mechanism to ensure progress and objectives, to timely put Line 2A into safe operation.

11.5. Alternative for implementation of the Master plan for transfer

11.5.1. Alternative for Management of Master plan for transfer

- (1) The Master plan for transfer shall need approval of MOT and HPC.
- (2) MOT, HPC to unify in guiding and managing the implementation of the Master plan for transfer.
- (3) VNRA, MRB shall be standing agencies, which are responsible for compiling reports on implementing results, compiling and advising on any updates and adjustment of the plan.
- (4) MOT and HPC to provide guidance on developing and approval for the program of Line 2A project transfer, as basis to mobilize sufficient resources to implement transferring tasks.

11.5.2. Alternative for starting, implementing the Master plan for transferr

- (1) MOT and HPC to early approve for implementation alternatives of component transfer plans, including plan of operation, mobilizing personnel, developing plans on necessary resources, alternatives for implementation coordination.
- (2) The implementation on component transfer plans, transfer aspects shall need to closely follow requirements, orientations in the Master plan for transfer.

- (3) Standing agencies: MRB, VNRA to frequently monitor, compile results and provide timely coordinations between component transfer plans, and between transfer aspects.

ATTACHMENTS

Appendix 1 : List of legal documents	48
Appendix 2 : Completion documents on the civil works.....	49
Appendix 3 : The bases and reference material	50
Appendix 4 : Definitions.....	51
Appendix 5: Details of legal basis for transfer.....	56

Appendix 1 : List of legal documents

- (1) Official letter No. 968/VPCP-KTTH dated Feb. 10, 2010 by Government office: Requirement for establishment of company one year before the end of the construction stage of project (Line 2A);
- (2) Meeting conclusion notice No. 463/TB-VPCP dated Dec. 30, 2013 by Government office regarding “Notice on conclusion of the Deputy PM Hoàng Trung Hải at the meeting on the implementation status of Hanoi urban railway project, Cat Linh – Ha Dong”.
- (3) Meeting conclusion notice No. 182/TB-BGTVT dated Mar. 29, 2013 by MOT regarding “Notice on conclusion of the Minister Dinh La Thang at the meeting on reviewing progress of urban railway project in Hanoi City and Ho Chi Minh City”;
- (4) Meeting conclusion notice No. 274/TB-BGTVT dated May. 07, 2013 by MOT regarding “Notice on conclusion of the Deputy Minister Nguyễn Ngọc Đông at the meeting with the Authority of Hanoi city”.
- (5) Meeting conclusion notice No. 75/TB-VP dated Jul. 24, 2013 by HPC regarding “Notice on conclusion of the Vice chairman of HPC Nguyễn Văn Khôi at the meeting with MOT on land acquisition for Hanoi urban railway construction project, Line 2A Cat Linh – Ha Dong”.
- (6) Meeting conclusion notice No. 256/TB-BGTVT dated Apr. 25, 2013 by MOT regarding “Notice on conclusion of the Deputy Minister Nguyễn Ngọc Đông at the meeting on certification of urban railway system safety assessment
- (7) Decision No. 3136/QĐ-BGTVT dated Oct. 15, 2008 by MOT regarding “the approval of Investment construction project “Urban railway: Cat Linh – Ha Dong Line” – Line 2A”.
- (8) Meeting conclusion notice No. 02/TB-JCC dated Aug.19, 2013 regarding “Notice on conclusion of 2nd JCC”.
- (9) Submission No. 467/CDSVN-VTPC dated Mar. 29, 2013 by VNRA: Regarding the request for appraisal and approval of training plan for urban railway operation and management human resources, urban railway project in Hanoi, Cat Linh - Ha dong.
- (10) Letter No. 3145/BGTVT-TCCB dated Apr. 12 by MOT: Training plan, Line 2A Human resources recruitment organization.
- (11) Official letter No. 3461/VPUB-QHXDGT dated Jul. 10, 2013 by HPC: Reply for the proposal of the agency to recruit and train human resources to be sent for education and training of operation and maintenance for Line 2A
- (12) Official letter No. 7281/BGTVT-CDSVN dated Jul. 22, 2013/7/2013 by VNRA: Resolving coordination problems and to accelerate Line 2A project implementation.
- (13) Letter No. 1891/CDSVN-VTPC dated Oct. 22, 2013 by VNRA: Reply for the letter No. 2189/SNV-QLSN dated Oct. 03, 2013 by DOHA: Comments for Training plan of Line 2A.
- (14) Letter No. 1892/CDSVN-VTPC dated Oct. 22, 2013 by VNRA: Notice on the result of recruitment implementation of Line 2A- phase 1.

Appendix 2 : Completion documents on the civil works

A. Investment preparation documents and construction contract documents

1.	Decision on investment guidelines which is accompanied by the construction investment report (Pre- Feasibility Study report) or decision on approval of investment guidelines.
2.	Decision on approval of construction investment projects or component project of competent authority which is accompanied by construction investment project (Feasibility Study report).
3.	Basic design, Standards framework
4.	Report on environmental impact assessment.
5.	Master plan
6.	Architectural plans
7.	Evaluation documents, participation in the review of the relevant agencies for the evaluation of investment projects and the basis of design build.
8.	Compensation for land acquisition and resettlement buildings.
9.	Documents of organizations, state competent agencies (if any): planning agreement, agreement or acceptance of use/ connection with technical works outside of fence, environmental impact assessment, safety (traffic safety, the safety of surrounding) and other concerned documents.
10.	Decision on grant/ lease of land by the competent authorities, or land leases in the case of not granted.
11.	Construction permit, unless otherwise exemption.
12.	Decision on appointed contractor, the results of approval for selection of the contractor and the contract between the employer and the contractor.
13.	Documents to provide the capability of the contractor as prescribed.
14.	Records and documents involved in the investment preparation stage.

B. Survey documents for civil works, civil works design

1.	Technical alternative of survey, construction survey report..
2.	Records of construction survey results.
3.	Design tasks (each period)
4.	Result of verification, design appraisal; approval decisions of technical design, attached: technical design documents (the list of drawing is attached); technical instruction; results of design verification of professional agency on construction contract (if any).
5.	Design documents of drawing which has been confirmed by the Employer (the list of drawing is attached).
6.	Acceptance records of construction design.
7.	Documents and other records related to the survey period and civil works design.

C. Civil works document and Acceptance test documents on civil works

1.	Variation of design in the construction process and the evaluation documents, approval of competent authority.
2.	Drawings (the list of drawings is attached).
3.	Plan, inspection methods, quality control of civil works.
4.	Certificate of origin, trademarks, conformity of the manufacturer's quality, regulation conformity certification, standard conformity certification (if any) under the provisions of Law on product and goods quality, Law on commercial and other relevant legislative regulations.
5.	Result of monitoring, measuring and testing in the process of construction work.

6.	Acceptance document on civil works, acceptance stage (if any) in construction process.
7.	Result of the test to verify, inspection of the quality for works, bearing capacity test of construction structure (if any).
8.	Equipment profile installed in the works.
9.	Operating procedure, operating works, process of maintenance for works.
10.	Written agreement, approval, certification agencies, state competent agencies (if any) of: a) Migration in the reservoirs, the historical relics, culture survey; b) Fire prevention safety, Fire fighting; c) Environmental safety; d) Labor safety, operation safety system for equipment of works, technological devices; đ) Implementation of construction permit (in the case of construction require permits); e) Connection permits for the infrastructure works and other related works; g) Other documents prescribed by the relevant law.
11.	Works documents to resolve the problem (if any).
12.	Results of acceptance test of works which is put into use by professional agency on construction contract.
13.	Test on completion records / works put into use by the Employer.
14.	Commissioning plan, Commissioning documents.
15.	Certificate of civil works quality compliance.
16.	Existing appendix in need of repair, remedy after putting into use.
17.	Civil works monitoring documents (if any); monitoring manual; monitoring procedure
18.	Documents/ Records/ other relevant materials in the construction stage and acceptance test of civil works.

Appendix 3 : The bases and reference material

- (1) Law on Railway No. 35/2005/QH-11
- (2) Law on Budget No. 01/2002/QH11 dated Dec. 16, 2002;
- (3) Law on Construction No. 16/2003/QH11 dated Nov. 26, 2003;
- (4) Law on Commercial No. 36/2005/QH11 dated Jun. 14, 2005;
- (5) Law on Intellectual property rights No. 50/2005/QH11 dated Nov. 29, 2005; Law on Amending several articles in Law on Intellectual property rights No. 50/2005/QH11;
- (6) Law on Technology transfer No. 80/2006/QH11 dated Nov. 29, 2006;
- (7) Law on Technical standards and regulations No. 68/2006/QH11 dated Jun. 29, 2006;
- (8) Law on Quality of product and goods No. 05/2007/QH12 dated Nov. 21, 2007;
- (9) Law on Amending several articles in Laws relating to basic construction investment No. 38/2009/QH12 dated Jun. 19, 2009 by the National Assembly;
- (10) Law on Public debt management No. 29/2009/QH12 dated Jun. 17, 2009;
- (11) Law on Archives No. 01/2011/QH13 dated Nov. 11, 2011;
- (12) Labour code No. 10/2012/QH13 dated Jun. 18, 2012;
- (13) Law on capital No. 25/2012/QH13 dated Nov. 21, 2012;
- (14) Decree No. 12/2009/NĐ-CP dated Feb. 10, 2009 by the Government regarding Management of construction investment projects;

- (15) Decree no. 83/2009/NĐ-CP dated Oct. 15, 2009 by the Government regarding Amending and supplementing several articles in Decree no. 12/2009/NĐ-CP dated Feb. 12, 2009 by the Government regarding consutrction investment management;
- (16) Decree No. 15/2013/NĐ-CP dated Feb. 06, 2013 by the Government regarding Quality management of construction works;
- (17) Decree No. 114/2010/NĐ-CP dated Dec. 06, 2010 by the Government regaridn Maintenance of construction works;
- (18) Circular No. 03/2011/TT-BXD dated Apr. 06, 2011 by MOC regaridng Guiding on activities of inspection, audition and certification of satisfaction of loading safety, and certification of appropriateness on construction works quality;
- (19) Circular No. 01/2013/TT-BGTVT dated Jan. 08, 2013 by MOT regardin Regulations for railway transport vehicles registration;
- (20) Circular No. 02/2009/TT-BGTVT dated Apr. 03, 2009 by MOT regarding Regulations for management on quality, technical safety and environmental protection for railway transport vehicles;
- (21) Decision No. 61/2007/ QĐ-BGTVT dated Dec. 24, 2007 by MOT regarding Types of railway enterprises require safety certification; and conditions, sequence and procedure for issuing Safety Certification;
- (22) Standard: Acceptance on quality of construction works (TCXDVN 371:2006);
- (23) National Standard No. TCVN 8893-2011: Grading for Railway Lines;
- (24) Basic specifications No. TCCS 01:2010/VNRA on Railway Bridge-Tunnel Maintenance;
- (25) EN 50126 : Railway applications - The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS)
- (26) EN 50128: Railway applications - Communications, signalling and processing systems - Software for railway control and protection systems (March 2001);
- (27) EN 50129: Railway applications - Communications, signalling and processing systems - Safety related electronic systems for signalling (February 2003);
- (28) Report No. 86/BC-ĐSDT dated May 20, 2013 by MRB regarding “Preparation for requesting for acceptance of policy for Line 2A transfer”;

Appendix 4 : Definitions

Unless the context otherwise requires, the following terms whenever used in this Plan have the following meanings:

Standards (Law no. 68, 2006)¹: means regulation on technical characteristics and management requirements used as standard for classifying and appraising products, goods, services, processes, the environment and other objects in socio-economic activities with a view to improving the quality and effectiveness of these objects. A standard shall be published in a written form by an organization for voluntary application.

Technical regulation (Law no. 68, 2006)²: Technical regulation means regulation on the limits of technical characteristics and management requirements which products, goods, services, processes, the environment and other objects in socio-economic activities must comply with in order to ensure safety, hygiene and human health; to protect animals, plants and the environment; to safeguard national interests and security, consumer interests and other essential requirements.

¹ Law on Standards & Technical regulations, 2006.

² Law on Standards & Technical regulations, 2006.

A technical regulation shall be promulgated in a written form by a competent state agency for mandatory application.

*Conformity assessment (Law no. 68, 2006)*³: Conformity assessment means determination as to whether objects of activities in the domain of standard or objects of activities in the domain of technical regulation are conformable with technical characteristics and management requirements in relevant standards or technical regulations. Conformity assessment covers testing, calibration, inspection and certification of standard or technical regulation conformity; announcement of standard or technical regulation conformity; and accreditation of the capacity of testing laboratories, calibration laboratories, conformity certification organizations and inspection organizations.

*Certification of standard conformity (Law no. 68, 2006)*⁴: Certification of standard conformity means certification that objects of activities in the domain of standard conform with relevant standards.

*Announcement of standard conformity (Law no. 68, 2006)*⁵: Announcement of standard conformity means announcement by an organization or individual of the conformity of objects of activities in the domain of standard with relevant standards.

*Announcement of technical regulation conformity (Law no. 68, 2006)*⁶: Announcement of technical regulation conformity means announcement by an organization or individual of the conformity of objects of activities in the domain of technical regulation with relevant technical regulations.

*Planning certificate (Law no. 30, 2009)*⁷: planning certificate is a document granted by a competent agency certifying the Data and information relating to an area or a lot of land according to the approved urban plan.

Planning license (Law no. 30, 2009): planning license is a document granted by a competent agency to an investor for use as a basis for making detailed planning or formulating work construction investment projects.

*Technical specifications (Decree no.15, 2013)*⁸: Technical specification is a set of technical requirements formulated based on the national technical codes and standards applied to works and will be used to guide and stipulate the materials, products, equipment used for works; construction execution, *supervision* and acceptance of construction works.

*As-built drawing (Decree no.15, 2013)*⁹: As-built drawing is a drawing of completed construction parts and works prepared on the basis of the approved construction design drawings with demonstration of actual dimension of the works.

*Construction completion dossier (Decree no.15, 2013)*¹⁰: Construction completion dossier is a set of documents related to investment and construction of works, including investment policy; construction investment projects or economic-technical report of works; construction

³ Law on Standards & Technical regulations, 2006.

⁴ Law on Standards & Technical regulations, 2006.

⁵ Law on Standards & Technical regulations, 2006.

⁶ Law on Standards & Technical regulations, 2006.

⁷ Law on Urban planning no. 30/2009/QH12 dated June 17, 2009.

⁸ Degree no. 15, 2013/ND-CP dated February 6, 2013 by the Government regarding Quality management of construction works;

⁹ Degree no. 15, 2013/ND-CP dated February 6, 2013 by the Government regarding Quality management of construction works;

¹⁰ Degree no. 15, 2013/NĐ-CP dated February 6, 2013 by the Government regarding Quality management of construction works;

survey report; construction design dossier; quality management dossier during the construction process; and other documents which are necessary to be kept after works are put to use.

Acceptance inspection (TCXDVN 371 : 2006)¹¹: is the inspection, consideration and evaluation for results on construction quality after completion, comparing to related designs, standards and technical regulations.

Construction works (Law no. 16, 2003)¹²: *Construction works* mean products created by human labor and with building materials and equipment installed therein, affixed to land, which may include underground and ground components, underwater and on-water-surface components and are constructed according to designs. Construction works include public-utility works, dwelling houses, industrial works, traffic works, irrigations works, energy works and other types of works.

Equipment installed in works (Law no. 16, 2003): *Equipment installed in works* includes work equipment and technological equipment. Work equipment means those installed in construction works according to construction designs. Technological equipment means those included in technological chains installed in construction works according to technological designs.

Construction rules (Law no. 16, 2003)¹³: *Construction rules* mean regulations to be compulsorily applied to construction activities, promulgated by the State management agencies in charge of construction.

Construction standards (Law no. 16, 2003)¹⁴: *Construction standards* mean regulations on technical standards, economic-technical norms, order for performing technical jobs, targets, technical indexes and natural indexes, promulgated or recognized by competent agencies or organizations for application in construction activities. Construction standards include compulsory standards and standards encouraged to be applied.

Construction work incidents (Law no. 16, 2003): *Construction work incidents* mean impairments beyond the permitted safety limits, thus putting the construction work in danger of collapse, having caused the collapse of part of the work or the entire work, or rendering it impossible to use the work according to the design.

Maintenance of a work (Decree no. 114, 2010)¹⁵: Maintenance of a work means a set of jobs performed to assure and keep the normal and safe operation of a work according to its design throughout the process of its operation and use. Maintenance may cover one, some or all of the following jobs: examination, observation, quality inspection, servicing and repair of a work.

Work maintenance process (Degree no. 114, 2010): Work maintenance process means regulations on the order, contents and instructions for performance of work maintenance jobs.

Works maintenance (Degree no. 114, 2010): means activities (monitoring, servicing, repairing small failures, maintaining equipment at works) to be conducted regularly and periodically to maintain works at normal operation status, and mitigating failures of works.

Railway works (Law no. 35, 2005)¹⁶: Railway works mean works constructed in service of railway communications and transport, including railways, bridges, culverts, tunnels,

¹¹TCXDVN 371 : 2006, Acceptance on quality of construction works;

¹² Law on Construction no. 16/2003/QH11.

¹³ Law on Construction no. 16/2003/QH11.

¹⁴ Law on Construction no. 16/2003/QH11.

¹⁵ Degree no. 114/2010/NĐ-CP dated 06/12/2010 by the Government regarding Maintenance of construction works.

¹⁶ Law on railways 35/2005/QH11 dated 14/6/2005.

embankments, retaining walls, stations, water drainage systems, communications and signaling systems, power supply systems and other railway works and support facilities.

Railway activities (Law no. 35, 2005): Railway activities mean activities of organizations and individuals in the domains of railway planning, development investment, business, assurance of railway communications and transport order and safety and other related activities.

Railway infrastructures (Law no. 35, 2005)¹⁷: Railway infrastructures mean railway works, railway work protection areas and railway traffic safety corridor.

Land for railway works (Decision 60/2005/QĐ-BGTVT): includes land to construct railway works, land within the area of railway protection and land within the safety corridor for rail transport (Article 3).

Railway traffic means (Law no. 35, 2005)¹⁸: Railway traffic means include locomotives, cars, self-propelled cars and specialized vehicles on rail tracks.

Product (Law no. 05, 2007)¹⁹: Product means the output of a production or service provision process for a commercial or consumption purpose.

Goods (Law no. 05, 2007)²⁰: Goods means products put on the market or for consumption through exchange, sale or marketing.

Products and goods incapable of causing unsafe (below referred to as group-1 products and goods) (Law no. 05, 2007)²¹: Products and goods incapable of causing unsafe situation (below referred to as group-1 products and goods) mean those products and goods which, under rational conditions of transportation, storage, preservation and use for proper purposes, cause no harms to humans, animals, plants, assets or the environment.

Products and goods capable of causing unsafe situation (below referred to as group-2 products and goods)²²: Products and goods capable of causing unsafe situation (below referred to as group-2 products and goods) mean those products and goods which, under rational conditions of transportation, storage, preservation and use for proper purposes, can latently cause harms to humans, animals, plants, assets or the environment.

Product and goods quality (Law no. 05, 2007)²³: Product and goods quality means the product and goods properties' extent of satisfaction of the requirements under announced applicable standards or relevant technical regulations.

Conformity evaluation organization (Law no. 05, 2007)²⁴: Conformity evaluation organization means an organization which tests, inspects, verifies and certifies the conformity of products, goods, production or service provision processes with announced applicable standards or relevant technical regulations.

Certify (Law no. 05, 2007)²⁵: Certify means to evaluate and attest the conformity of products, production or service provision processes with announced applicable standards (referred to as standard conformity certification) or with technical regulations (referred to as regulation conformity certification).

¹⁷ Law on railways 35/2005/QĐ11 dated 14/6/2005

¹⁸ Law on railways 35/2005/QĐ11 dated 14/6/2005

¹⁹ Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

²⁰ Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

²¹ Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

²² Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

²³ Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

²⁴ Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

²⁵ Law on Product and good quality no. 05/2007/QĐ12 dated 21/11/2007.

State examination of product and goods quality (below referred to as product and goods quality examination) (Law no. 05, 2007)²⁶: State examination of product and goods quality (below referred to as product and goods quality examination) means that a state agency reconsiders and reevaluates the quality of products, goods or production or service provision processes which have been evaluated in terms of quality by conformity evaluation organizations or to which other quality control measures have been applied by production and business organizations or individuals.

Agency in charge of state examination of product quality and goods (below referred to as product and goods quality examination agency) (Law no. 05, 2007)²⁷: Agency in charge of state examination of product quality and goods (below referred to as product and goods quality examination agency) means an agency assigned or decentralized to perform the state control of product and goods quality under a line ministry or a specialized agency of the provincial/municipal People's Committee.

Documents accompanying products or goods (Law no. 05, 2007)²⁸: Documents accompanying products or goods include conformity evaluation results, documents for advertising, introducing properties, utilities or use instructions of products or goods.

²⁶ Law on Product and good quality no. 05/2007/QH12 dated 21//11/2007.

²⁷ Law on Product and good quality no. 05/2007/QH12 dated 21//11/2007.

²⁸ Law on Product and good quality no. 05/2007/QH12 dated 21//11/2007.

Appendix 5: Details of legal basis for transfer

- (1) Decision No. 3136/QĐ-BGTVT dated Oct. 15, 2008 by MOT regarding the approval of Investment construction project “Urban railway: Cat Linh – Ha Dong Line” – Line 2A.
- (2) Official letter No. 968/VPCP-KTTH dated Feb. 10, 2010 by Government office: Requirement for establishment of company at least one year before the end of the construction project phase (Line 2A);
- (3) Meeting conclusion notice No. 303/TB-VPCP dated Aug. 12, 2013 by Government office regarding “Notice on conclusion of the Deputy PM Hoàng Trung Hải at the State Steering Committee for the Transport sector key projects”;
- (4) Meeting conclusion notice No. 463/TB-VPCP dated Dec. 30, 2013 by Government office regarding “Notice on conclusion of the Deputy PM Hoàng Trung Hải at meeting on the implementation status of Hanoi urban railway project, Cat Linh – Ha dong Line.
- (5) Meeting conclusion notice No. 182/TB-BGTVT dated Mar. 29, 2013 by MOT regarding “Notice on conclusion of the Minister Dinh La Thang at the meeting on reviewing progress of urban railway project in Hanoi City and Ho Chi Minh City”;
- (6) Meeting conclusion notice No. 274/TB-BGTVT dated May. 07, 2013 by MOT regarding “Notice on conclusion of the Deputy Minister Nguyễn Ngọc Đông at the meeting with the Authority of Hanoi city”
- (7) Meeting conclusion notice No. 75/TB-VP dated Jul. 24, 2013 by HPC regarding “Notice on conclusion of the Vice chairman of HPC Nguyễn Văn Khôi at the meeting with MOT on land acquisition for Hanoi urban railway construction project, Line 2A Cat Linh – Ha Dong”;
- (8) Meeting conclusion notice No. 02/TB-JCC dated Aug. 19, 2013 regarding “Notice of conclusion of 2nd JCC”

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**HAND-OVER AND TAKE-OVER PLAN
FOR
URBAN RAILWAY LINE 2A CAT LINH – HA DONG**

COMPOSED BY:

1. HANOI METROPOLITAN RAILWAY MANAGEMENT BOARD/ HPC
2. RAILWAY PROJECT MANAGEMENT BOARD / VNRA/MOT

SUPPORTING CONSULTANTS:

JICA TA TEAM

HANOI, AUGUST 2014

No.	Abbreviation	Formal Name
1	HPC	Hanoi people committee
2	MOT	Ministry of transport
3	UR	Urban railway
4	HMC	Hanoi Metro Company
5	MRB	Hanoi Railway Management Board
6	PMUR	Railway Project Management Unit / MOT

TABLE OF CONTENTS

1. Necessity, objectives	4
1.1 Necessity of hand-over and take-over	4
1.2 Objectives of Hand-over, take-over plan.....	4
2. Basis.....	5
3. Objects and Scope of the Hand-over.....	6
4. Stakeholders of Hand-over and Take-over	7
4.1 Hand-over: MOT	7
4.2 Take-over: HPC.....	7
4.3 Other stakeholders.....	8
5. Principles of Hand-over, Take-over	8
6. Contents of Hand-over and Take-over	9
6.1 Hand over and Take over of documents.....	9
6.2 Construction works	9
6.3 Hand over vehicles, equipment.	10
6.4 Hand-over and Take-over of Personnel.....	11
6.5 Financial hand-over, take-over.....	11
7. Funding source	12
8. Organizing the implementation.....	12
8.1 Ministry of Transport	12
8.2 Hanoi People's Committee.....	12
8.3 Responsibilities of two parties in stages.....	13
8.3.1 Project implementing stage	13
8.3.2 Maintenance stage	14
Appendix 1. HAND-OVER AND TAKE-OVER PROGRESS PLAN.....	15
Appendix 2.LIST OF DOCUMENTS	16
Appendix 3. LIST OF CIVIL WORKS	26
Appendix 4. LIST OF VEHICLES AND EQUIPMENT	26
Appendix 5. LIST OF PERSONNEL.....	27

1. Necessity, objectives

1.1 Necessity of hand-over and take-over

Line 2A Cat Linh – Ha Dong shall be the first line to enter operation in Dec, 2015 in Hanoi city in particular and Vietnam in general. The management, operation and maintenance of Line 2A Cat Linh – Ha Dong integrating with other urban railway lines, public transport modes such as bus, taxi, etc is to bring passengers convenience (capital city's people) when using the service. As a result, the synchronous management for operation of urban railway network in the city with other public transport modes is very important and necessary.

Urban railway line 2A Cat Linh – Ha Dong had been studied and started of investment since 2004 in former Ha Tay province area and Hanoi City area, which is under MOT. On May 29, 2008, National Assembly of Vietnam issued Resolution no. 15 adjusting administrative border of Hanoi City. Accordingly, Line 2A was totally inside the area of Hanoi City. According to stipulation in clause 2 of Article 55, Railway Law no. 35/2005/QH11 dated June 27, 2005: “*Urban railway is invested, constructed, managed and operated by provincial people's committees*”, Thus, it is necessary to transfer Line 2A Cat Linh – Ha Dong from MOT to HPC, which is:

a. in compliant with regulations in management, operation of urban railways (complying with Railway Law and instructions of the Government in management, operation of urban railways, and repayment of the project).

b. to ensure the operation after constructing the urban railway system in the city in synchronous and effective manner in accordance with plan approved by Prime Minister.

c. to ensure synchronous and complete construction, and connection infrastructures of Line 2A Cat Linh – Ha Dong with general technical infrastructure in the City, improve the quality, effectiveness of operation and maintenance of technical infrastructure.

1.2 Objectives of Hand-over, take-over plan.

This plan is developed to demarcate authorities, responsibilities of stakeholders during hand-over and take-over process to:

- a. Clarify basis.
- b. Clarify Principles during transferring process.
- c. Clarify specific regulations about Contents, timing of hand-over and take-over

- d. Clarify responsibilities of hand-over and take-over parties during concrete stages.

This is foundation to submit authorities for consideration and approval as basis to implement the hand-over and take-over of Line 2A Cat Linh – Ha Dong as regulations.

2. Basis

Railway Law no. 35/2005/QH11

Construction Law no. 16/2003/QH11

Decree no. 15/2013/NĐ-CP dated 06/02/2013 by the Government about Management of construction quality;

Circular no. 10/2013/TT-BXD dated 25/7/2013 by Ministry of Construction to specifically stipulate several contents about quality management of construction works;

Vietnamese standard TCVN 5640-1991 Hand-over of construction works;

Vietnamese standard TCVN 3990-1985 Document system of design and construction, Rules on statistics and preservation of origin of construction design documents;

Circular no. 19/2011/TT-BTC dated 14/2/2011 Regulations on settlement of projects funded by national budget;

Circular no. 03/2009/TT-BXD dated 26/03/2009 by Ministry of Construction specifically stipulating some contents in Decree no. 12/2009/NĐ-CP dated 12/02/2009 of the Government about Management of investment and construction projects;

Decision no. 1259/QĐ-TTg dated 26/7/2011 by Prime Minister to approve for Master Plan of constructing Hanoi City till 2030 and vision to 2050;

Decision no. 3136/QĐ-BGTVT dated 15/8/2008 by Minister of Transport to approve for investment and construction of Line 2A Cat Linh – Ha Dong;

Decision no. 1971/QĐ-UBND dated 04/3/2013 by HPC to approve for TA project “to strengthen the capacity of regulator and to establish O&M company for metropolitan railway lines in Hanoi City”;

Decision no. 925/QĐ-UBND dated 22/2/2012 by HPC about establishment of Hanoi Metropolitan Railway Management Board (MRB);

Notice no. 303/TB-VPCP dated 12/08/2013 by Government Office regarding Conclusions of Deputy PM at a meeting of National steering committee for key transport projects and works;

Notice no. 182/TB-VPCP dated 30/12/2013 by Government Office regarding Conclusions of Deputy PM Hoang Trung Hai at the meeting about progress of Hanoi UR project, Cat Linh – Ha Dong;

Notice no. 463/TB-BGTVT dated 29/03/2013 by Ministry of Transport regarding Conclusions of Minister Dinh La Thang at the meeting about the progress of UR projects in Hanoi City and HCMC;

Notice no. 274/TB-BGTVT dated 07/05/2013 by Ministry of Transport regarding Conclusions of Deputy Minister Nguyen Ngoc Dong at the meeting with representatives of organizations in HPC about UR projects of Line 1, Line 2A;

Notice no. 75/TB-VP dated 21/7/2013 by HPC regarding Conclusions of HPC Vice Chairman Nguyen Van Khoi at the meeting with MOT about land acquisition for construction of Line 2A Cat Linh – Ha Dong;

Notice no. 40/TB-VP dated 14/3/2014 by HPC about Conclusions of Mr. Nguyen Van Khoi – Vice Chairman of HPC, Chairman of JCC of TA Project at 3rd JCC meeting of TA Project “to strengthen the capacity of regulator and to establish O&M company for metropolitan railway lines in Hanoi City”

Document no. 1415/BGTVT-CQLXD dated 13/2/2014 by MOT regarding progress of construction of Line 2A Cat Linh – Ha Dong;

3. Objects and Scope of the Hand-over

Objects and Scope of the Hand-over are the entire of Line 2A Project Cat Linh – Ha Dong (hereinafter called Project) are approved at Decision no. 3136/QĐ-BGTVT dated 15/8/2008 by MOT, including:

- Line alignment: Hanoi UR Line 2A Cat Linh – Ha Dong runs through Dong Da, Thanh Xuan and Ha Dong districts in Hanoi City. The first point of this line is in the intersection between Cat Linh and Giang Vo streets in Dong Da district, following Hao Nam street in the North East – South West direction, through Hoang Cau street to Lang street, then going along To Lich river to the South, crossing To Lich river, following the medium strip along Nguyen Trai street straight forward to North East – South West direction, going through Quang Trung, Tran Phu street, then crossing the Southern ring railway line, following the South West direction till terminal which is new Ha Dong bus station (Ye Nghia bus station).

- Line length: 13.06km, 12 elevated stations (3 floors) and 1 depot.
- Permanent land acquired: 49.75 ha
- Load capacity: 14 T
- Depot: 19,63 ha
- Funding source: China’s ODA
- Total investment: 8,769,965 million VND-552.86 million USD
- Loan duration:
- Loan interest rate:
- Line agency: MOT
- Project owner: Vietnam Railway Administration

- Contractor: EPC contractor (China Railway Group 6)
- Project progress: at document no. 1415/BGTVT-CQLXD dated 13/2/2014 by MOT:

No.	Work items	Completing time
1	Construction of viaducts	21/12/2014
2	Construction of station	30/9/2015
3	Construction of Depot	30/4/2015
4	Beam launching	15/02/2015
5	Construction and installing track along the line	20/4/2015
6	Training and transferring technology	08/8/2015
7	Commissioning	29/9/2015
8	Commercial operation	20/12/2015

During actual implementation of this Plan, if there is any decision by competent authorities to adjust, change the contents of this project, those adjustments and changes shall be followed.

4. Stakeholders of Hand-over and Take-over

4.1 Hand-over: MOT

- a. Chairing the Hand-over: Vietnam Railway Administration - PMUR
- b. Participants:

(During the implementation, Hand-over party shall assign/supplement (if any) participants by written documents)

4.2 Take-over: HPC

- a. Chairing the Take-over:
 - MRB;
 - Hanoi Metro Company;
- b. Participants:
 - HAPI;
 - DOF;
 - DOT;
 - DOHA; DOJ;
 - DOC.

(During the implementation, Take-over party shall assign/supplement (if any) participants by written documents)

4.3 Other stakeholders

During the take-over, it is necessary to get involvement and guidance of functional Ministries, including:

- MPI:
- MOF.

(Shall be supplemented during implementation)

5. Principles of Hand-over, Take-over

a. MOT shall hand over all documents and personnel of Line 2A project in primitive state after the investment and construction is finished, the project is accepted as regulations and when functional authorities inspect and license for operation.

MOT:

- Prepare List of specific transferring items following appendices *(if information is not sufficient at this moment, more will be supplemented in later stages, but, it is necessary to be sent 2 months in prior to official transferring timing)*, in case of many changes and adjustments, this should be sent to take-over party 1 month in advance;

- Hand over documents with confirmation from competent authorities as regulations, ensure sufficient quantity, contents as regulations for each type of documents;

- Prepare hand-over and take-over memos for each transferring items (and sign in after confirming at site altogether);

- Coordinate, provide information of Project's contents during investment and construction process.

HPC:

- Take over and check (Check Project's compliance by Projects to legal documents which have been approved, accepted by competent authorities; Check the compliance between Project's documents and actual situation.; Develop checking plan, check list for each items while taking over the Project;) confirming hand-over contents based on list made by Hand-over party, sign in Hand-over memo (concretely explaining each lacked or shortaged content which need to be supplemented and fixed, fixing time (if any) for MOT to take responsibilities;

- During the investment and construction of the Project, HPC shall assign officers to join and coordinate with MOT to receive information about contents, technology of the Project, in order to develop regulations and management system, etc., ensuring safety, effectiveness during operation and maintenance after transferring.

b. In case that till transferring time, investing assets have been completed and put into operation, but the settlement is not done, MOT shall still implement the hand-over to HPC, and MOT shall be responsible for completing that settlement as regulations.

c. In case that till transferring time, investing assets are completed and put into operation but some items, supporting equipment have not been completed, MOT shall keep on transferring to HPC, MOT will be responsible for promptly completing list of those supporting items as regulations.

6. Contents of Hand-over and Take-over

6.1 Hand over and Take over of documents

a. Contents of documents transferring:

- Legal documents; Receiving copies from 01/2015 (HPC will issue letters).
- Project documents (including: documents of survey, design, construction, as-built, accepting, certificates by government organizations for construction works, equipment, vehicles, etc.): Receiving copies from 5/2015 (HPC will issue letters).
- Procedures, regulations on operation, maintenance, receiving technology of the Project towards works, equipment, vehicles. Receiving copies from 7/2015 (HPC will issue letters)
- Documents of personnel trained by the project. Receiving copies from 02/2015 (HPC will issue letters)
- Financial documents of the Project include settlement documents, construction, procurement documents (including land use right). Receiving copies from 9/2015 (HPC will issue letters)

b. Hand-over duration: from May/2015 to Dec/2015

c. Specific requirements:

Specific list of documents transfer is mentioned in enclosed Appendix 2. In case that there is any adjustment, change in this list, MOT shall be responsible for collecting all adjustments and changes, sending to HPC one month in prior to official transferring timing.

The quantity of documents that MOT transfers to HPC shall be consented specifically in accordance with each type, in accordance with existing regulations.

6.2 Construction works

a. Contents of Hand-over and Take-over of Construction works shall include:

- Viaducts,
- Stations,
- Auxiliary works,
- Depot infrastructure, Depot building...

b. Hand-over timing: from May/2015 to Dec/2015.

c. Specific requirements:

Specific list of technical infrastructure works, specifications are mentioned at enclosed Appendix 3. In case that there are adjustments, changes in this list, MOT is responsible for collecting all adjustments, changes, and send to HPC 1 month in prior to official transferring timing.

- Hand-over, Take-over contents include comparing actual status of the work with complete documents of the works; recording damages, shortages which need to be supplemented and fixed, fixing duration (if any) and make into a memo. To parties shall prepare a memo of site inspection (which concretely explains contents, items necessary for solutions) and sign.

- The transferring of infrastructures shall follow Article 80 of Construction Law no. 16/2003/QH11.

- HPC is responsible for developing contents necessary for checking during taking-over and operation of infrastructures in accordance with its designed functions, and implement the maintenance for works or items in compliant with regulations on construction.

6.3 Hand over vehicles, equipment.

a. Contents of transferring vehicles and equipment include:

- Train set system,
- Maintenance equipment, (including equipment for maintenance of construction works and other items, etc.)
- Signaling and telecommunication system,
- Track equipment system
- Electricity system
- Station equipment system (Elevator, escalator, AFC, etc.);
- Depot equipment
- Standby components/parts for replacement, fixing (procured but yet used).

b. Hand-over duration: from Sep/2015 to Dec/2015.

c. Specific requirements:

Specific list of technical infrastructure works, specifications are mentioned at enclosed Appendix 4. In case that there are adjustments, changes in this list, MOT is responsible for collecting all adjustments, changes, and send to HPC one month in prior to official transferring timing.

Hand-over, Take-over contents include comparing actual status of the work with complete documents of the works; recording damages, shortages which need to be supplemented and fixed, fixing duration (if any) and make into a memo. To

parties shall prepare a memo of site inspection (which concretely explains contents, items necessary for solutions) and sign.

6.4 Hand-over and Take-over of Personnel

a. Contents of personnel taking over

O&M staff on the line who will be awarded with certificates, licenses in accordance with Vietnamese regulations after finishing the training will include:

- Managerial staff,
- Train operation staff,
- Station staff,
- AFC staff
- Maintenance staff of civil works, rolling stock, signaling and telecommunication, electricity, station equipment, safety staff, etc.

b. Hand-over timing: from Sep/2015 to Dec/2015.

c. Specific requirements:

- List of personnel, basic information of each staff following enclosed Appendix 5. In case of any adjustment, change of this list, MOT is responsible for collecting adjustments, changes and send to HPC one month before official hand-over.

- Receive personnel, including consideration and confirmation of capability, skills of each staff reflecting their profiles, certificates.

6.5 Financial hand-over, take-over

a. Financial hand-over contents

- Responsibility for loans to implement the Project and conditions in Loan Agreement with donor.
- Responsibility for repayment
- Responsibility in front of functional management organizations for the management, use, operation and maintenance of civil works, rolling stocks, equipment; to ensure effectiveness, safety in compliant with Vietnamese regulations.

b. Hand-over timing: Aug/2015 to Feb/2017.

c. Specific requirements:

The use of national budget, ODA loans must be independently accounted on books, specifying debts and percentage of annual payable as regulations.

The duration for work settlement and transferring will be applied and implemented in accordance with stipulations in Circular no. 19/2011/TT-BTC dated 14/2/2014 by MOF regarding Regulations on settlement of completed projects funded by national budget.

7. Funding source

1. For costs relating to hand-over, take-over of assets (traveling, accommodation, per diem), organizations which assign staff to join in the hand-over and take-over process shall self pay in compliant with regulations.

2. Common costs relating to the transferring such as printing of documents (sufficient quantity as regulations), transportation of documents will be paid by MOT.

8. Organizing the implementation

- MOF and MPI are requested to guide on the take-over and transferring of finance, loans and debts.

- MOT, HPC shall consider and approve this Hand-over, Take-over Plan to prepare a foundation for the implementation.

8.1 Ministry of Transport

- Be responsible for the quality of civil works, infrastructure, rolling stock, equipment and personnel to be trained for the Project, in accordance with regulations about management of investment and construction projects.

- Develop list of documents, prepare documents, materials, civil works, rolling stock, equipment, personnel for hand-over following contents in each field.

- Develop plans, timing and location for hand-over of each item.

- Assign organizations, staff to implement the hand-over as approved plan.

- Prepare supporting means for HPC in checking and confirming the assets during the take-over.

- Pursuant to requirements of HPC described at the Memo of Site inspection, MOT shall fix problems as required (if any).

8.2 Hanoi People's Committee

- Take over all assets, related documents, materials for operation and maintenance as regulations.

- Take over all personnel trained by Project Owner to operate and maintain UR Line 2A.

- Take over all responsibilities relating to the loans of the Project, operating and maintaining the Project in accordance with acceptance and approval of competent authorities.

- Assign organizations, staff to participate in the take-over of contents, technology from project implementing stage till completing official transferring.

- After establishment of HMC: Coordinate with MRB to organize the take-over of the Project, organize the operation, maintenance of the line in accordance with its designed functions after taking over.

- HPC is responsible for managing, operating the civil works, infrastructures, rolling stocks, equipment in compliant with designed functions and regulations.

8.3 Responsibilities of two parties in stages

8.3.1 Project implementing stage

To manage and use, HPC shall be entitled and responsible for participating in the following contents:

- a. Participate into training and take-over of operating and maintaining technology of the Project.

- b. Contribute comments on technical design, personnel training plan (if required).

- c. Participate, coordinate in take-over of civil works, rolling stock and equipment. Be entitled to make reservations about designs, requirements to fixing, completing of works during steps to accept the construction and during construction; accept the completion of the work.

- d. In case that there is disagreement between MOT and HPC (or those assigned by Take-over party to join in project management) regarding work items during the process of Project Hand-over, final decision shall be made by MOT and MOT will be fully responsible for its decisions. If decisions made by MOT are not in compliant with regulations, HPC is entitled to refuse to take over the works.

- d. During the implementation of the Project, MOT is responsible for providing documents, materials (copies) to HPC as foundation for receiving technical contents, in order for management, operation and use in the future.

- e. During commissioning: HPC shall coordinate with MOT to assign management, operating and maintaining organization for urban railways (MRB, Hanoi Metro) and VNRA, Railway Project Management Board to simultaneously participate in commissioning process of the entire system, including headquarters of the Company and direct operation unit of Line 2A, in order to receive technology, test on integrated operation of the system in normal conditions and in case of problems. HPC shall contribute opinions (if any) to adjust and organize for appropriate management and implementation; gradually receiving contents, technology, as foundation for official taking over after finishing commissioning.

8.3.2 Maintenance stage

a. MOT is responsible for guarantee of the works for HPC following remaining guarantee duration that EPC contractor must ensure for MOT.

b. If there is any failure during guarantee period of EPC contractor to MOT, HPC shall issue letter to request MOT to request EPC contractor to fix, replace in time.

c. In case that there is any disagreement or dispute during the guarantee period, concerned organizations shall report authorized organizations to settle as existing regulations./.

Appendix 1. HAND-OVER AND TAKE-OVER PROGRESS PLAN

No.	Contents	Unit	Num	2014												2015												2016			Note
				7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3							
I	Establishment of O&M company	day	105																												Before 1 year when train operation start
1	Ask comment for related department/ Authority	day	30																												
2	Modification based on comments	day	15																												
3	Submit proposal for approval	day	30																												
4	Approve and Decision issued	day	30																												
II	Start Company activities	day	405																												After transferring project
1	Completion of company organization	day	165																												
2	Completion of regulation and rules	day	375																												
3	Attend to commissioning of Line 2A	day	240																												
4	Công ty vận hành thương mại																														
III	Transferring activities	day	600																												Already implemented by HPC & MOT
1	Transferring of documents	day	600																												
	Legal documents of project	day	240																												
	Project documents of works	day	240																												
	Procedure documents, Manual	day	240																												
	Project documents of HR	day	240																												
	Project documents of finance	day	330																												
2	Civil works	day	240																												
	Elevated structure	day	240																												
	Station	day	120																												
	Support works	day	120																												
	Infrastructure and Building of Depot	day	120																												
3	Equipment	day	90																												
	Rolling stock	day	90																												
	Equipment & Machines for RS maintenance	day	90																												
	Signal/ telecommunication system	day	90																												
	Track	day	90																												
	Electrical facilities	day	90																												
	Station equipment (ESC, EV, AFC)	day	90																												
	Equipment of Depot	day	90																												
	Spare parts (if any)	day	90																												
4	Transferring of HR	day	510																												
	Manager	day	90																												
	Train driver	day	510																												
	Station staff	day	90																												
	AFC staff	day	90																												
	Maintenance staff	day	90																												
5	Transferring of financial issue	day	180																												
	Loan responsibility	day	180																												
	Repayment responsibility	day	180																												
	O&M responsibility	day	180																												

Appendix 2.LIST OF DOCUMENTS

(To be completed by Hand-over party 2 months in prior to official transferring timing)

List of necessary documents for the transferring and transferring timing from MOT to HPC

(This table was prepared by OMD/MRB and JICA TA Team, and confirmed by PMU-Rail/MOT)

No.	Item	Documents	Specific documents, materials	Time of Hand-over		Remarks
				Agreement between PMUR and MRB	Offical timing	
	Legal documents	(Propose PMU-Rail/MOT to update later)				
	Project documents	I. DOCUMENTS OF INVESTMENT PREPARATION				
1		Pre-FS report		02/2015～03/2015		
2		FS report		02/2015～03/2015		
3		Evaluation reports, opinions of stakeholders in evaluating the investment project		02/2015～03/2015		
4		Preliminary design report – Statement		02/2015～03/2015		
5		Preliminary design report - Drawings		02/2015～03/2015		
6		Land acquisition compensation plan approved by competent auhtorities		02/2015～03/2015		
7		Environmental Impact Assessment report		02/2015～03/2015		
8		Documents of authorized organizations regarding agreement on planning (if any)		02/2015～03/2015		
9		Documents of authorized organizations regarding agreement or acceptance for use or connect with other technical works.		02/2015～03/2015		
10		Documents of authorized organizations regarding safety (transport safety, safety for adjacent works) and other related documents.		02/2015～03/2015		
11		Documents of authorized organizations regarding land provision, renting in the project		02/2015～03/2015		
12		Construction license		02/2015～03/2015		
13		Decision of direct appointment of contractor, approval for results of contractor selection		02/2015～03/2015		

14		Contracts between project owner and contractors		02/2015~03/2015		
15		Capacity profile of contractors as regulation.		02/2015~03/2015		
16		Other related documents, materials for investment preparation stage		02/2015~03/2015		
		II. DOCUMENTS OF CONSTRUCTION SURVEY AND CONSTRUCTION DESIGNS				
17		Technical survey plan, Survey report on construction work.		03/2014~05/2015		
18		Accepting memo of construction survey results.		03/2014~05/2015		
19		Technical design report - Statement		02/2015~03/2015		
20		Technical design report - drawings		02/2015~03/2015		
21		Evaluation results of technical design		02/2015~03/2015		
22		Results of evaluating technical design		02/2015~03/2015		
23		Decision to approve for technical design		02/2015~03/2015		
24		Documents of construction designs, drawings confirmed by project owner (with list of drawings enclosed).	Rolling stock	09/2015~11/2015		
			Signaling, telecommunication, Electricity	05/2015~07/2015		
			Civil works, Track	04/2015~06/2015		
			Station equipment, AFC	07/2015~09/2015		
25		Accepting memo of detail designs.		03/2014~05/2015		
26		Other related documents, materials in survey, design stage.		03/2014~05/2015		
		III. DOCUMENTS OF CONSTRUCTION AND ACCEPTANCE OF CONSTRUCTION WORKS				
27		Design changes during construction and documents of evaluation, approval of authorized organizations.		07/2015~09/2015		
28		Documents of As-built drawings of civil works, equipment (with list of drawings enclosed).		05/2015~07/2015		
29		Plans and methods to inspect and monitor construction quality of civil works, equipment		07/2015~09/2015		
30		Report on inspection work		02/2015~03/2015		
31		Certification of organizations about final inspection report		12/2015		
32		Certificates of origin, goods labels, certificate of quality conformity by manufacturers, certificate of regulation compliance, certificate of standard compliance		09/2015~12/2015		

33		Accepting report for equipment by manufacturers		09/2015~12/2015		
34		Report on system integration in factories		09/2015~12/2015		
35		Warranty relating to products, components		09/2015~12/2015		
36		Results of observations, measurement, experiments during construction, and observing during operation.		09/2015~12/2015		
37		Accepting memos of construction works, stage accepting memos (if any) during construction.		07/2015~09/2015		
38		Results of control experiments, testing quality of works, experiments of load bearing of structures (if any).		07/2015~09/2015		
39		Dairy of equipment installation in the project		07/2015~09/2015		
40		Documents of acceptance, agreement, confirmation of authorized organizations (if any) :	a. Surveys on moving from lake areas, historical, cultural sites;	03/2014~05/2015		
			b. Safety in fire preventing and fighting;	09/2015~12/2015		
			c. Environmental safety;	09/2015~12/2015		
			d. Labor safety, operation safety of civil works equipment and technical equipment system;	09/2015~12/2015		
			e. License for construction (for cases needed of construction licenses);	03/2014~05/2015		
			f. Construction permit to connect to technical infrastructures and other related works;	03/2014~05/2015		
			g. Other documents as related regulations.	03/2014~05/2015		
41		Documents of settling construction works incidents (if any).		07/2015~09/2015		
42		Inspection results for accepting the construction works to be put into operation by authorized organization.		09/2015~12/2015		
43		Certificate of the Government Acceptance Council.		07/2015~09/2015		
44		Appendices of outstandings which need to be fixed and recovered after putting the line into operation.		09/2015~12/2015		
45		Other related documents /correspondents/ materials in construction and accepting stage.		07/2015~09/2015		

46	Documents of procedures, rules of operation, maintenance of civil works, equipment, rolling stock	Papers relating to intellectual properties (register card for innovation certificate, license, etc.)		11/2015~12/215		
47		Drawing of line alignment (those drawings with information about slope, curve, positions of turnout)		07/2015~09/2015		
48		Layout drawing of station equipment (including equipment, machines for station works)		07/2015~09/2015		
49		Safety management manual (safety division of OU) (if any)		12/2015		
50		Layout drawing of safety equipment (if any)		12/2015		
51		Commissioning plan		06/2015~08/2015		
52		Report on results of commissioning		11/2015~12/2015		
53		Certificates of organizations about final report on results of commissioning		11/2015~12/2015		
54		Manual on countermeasures against accidents, incidents, natural disasters (if any)		09/2015~11/2015		
55		Documents relating to overview of operation plan (list of conditions to make train diagram, operation curve) (if any)		09/2015~11/2015		
56		Documents, drawings about technical specifications of train operation equipment		07/2015~09/2015		
57		List of equipment, machines used for train operation, civil works, equipment, rolling stock (quantity, technical specification)	Train operarion	05/2015~07/2015		
			Rolling stock	09/2015~10/2015		
			Signaling telecommunication, Electricity	05/2015~07/2015		
			Civil works, Track	05/2015~07/2015		
			Station equipment, AFC	05/2015~07/2015		
58		List of spare parts used for train operation, civil works, equipment, rolling stock (quantity, method of procurement)	Train operarion	05/2015~07/2015		
			Rolling stock	09/2015~10/2015		
			Signaling telecommunication, Electricity	05/2015~07/2015		
	Civil works, Track		05/2015~07/2015			
	Station equipment, AFC		05/2015~07/2015			

59		List of specifications and installation progress of devices and signs relating to train operation		05/2015～07/2015		
60		Train diagram when newly starting the operation of Line 2A		05/2015～07/2015		
61		Rolling stock ordered specifications (including approvals of related organizations)		05/2015～07/2015		
62		Reports on inspection of shipment for rolling stock, RS inspection and fixing equipment (including approvals of related organizations)		09/2015～11/2015		
63		Bidding documents relating to rolling stock, RS inspection and fixing equipment (requirements which is technical in tendering, plan on tendering of contractor, tendering results, approvals of related organizations)		09/2015～12/2015		
64		Contract documents relating to RS contract, RS inspection and fixing equipment		05/2015～07/2015		
65		Instruction manual relating to train operation	Specifications and manual of operation management system, etc	07/2015～09/2015		
			Work manual for train crew, OCC staff and signaling staff	07/2015～09/2015		
			Documents relating to regulations of train operation	07/2015～09/2015		
			Specifications, manuals, software, etc. of equipment/device to prepare train diagram, operation curve and working plan of train crew	07/2015～09/2015		
66		Instruction manual relating to Station works	Handling with income (station equipment)	06/2015～09/2015		
			Safety management (especially relating to train operation)	06/2015～09/2015		
			Office, supervision, management	06/2015～09/2015		
			Management of station equipment	06/2015～09/2015		
			Customer service (countermeasure against incident, accident)	06/2015～09/2015		
			Other general contents (if any)	06/2015～09/2015		

67		Instruction and maintenance manual relating to RS	RS/RS inspection and fixing equipment instruction manual	09/2015～12/2015		
			RS/RS inspection and fixing equipment maintenance manual (including training manual)	09/2015～12/2015		
			RS/ RS inspection and fixing equipment completion documents	09/2015～12/2015		
68		Instruciotn and maintenance manual relating to signaling telecommunication and electricity	Instruction manual	11/2014～01/2015		
			Maintenance manual	11/2014～01/2015		
			Management register	05/2015～07/2015		
69		Instruction and maintenance manual relating to civil works, track	Instruction manual	05/2015～07/2015		
			Maintenance manual	05/2015～07/2015		
			Management register	05/2015～07/2015		
70		Instruction and maintenance manual relating to station equipment, AFC	Instruction manual	05/2015～07/2015		
			Maintenance manual	05/2015～07/2015		
			Management register	05/2015～07/2015		
71		Procedures and plan of maintenance relating to civil works and equipment, RS	RS / RS inspection and fixing equipment (including items relating to specific inspection plan after starting commercial operation)	09/2015～12/2015		
			Civil works, Track	05/2015～07/2015		
			Signaling telecommunication, Electricity	05/2015～07/2015		
			Station equipment, AFC	05/2015～07/2015		
			AFC maintenance work flow	05/2015～07/2015		
			Maintenance data of equipment (Signaling telecommunication, Electricity, AFC)	05/2015～07/2015		
			RS arrangement plan	09/2015～12/2015		

72		Maintenance rules relating to civil works, equipment, RS	Rolling stock	05/2015~07/2015		
			Signaling telecommunication, Electricity	05/2015~07/2015		
			Civil works, Track	05/2015~07/2015		
			Station equipment, AFC	05/2015~07/2015		
73	HR documents	CVs (including health certificate)		07/2015~09/2015		
74		Organization structure, personnel arrangement (including system of ordering, of commands issuance, etc.)		Included in Traing plan of Line 2A		
75		Method of working shift arrangement		Included in Traing plan of Line 2A		
76		Recruitment criteria (Items and standards of recruitment conditions)		Included in Traing plan of Line 2A		
77		Results of recruitment exams		07/2015~09/2015		
78		Papers relating to social insurance payment		07/2015~09/2015		
79		Database relating to information of staff such as subordinate departments, titles, etc. (if any)		Included in Traing plan of Line 2A		
80		Training plan (including evaluation criteria of completing training course and training curriculum, documents)		Included in Traing plan of Line 2A		
81		Training, education report (including results of passed/unpassed, certificate of completing the course)		09/2015~11/2015		
82		Papers, documents relating to completion of technical training		Included in Traing plan of Line 2A		
83		Documents relating to training contents about materials management, making cost estimate, accounting in related departments under Operation Unit of Line 2A		Included in traing plan of Line 2A		
84		Documents relating to management method of attendance, health, training for train crew		Under confirming		
85		Records of quality management and inspection of conformity for train crew, OCC staff and signaling handling staff		07/2015~09/2015		

86		Train operation license provided by related organization in China, or equivalent certificate of completing the driver training course		07/2015~09/2015		
87		Regulations on license/certificate system for technical personnel		Included in Training plan of Line 2A		
88		Uniform (if any)		Nothing		Under responsibility of Company
89	Financial documents Financial documents	Papers relating to recruitment costs		07/2015~09/2015		
90		Papers relating to training costs		11/2015~12/2015		RPMU provides right after Training plan of Line 2A is approved
91		Papers relating to costs for direct and indirect staff		07/2015~09/2015		
92		Management register of fixed assets, materials		07/2015~09/2015		
93		Manual relating to administration, materials management		07/2015~09/2015		
94		Documents relating to office management		07/2015~09/2015		
95		Documents relating to project costs (including settlement documents for construction works items)		11/2015~12/2015		
96		Fixed asset register (items, existing location, procurement timing, procured value, book value)		Nothing		Under responsibility of Company
97		Fixtures register (itemss, preservation location, procurement timing, procured value, etc.)		Nothing		Under responsibility of Company
98		Title deed (land use rights, registration, etc.)		07/2015~09/2015		
99		Vouchers relating to transactions and assets procurement (contracts, etc.)		Nothing		These transactions is done by Company
100		Certificates relating to renting (renting contracts, etc.)		Nothing		Under responsibility of Company (if any)
101		Papers relating to tax payment (if any)		11/2015~12/2015		
102		Documents related to the loan of the Government.		11/2015~12/2015		Included in Legal documents
103		Documents related to safety and quality activity cost (Maannual for keeping quality and safety) (if any)		11/2015~12/2015		

104		Documents related to commissioning cost		11/2015~12/2015		Included in technical design report and commissioning plan
105		Documents related to storage situation of materials and spare parts		Nothing		Under responsibility of Company
106		Demand forecast (1year, 5 years)		Included in FS report		Developed by Company (in the business plan)
107		Procurement and installation cost of RS, equipment, and Construction works (including inspection and fixing equipment and spare parts)	Rolling stock	07/2015~09/2015		
			Signaling telecommunication, Electricity	07/2015~09/2015		
			Civil works, Track	07/2015~09/2015		
			Station equipment, AFC	07/2015~09/2015		
			Other equipment (tools of train driver and station staff)	07/2015~09/2015		
108		Durable years of RS, equipment and Civil works (including inspection and fixing equipment)	Rolling stock	07/2015~09/2015		
			Signaling telecommunication, Electricity	07/2015~09/2015		
			Civil works, Track	07/2015~09/2015		
			Station equipment, AFC	07/2015~09/2015		
109		Annual maintenance cost of facilities, equipment, vehicles (including inspection and fixing equipment)	Rolling stocks	Included in FS report		Developed by Company (in the 5 year business plan)
			Signaling telecommunication, Electricity			
			Civil works, Track			
			Station equipment, AFC			
110		Documents relating to equipment management system and inventory management system(if any)		Nothing		RPMU provides list of equipment. Company sets up the system.
111		Documents of electric volume calculation		11/2014~01/2015		
112		Documents relaing to cash sales management system in AFC.		07/2015~09/2015		
113			Roling stock	07/2015~09/2015		

		List of equipment and vehicle provider (including backup equipment and spare parts)	Signaling telecommunication, Electricity	07/2015~09/2015		
			Civil works, Track	07/2015~09/2015		
			Station equipment, AFC	07/2015~09/2015		
114		Contract documents relating to procurement of RS, equipment and civil works	Rolling stock	07/2015~09/2015		
			Signaling telecommunication, Electricity	07/2015~09/2015		
			Civil works, Track	07/2015~09/2015		
			Station equipment, AFC	07/2015~09/2015		
115		Contract document relating to maintenance work (if any)	Rolling stock	07/2015~09/2015		
			Signaling telecommunication, Electricity	07/2015~09/2015		
			Civil works, Track	07/2015~09/2015		
			Station equipment, AFC	07/2015~09/2015		
116		Unit price of maintenance work	Rolling stocks	Nothing		Under responsibility of Company
			Signaling telecommunication, Electricity			
			Civil works, Track			
			Station equipment, AFC			
117		Annual maintenance budget plan (AFC)		Nothing		Under responsibility of Company
-						

Appendix 3. LIST OF CIVIL WORKS

To be prepared by the transferring party 02 months before official transferring time

FORM 2

N o	Name	Item	Time		Quantity	remark
			Completion	Hand-over		
\	Viaduct	Pier				
		Beam				
				

Appendix 4. LIST OF VEHICLES AND EQUIPMENT

To be prepared by the transferring party 02 months before official transferring time

FORM 3

N o	Name	Description	Time		Quantity	Operation check	
			Completion	Hand-over		Good	Bad, damage
\	AFC	Ticket vending machine					
		Ticket collection gate					
					

Appendix 5. LIST OF PERSONNEL

(The hand-over party is responsible to add full name in each position one (1) month before official transferring time)

Site operation management division: 83 persons

Dept.	Position		Training place		Type of certificate			Time of Transfer	Remark
			CH	VN	Excellent	Good	Fair		
Controlling center	Manager	1							
	Deputy Manager	1							
	Train dispatching management	1							
	Electricity dispatching management	1							
	Train operation diagram preparation and management	2							
	Train operation dispatcher	16							
	Electricity dispatcher	8							
	Environment supervising dispatcher	4							
Train driver management	Manager	1							
	Train driver management	2							
Station management department	Manager	1							
	Ticket management	2							
	Marketing service	1							
	AFC center management	4							
Civil work maintenance department	Manager	1							
	Architectural equipment management	2							
Material department	Manager	1							
	Material management	1							
	Material store management	2							
Station equipment department	Manager	1							
	Station equipment management	2							
Electricity department	Manager	1							
	Electrical equipment management	2							
Signaling telecommunication department	Manager	1							
	Telecommunication equipment management	1							
	Signaling equipment management	2							
	AFC equipment management	1							
Track department	Management	1							
	Track management	2							
Rolling stock department	Manager	1							
	Car electrical equipment management	2							
	Car equipment management	2							

Dept.	Position		Training place		Type of certificate			Time of Transfer	Remark
			CH	VN	Excellent	Good	Fair		
General affair department	Manager	1							
	Clerk	2							
	Admin	1							
	Legislative management	1							
	Logistic management	1							
Safety	Manager	1							
	Car safety supervision	1							
	Technical equipment safety management	1							
	Transport fire prevention safety supervision	1							
	Safe measureresearch	1							
	Occupational safety supervision	1							
Total number of staff		83							

Passenger center: 86 persons

Passenger Center 66 persons										
Center	Staff Category	Position		Training Place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
Passenger Center	Management staff	Manager of railcar	1							
		Deputy manager of railcar	2							
		Driving technical senior chief	1							
		Driving technical chief	1							
		Assistance of driving technique	1							
	Driving office	Senior supervisor of signaling	1							
		Supervisor and dispatcher of train operation	4							
		Signaling supervisor	8							
	Driver team	Duty staff	8							
		Drivers	46							
	Shunting, testing team	Senior drivers, for shunting and testing	1							
Drivers, for shunting and testing		12								
Total number of staff			86							

Train inspection and repair center: 53 persons

Center	Staff Category	Position		Training place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
Train inspection and repair center:	Management staff	Manager	1							
		Deputy Manager	2							
		Technical chief for inspection and repair	1							
		Chief engineer for inspection and repair	1							
		Assistant for inspection and repair	1							
	Supervision of inspection and repair department	Inspection and repair supervisor	4							
	Train technical inspection team	Main supervisor for train inspection	4							
		Senior inspection staff for electrification	4							
		Inspection staff for electrification	8							
		Senior inspection staff for machine	4							
		Inspection staff for machine	8							
	Monthly maintenance team	Main supervisor for monthly inspection	1							
		Senior monthly inspection staff for electrification	1							
		Monthly maintenance of electrification	2							
		Senior monthly maintenance for machines	1							
		Monthly maintenance for machines	2							
	General equipment supervising team	Main supervisor for equipment	1							
		Worker on Equipment type A (Crane, folk-lift)	1							
		Worker on Equipment type B (roller)	2							
		Worker on Equipment type C (Train washing machine)	1							
		Supervisor of Equipment type A (measuring tools)	1							
		Supervisor of equipment type B (small train, maintenance car)	2							
Total			53							

Passenger transport management center (at stations): 254 persons

Passenger Transport management Center (at stations): 254 persons										
Center	Staff Category	Position		Training Place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
Passenger transportation management Center(at stations)	Management staff	Manager	3							
		Assistant	9							
		Station affairs in-charge staff	6							
	Operation staff	On-shift center leader	36							
		General affairs staff	78							
		Ticket clerk	36							
		Safety staff	48							
		General working staff	38							
Total number of staff			254							

Signaling and telecommunication repair center: 62 persons

Signaling and telecommunication repair center: 62 persons										
Center	Staff Category	Position		Training place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
Signaling and telecomm unication repair center	Management staff	Manager	1							
		Deputy manager	2							
		Telecommunication chief engineer	1							
		Signaling chief engineer	1							
		AFC chief engineer	1							
	Working staff	Telecommunication maintenance worker	18							
		Signaling maintenance worker	20							
		AFC maintenance worker	18							
Total number of staff			62							

Electrical inspection and repair center: 22 persons

Center	Staff Category	Position		Training place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
<i>Electrical Inspection and Repair Center</i>	Management Staff	Manager	1							
		Deputy-Manager	1							
		Electrical engineer	2							
	Working staff	Electrical patrol worker	18							
Total			22							

Station equipment inspection and repair center: 60 persons

Station equipment inspection and repair center: 33 persons										
Center	Staff category	Position		Training place		Type of certificate			Time of transfer	Remak
				CH	VN	Excellent	Good	Fair		
Station equipment inspection and repair center:	Management staff	Manager	1							
		Deputy Manager in charge of Safety	1							
		Deputy Manager in charge of operation	1							
		Engineer	3							
	Working staff	General inspection and repair worker	42							
		Elevator repair worker	12							
Total number of staff			60							

Track inspection and repair center: 37 persons

Center	Staff category	Position		Training place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
<i>Track inspection and repair center</i>	Management staff	Manager	1							
		Deputy Manager	1							
		Track engineer	1							
		Inspection engineer	1							
	Working staff	Track repair worker including three workers in charge of damage detection	33							
Total number of staff			37							

Civil work inspection and repair center: 20 persons

Center	Staff category	Position		Training place		Type of certificate			Time of transfer	Remark
				CH	VN	Excellent	Good	Fair		
<i>Civil work inspection and repair center</i>	Management staff	Manager	1							
		Deputy Manager	1							
		Bridge and road engineer	1							
		Electrical and water engineer	1							
	Working staff	Civil work repair worker	16							
Total number of staff			20							

Total persons to be handed over: 685 persons

<i>TT</i>	<i>Center</i>	<i>Number</i>	<i>Remark</i>
<i>1</i>	Vice General Director	4	
<i>1.1</i>	Staff of departments	83	
<i>2</i>	<i>Passenger train center</i>	86	
<i>3</i>	<i>Train inspection and repair center</i>	53	
<i>4</i>	<i>Passenger transport station center</i>	254	
<i>5</i>	<i>Signaling and telecommunication inspection and repair center</i>	62	
<i>6</i>	<i>Electrical inspection and repair center</i>	22	
<i>7</i>	<i>Station equipment inspection and repair center</i>	60	
<i>8</i>	<i>Track inspection and repair center</i>	37	
<i>9</i>	<i>Civil work inspection and repair center</i>	20	
	Total	685	

**HANOI PEOPLE'S
COMMITTEE**

**THE SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness**

Ref. No.: 9796/UBND-XDGT

Hanoi, December 15, 2014

Sub.: Accepting Hand-over, Take-over Plan for Hanoi Urban Railway Project, Cat Linh – Ha Dong

To: Hanoi Authority of Planning and Investment (HAPI), Department of Home Affairs (DOHA)
Hanoi Metropolitan Railway Management Board (MRB)
Railway Management Board – MOT (PMUR)

HPC received document no. 4678/KH&DT-HTQT dated December 9, 2014 by HAPI about asking for acceptance of contents on Hand-over and Take-over Plan for Hanoi Urban Railway Line, Cat Linh – Ha Dong (Attached).

Regarding this matter, HPC would like to have the following comments:

1. Accept the proposal of HAPI on above document. Assign HAPI to proactively instruct MRB to promptly complete hand-over and take-over documents, procedures as regulations.

2. Assign MRB to coordinate with Railway Management Board – MOT (PMUR) and concerned organizations to promptly implement as regulations./.

Recipient:

- Chairman of HPC (to report);
- MOT;
- Vice chairperson of HPC (Hung);
- Department of: MOT, TC;
- HPC' Office: Chief, Vice chief (Thinh),
Transport planning and development
(Dat, Thg, Thinh), TH, KT
- Kept at Docs control div., Transport
planning and development (Hai) .
38967-17

**ON BEHALF OF HPC FOR CHAIRMAN
VICE CHAIRMAN**

(Signed and Sealed)
Nguyen Quoc Hung

MINISTRY OF TRANSPORT

THE SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

Ref. No.: 199/BGTVT-CQLXD

Hanoi, January 8, 2015

Sub.: Accepting Hand-over, Take-over Plan for Hanoi Urban Railway Project, Cat Linh – Ha Dong

To: Railway Management Board

After reviewing document no. 1133/BQLDADS-DA2 dated December 25, 2014 by Railway Management Board and document no. 9796/UBND-XDGT dated December 15, 2014 by HPC about Hand-over and Take-over Plan for Hanoi Urban Railway Line, Cat Linh – Ha Dong, MOT has had the following opinions:

1. Accept the Hand-over and Take-over Plan for Hanoi Urban Railway Project, Cat Linh – Ha Dong, as recommendation of Railway Management Board at its document no. 1133/BQLDADS-DA2 dated December 25, 2014.

2. Assign Railway Management Board to coordinate with Hanoi Metropolitan Railway Management Board (MRB), Hanoi Railway One Member Limited Liability Company and concerned organizations to promptly implement as regulations./.

Recipient:

- As above;
- Minister (to report);
- HPC;
- MRB;
- Kept at Office, Transport Engineering Construction Bureau.

FOR MINISTER
DEPUTY MINISTER

(Signed and Sealed)
Nguyen Hong Truong

ハノイ市人民委員会

ベトナム社会主義共和国

ハノイ鉄道一人有限会社

独立・自由・幸福

規定

ハノイ鉄道一人有限会社の各部署の機能・業務

総務部:

1.機能: 会社の任務・計画・戦略に応じ、総務業務を実施、監査、助言する。

2.業務:

- (1) 文書発受と管理、渉外、事務所管理、社員への賃金と社会福祉厚生制度に関する戦略・計画・製作・プロセス・手続きを作成する。
- (2) 文書発受と管理に関する事項を担当する。
- (3) 会社の統合情報システムを開発・管理・監視する。
- (4) 本社建物及び本社事務所における資産を管理する。
- (5) 会社の一般的渉外業務を担当する。
- (6) 総務計画を審査する；OU における総務業務を検査、監査、評価する。
- (7) 会社の規定に基づき、事故の処理に参加する。
- (8) 都市鉄道プロジェクトに関する総務面での引受け提案及び計画を作成し、引受ける。
- (9) 会社の品質政策及び品質システムに応じる品質計画（総務上）を作成し、各現業ユニットまでその品質計画を展開する。（現業のも含む）品質計画実施を組織・実施・監視する。
- (10) 会社の安全政策に応じる安全計画（総務上）を作成し、各現業ユニットまでその安全計画を展開する。（現業のも含む）安全計画実施を組織・実施・監視する。
- (11) 各現業ユニットにおける総務人材開発計画についてコメントをする；各現業ユニット間の総務人材の調整を提案する。
- (12) 会社の定款に応じ、会社の社員総会及び監査役による活動に対応するように、計画・プログラムを作成し、実施組織する。
- (13) 会社の社員総会及び監査役へ情報をタイムリーに提供する。
- (14) 割り当てられている業務を報告する。

組織・人材部

1. 機能:

社長会に以下の業務を助言し、支援する：組織体系、人事管理；福利厚生制度、労働・賃金、競争・褒賞、懲戒、採用、人材育成。

2. 業務:

2.1. 組織体系に関する業務:

- 組織体系及び会社に所属する各ユニットの業務実施制度、機能、任務、権限を助言する。そのユニットとの間の関係を調整する規制を作成する。
- 組織体系に係わる規制類を作成する。
- 組織及び活動の規制のレビュー・補足・訂正を実施する。
- 会社 to 所属するユニットの設立・合併または解散を助言する。
- 会社 to 所属するユニットは、規制に基づく業務を実施するかどうか監督する。

2.2. 人事業務:

- 各部門と協力して、各部門の要員数を確定する議長に努める；会社、そしてユニットの短期・長期の人事計画を策定する。
- 各部門と協力して、社員採用の議長に努める採用の計画・規制・フロー作成、ポジション・位置水準作成、採用際の優先条件作成を担当する。
- 社員の配置・異動・任免・辞任の手続きを提案し、助言する。
- 短期・長期従業員計画の作成を助言する。年度計画に従業員計画をレビューして、補足する。
- 賃金規制を作成し、社員への支給、給与所得税、退職金などの業務を実施する。
- 社員への各制度実施を実施する（昇給、社会福利厚生、健康保険、社会保険、労働における事項保険、休暇、年金、退職金、出産手当金…）
- 各パートナーと一緒に賃金の調査のプログラムを実施し、市場における労働コストを調査し、それは毎年の人事政策策定の根拠となる。

そして、人事政策を改善できるように、人事政策及び毎年の全社員の満足度を調査する。

- 各部門と協力して、社員への管理及び評価の業務を監督し、検査する。
- 労働安全・衛生管理と検査、社員のヘルスケアを実施する。
- 人事に係わる情報・書類管理（書面での書類及びデータ）及び保管；社員管理資料の保管、社員調査資料保管を行う。
- 会社イメージの PR のため、求人サイトに組織体系・権利制度・採用情報を載せ、情報管理を行う。
- 労働・事務関係の訴訟及び調停に関する事項を担当する。

2.3. 社内競争・褒賞、懲戒業務

- 社内競争・褒賞の規制作成を助言する。
- 社内競争活動計画及び実施を立案する；優秀な事例を宣伝し、普及にする。所属する各ユニットに社内競争・褒賞及び懲戒の計画を実施する状況を指導し、検査する。
- 政府及び会社の規定に基づく社員に対し懲戒のやり方を提案する。

2.4. 育成業務：

- 会社の育成規制を作成する。
- 会社に所属するユニットごとの業務ニーズに応じる人材育成及び訓練の計画作成並びに展開を各ユニットに協力して、実施する。
- 国内外の組織と連携・協力のことを助言する。経験を持っている専門家を雇い、ハノイ市都市鉄道各路線の運行・営業の管理・指導・実施に関する専門的な業務を教育する目標とする。
- 人材育成・能力開発の方策その他の社員研修に係る調査及び研究を実施する。

2.5. その他業務：

- 社内における政治のセキュリティ業務を実施する。
- 基礎的民主・法律教育普及及び汚職予防・防止並びに節約実践・無駄防止の業務を実施し、助言する。

- 生産性及び業務効果の向上のための対策の登録・実施を管理する。
- 割り当てられた業務に基づく組織・職員に関する苦情解決及び違反処理を審査し、実施する。
- 社長会によって割り当てられるその他の業務を実施する。

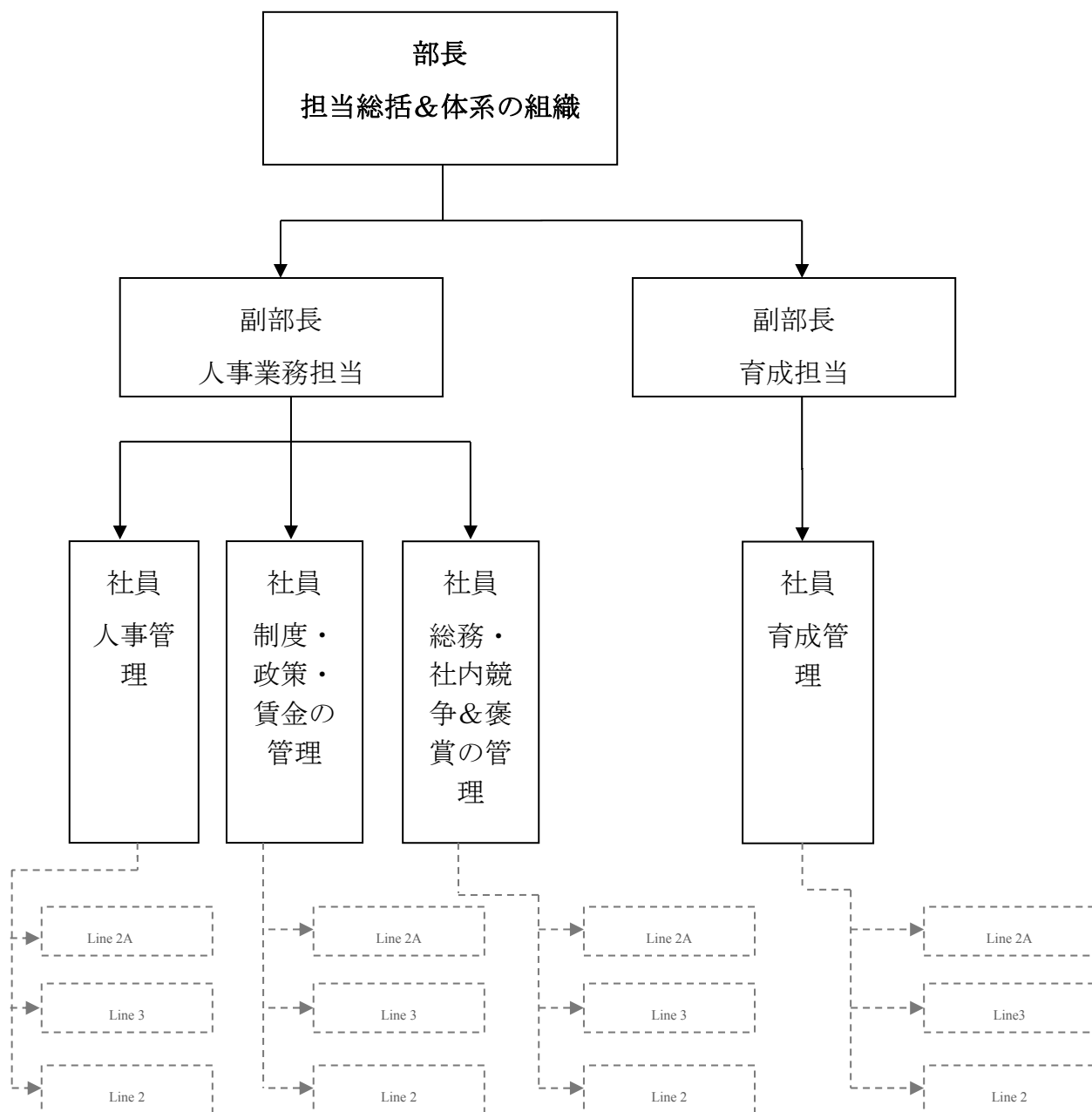
II. 組織体系

1. 組織体系

- 要員数：7名

その内 部長：1名
 副部長：2名
 サポートイングスタッフ：4名

- 組織図:



——— 一つの路線のみ運行時の最初段階

----- 各路線運行段階

財務・会計部**1. 財務業務****【資本】**

- 短期・中期・長期の借入金と返済の財務計画を作成する。
- 会社の財務システム・キャッシュフローへの実施・管理・監視を実施する。
- 資金を管理する。

【財務】

- 会社の定期的と不規則な財務分析報告書を作成し、財務結果の予報を分析する。
- 財務の安定性を長期に確保するための対策・スキーム・政策を研究する。
- 年度の財務上の投資計画を管理し、監視する。

【その他】

- 部署の規制・規則を作成する。
- 内部清算プロセス及び会社の決算・清算プロセスを作成する。
- 保険プログラム作成及び実施に関わる事項を担当する。
- 品質システム及び計画を作成し、財務に関わる計画を実施する。
- 都市鉄道の引き受けに当たり、財務上の戦略・計画・対策を作成し、引き受ける。

2. 会計業務**【会計】**

- 会計システムを管理する。
- 収入、借金、利息、利益、税金などの会計処理を実施する。
- 営業結果の会計処理を実施する。

- 財務管理報告・キャッシュ・フロー計算書・会計バランスシート・営業結果報告書・財務報告説明書に関わる事項を担当する。
- 例年の収入及び支出に関わる計画を管理し、作成する。
- 各部署の支出と投資の提出を監視する。
- （会計上の）運賃及び補助金並びに運賃改定制度に関わる事項を担当する。

【ファンド、清算】

- 銀行の口座及び現金ファンドを管理する。(Management of bank account, treasurer of money (預金、取引、銀行を通し支払い、細かい現金))
- 会計データ及び台帳を検査し、保存する。
- 内部清算及び契約の清算・決算の流れを作成する。
- 各部署の請求を監視する。
- 税関の報告、統計、支払いに関する事項を担当する。

【その他】

- 会計監査作業を協力し、計画する。
- 会社の会計 IT システム設立に関わる事項を担当する。
- 関係各官庁へ資料・データを提供する。

2. 資産、材料、契約の管理

【材料管理】

- 固定資産管理（価値、減価償却費計算）
- 材料管理（在庫保管、監事監査、損失、損害などの価値面）

【契約管理】

- 購入・販売及びレンタルの流れ並びにサプライヤーを管理する。

- 契約管理：会社のプロジェクト、契約に対し財務面のプロセス、手続き、条件を作成する。契約のための交渉と調整に参加する。

電気、電気機械、信号通信に関する設備保守部門

1. 本社における部門の機能業務

I.機能

- －（電気設備、電気機械、信号通信を含める）設備の保守、交換、購入に関する事を助言し管理する。

II.業務

1. 各路線の標準により、各 OU が提出する保守・交換・購入の手順、計画及び教育計画を審査する。
2. 所管業務に係る関係官庁に対する承認申請と交渉に関する事項を担当する。
3. 設備の保守、交換に関する入札、委託契約の業務を実施する。
4. 設備保守の一般的なルールを策定し、集約する。
5. 設備の保守・交換・購入の計画をまとめ、調整を行う。
6. 設備の保守・交換・購入の手順、手続きを策定する。
7. 各 OU が設備を保守、交換、改良する事を監査し評価し管理する。
8. 事故の予防、調査、報告の実施を協力する。
9. 事故を集計し、技術を分析し検査し、事故処理手順を策定する。
10. 電気供給の需要に関する計画を策定する。
11. 設備修理・保守・更新のコスト予算を審査する。
12. 各路線間の資材供給、部品使用に関する業務を調整、管理する。
13. 必要に応じ、各路線間の保守社員を管理し転勤する。
14. 上司が分担する他の業務

2. OU における部門の機能業務

I.機能

- － 会社の手順、規定により、設備の保守、保持、交換を直接に実施する

II.業務

1. 各 OU が担当する設備保守の詳細計画を立てる
2. 各路線の設備の保守、保持、交換に関する手順を策定する
3. 所管業務に係る作業の展開計画を策定する
4. 列車運行の過程における電気需要の計画を策定する
5. 設備の交換、購入、改良に関する詳細計画を策定する
6. 交換、購入、改良の必要な設備一覧表を策定する
7. 所管業務に係る事故の調査、予防、処理の作業を報告する
8. 事故を集計し、分析し設備性能を改良する
9. 設備の定期的な保守、交換に関する計画を立てる
- 10.設備の保守改良に関する入札予定、委託契約予定のコストを設定する事項を実施する。
- 11.設備保守規定を策定し改訂する
- 12.設備保守の社員教育計画を立てる
- 13.上司が分担する他の業務

車両保守部

本社（車両保守部）

I．機能：本社に車両の保守・更新・取替えを管理する機能を助言し、実施する。

II．任務：

- 1 -車両保守に関するルール、手続きプロセスを作成する。

2-関連 線ごとの仕様に基づいて、車両の修理・保守・更新のプロセス・計画を審査する。

3-各線の車両の保守・更新業務を監督・評価・管理する。

4-所管業務に係る関係官庁に対する許、認可申請等に関する事項

5- 基準に基づいて、車両の修理・保守の予算を審査する。

6-車両保守・更新に関する入札・委託契約を実施し協力する。

7- 事故の統計・分析を行い、技術をチェックし、事故の応急処置プロセスを策定する。

8- 車両メンテナンスに関わる車両及び設備の設計・改善並びに車両更新技術に関する事項を担当する。

9-車両の修理・検査の方法を調整し、改善することに関わる調査・研究を実施する。

10-線路の間の資材・付属部品の供給需要に関して調整・管理を行う。

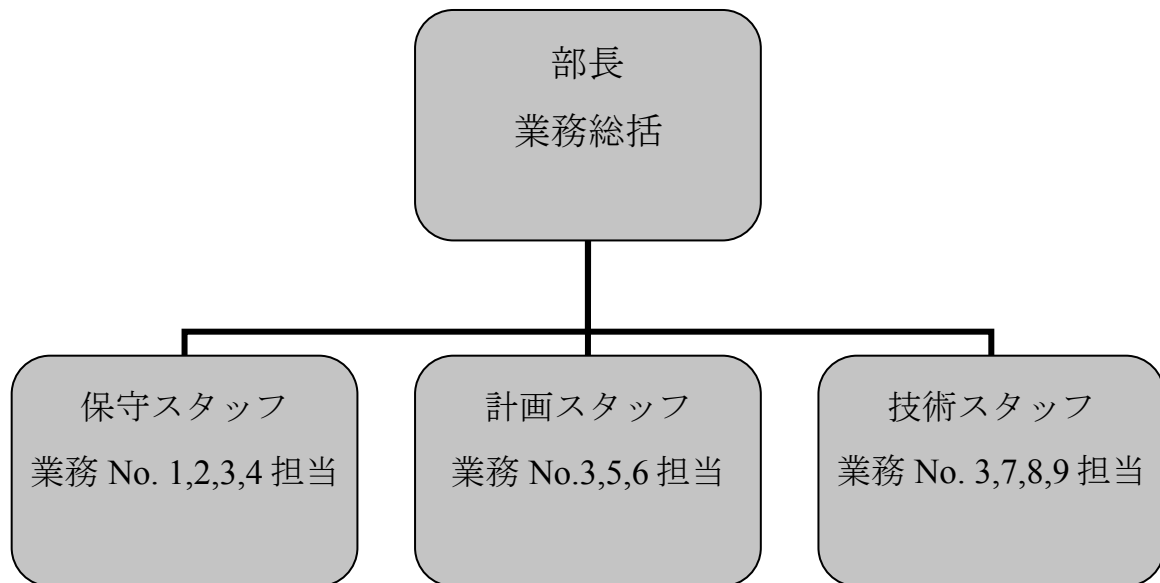
11- 請求によって、線路の間の保守人材の移動・管理を行う。

12-自分が担当する業務を報告する。

13-技術に関する都市鉄道を引き受ける全体計画を作成する。

14-調達のことに当たり、レベル分けとその内容を提出する（HQ と OU の間）

2A 号線の開業時点では、10 と 11 番の業務がまだスタートしない。そのために、2A 号線の開業時点（4 名）での車両保守部の予定要員は以下のとおりである。



現業（OU）：

I．機能：

1- 本社の規定・プロセスを守り、車両のメンテナンス業務を直接に担当する。

II．任務：

1- 仕様基準に基づく車両の保守及び更新の計画・プロセスを策定する。

2- 規定に基づく列車の質を確保するため車両の保守・更新に係わる実施及び実施管理並びに検査を実施する責任を持つ。

3- 列車修理の責任を持ち、営業できる要請に合う質がある列車を提供する。

4- 列車の故障状況の確認及び保守できた車両の引渡しを実施する。

5- 事故を統計し、設備性能を分析し、徹底に使用する。

6- OU の保守活動を安全且つ効果に実施できるような保守・更新の予算を検討し、提案する。その提案は本社の合意が必要である。

7- 車両の保守、改良等に係る工事請負予定価格並びに工事受委託予定価格の作成に関する事項を担当する。

8- 所要資材の需給に関する事項を担当する。

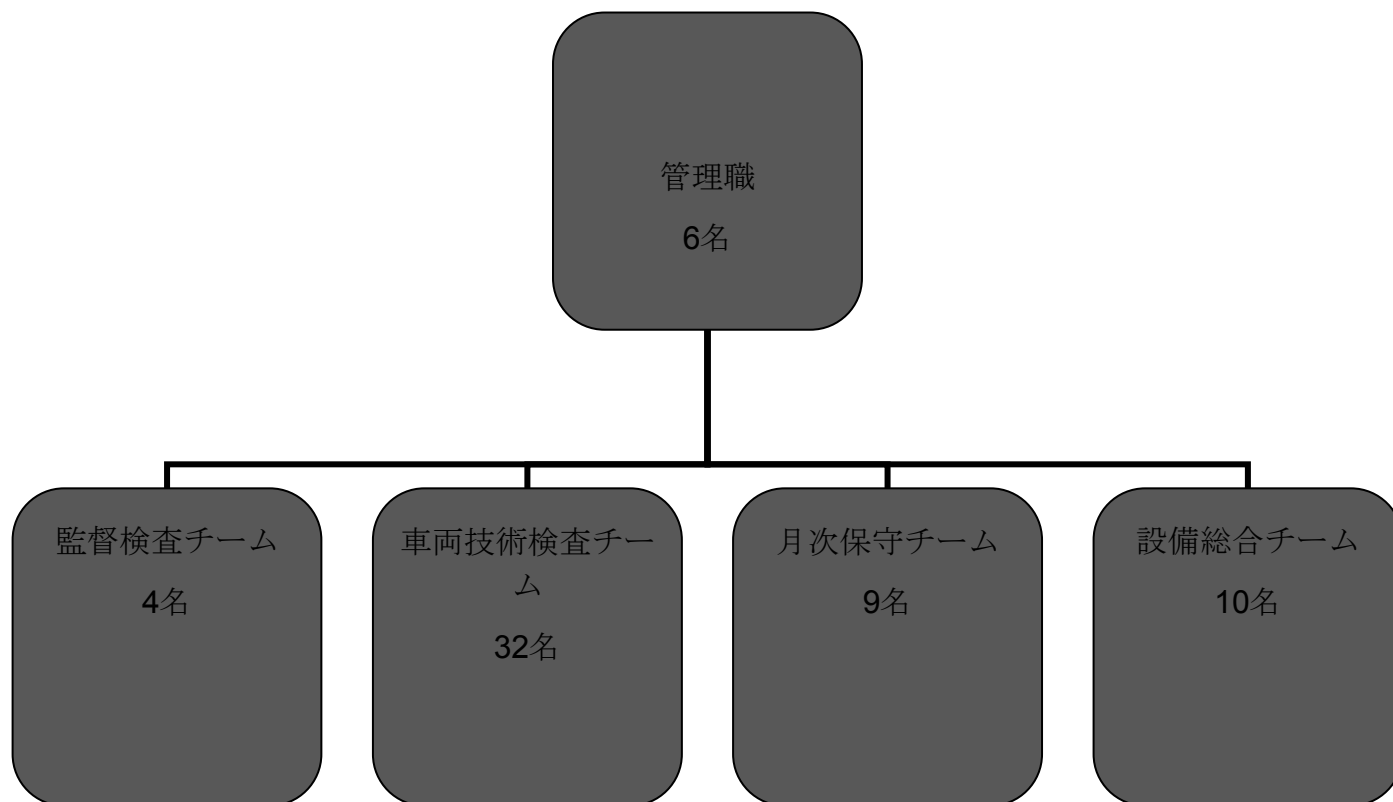
9- 関係がある台帳、図表類の整理及び保管に関する事項を担当する。

10- OU の保守部門の人事計画を作成する。

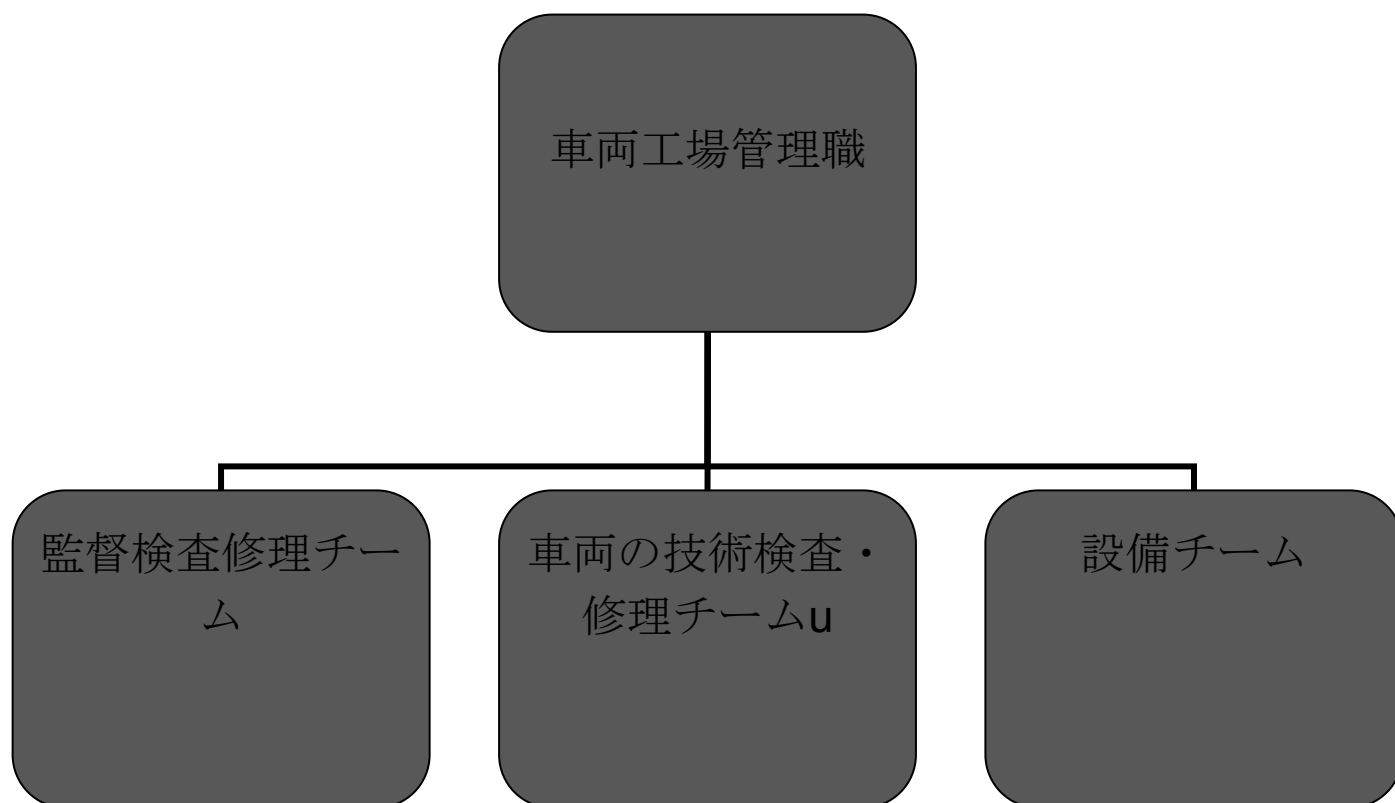
11- 車両メンテナンスに係わる車両・設備の設計及び製造並びに改善を提案し、実施する。

2A 号線の車両保守要員計画

計画によると 2A 号線の保守要員は 61 名を含む。
車両分解時の台車修理係員は、開業 3 年後配置される。



各路線の保守課の組織体制の提案



企画部

1.機能:

- 会社全体の方針及び営業方向を助言する。
- 会社全体の戦略、発展プロセス、計画を助言する。
- 会社の投資・営業プロジェクトを促進することを助言する。
- 会社のプロジェクト・投資への管理・実施のレベルわけを助言する。(契約と入札作業を管理する)。

2.業務:

2.1 企画業務について:

- 会社の経営理念を作成する。
- 各部署による作成された計画に基づき、会社全体計画を作成する。
- 年次、四半期、月次の運輸計画を作成する（営業計画）
- 各部署の調達計画・修理計画を管理する。
- 会社によるプロジェクトを投資する計画を作成する。
- 会社全体の計画・戦略を管理、実施することを奨励する。
- 営業部による提出した営業計画を審査する。

2.2 入札業務について

- 会社全体の請負計画を作成する議長に努める。
- 会社全体の請負を実施する議長に努める。
- 契約のための交渉・締結を実施する議長に努める。
- 会社の契約実施の進捗を管理する。
- 契約のプリペイド、清算、決算を協力し、管理する。

2.3 プロジェクト投資業務について

- 会社の投資プロジェクトを提案し、建てる。
- プロジェクトを実施するための資源を調達する。
- プロジェクトの実施進捗及び計画を奨励し、管理する。

2.4 資本金管理業務について (この件に関し、財務部が担当するか、企画部が担当するかまた検討が必要)

- 年次、四半期、月次の資本金を作成し、管理する。
- 会社の年次の資本金を調整し、追加する議長に努める。

2.5 報告業務について

- 国家、都市とドナーの規定に基づき、関係各ユニットに協力し、報告を実施する。(あれば)

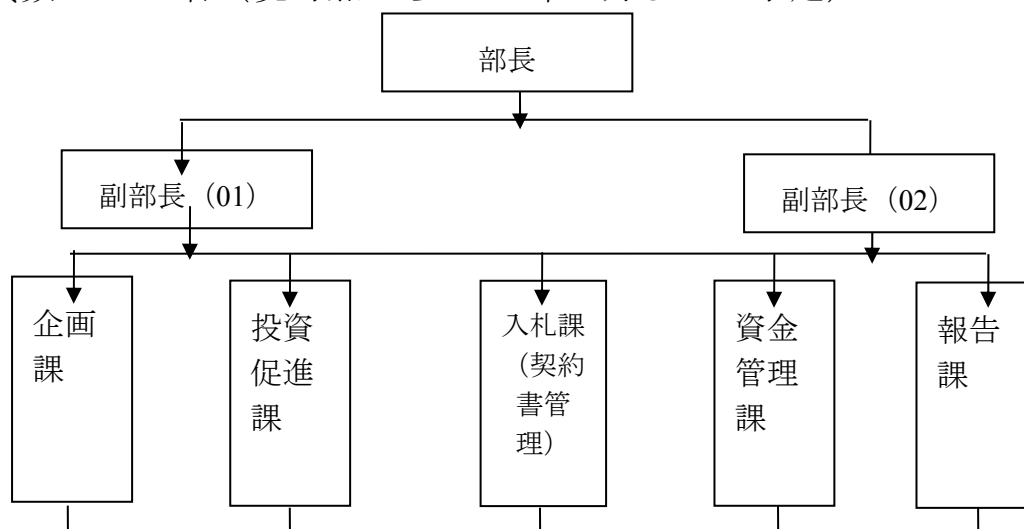
- 年次、四半期、月次と不規則な時の報告書を作成する。（あれば）
- 年次計画展開及び反省会の報告書を作成し、その会議の結論を通知する。

2.6 その他

- 各部署に協力し、不規則な業務を実施する。
- 上司に分担してもらった業務を実施する。

IV - 企画・投資部の組織図

要員数：3～7名（現時点から 2015 年 6 月までの予定）



備考：

- 指導関係 : →
- 同僚関係 : —

営業部

1 – 営業部機能業務（HQ）

1.1 機能:

1. 運賃営業及び運賃以外の営業を含め、会社の営業・投資の戦略、計画、法案を立て、助言する
2. 会社のイメージを創造・向上し、乗客に便利なサービスを供給し、それに資する社員を育成し、それを広報する事を助言する

1.2 業務:

a. 全般業務

1. 運賃営業及び運賃以外の営業を含め、全体計画を策定する.
2. 会社の営業を主担当し、投資計画・戦略を実施する.
3. 関連部門と協力し関連のある入札業務を行う
4. 営業部門の規定、手順を策定する
5. 関連部門に協力し営業による収入金管理手順を策定する
6. 営業活動に関する契約書の作成、実施、管理を主担当する
7. 営業・広報の活動に関する業務を OU に指導し管理する
8. 関連部門に協力し OU（営業部門）の人事計画を策定する

b. 運賃営業

9. 駅別及び路線別の運輸需要を調査し研究する
10. 乗車券の政策及び運賃システムを策定し管理する
11. 乗車券の投資、発行、管理に関する業務を担当する
12. 乗客数、運輸による収入金の予算、決算を行う

c. 非運賃営業

13. 駅の周りのインフラ、バス、タクシー、自転車など他の運輸種類を研究し投資し建設する
14. 駅構内、車両の内外、沿線、路線における広告営業活動を管理し、実施する
15. 駅、駅の周辺などにおける不動産、店舗賃貸に関する営業活動を管理し、実施する（ある場合）
16. 運賃以外の営業活動における取引先を探し選定する
17. 会社の都市鉄道システム運行用資材の各部門に作成され、検査された購入計画を実施する

d. 広報

18. 広報作業に関する計画、提案を立て、実施する（会社のイメージを創造・向上し、乗客に便利なサービスを供給し、それに資する社員を育成し、それを広報する）
19. 乗客の意見、クレームを受け取り、処理し、営業サービスの質を向上させる
20. 乗客取扱標準を策定する
21. 会社が分担する他の業務を実施する

2- 営業部機能業務 (OU-現業)

2.1 機能

1. 旅客運輸の調査、集計、助言
2. 会社イメージ発展及び旅客サービス質向上のための助言

2.2 業務

1. 乗車券の発売、集札及び発売金の収集
2. 通常の時及び事故がある時に旅客への案内、保安
3. 遺失物の検索、管理、引渡し
4. 駅構内及び列車内の清掃に関する事項
5. 広告及び会社イメージ向上に関するイベント・プログラム・セミナーなどを実施するために HQ と協力する。
6. 現場及び駅構内における災害及び鉄道事故の応急処置に関する事項

3－HQ 及び OU の組織図

3.1 営業部の組織図 (HQ)

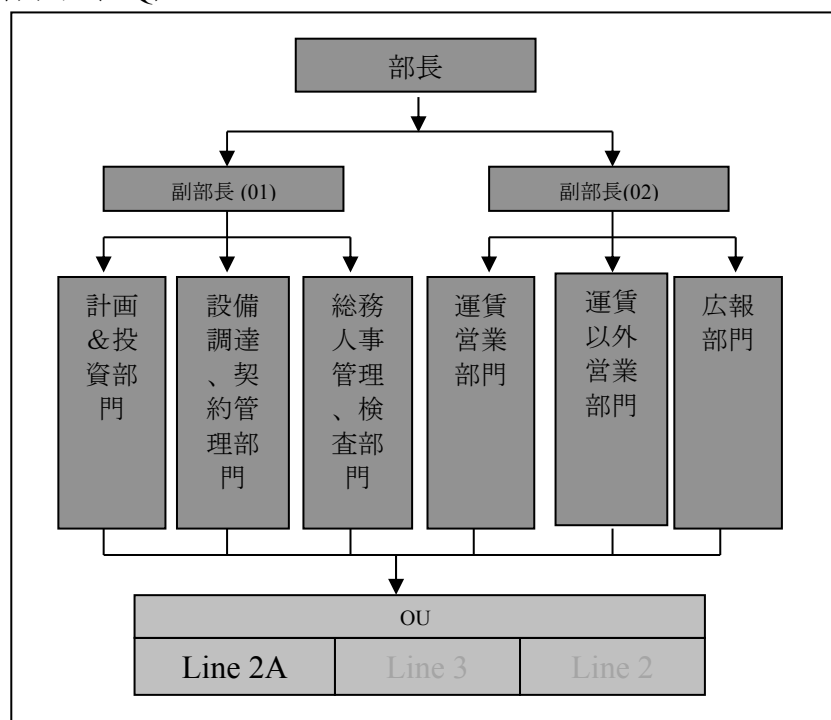


図 1. 営業部の組織図 (HQ)

3.2 営業部の組織図（駅）（OU）

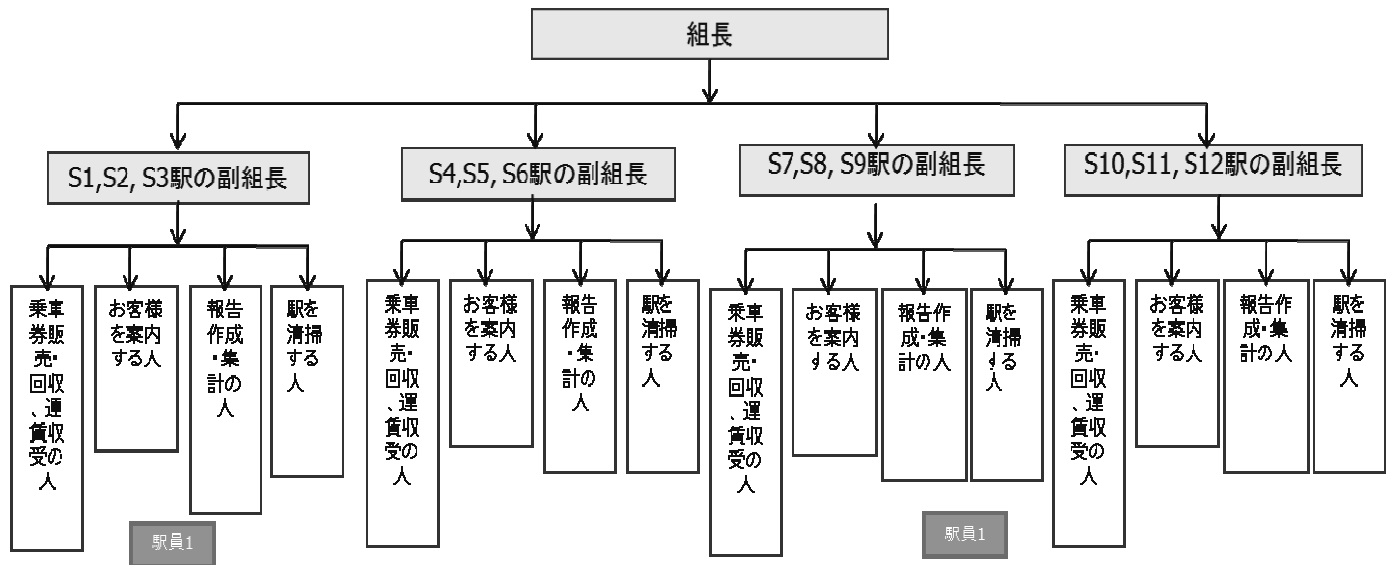


図 2. 営業部の組織図（駅）（OU）

3.3 営業部の業務記述（駅）（OU）

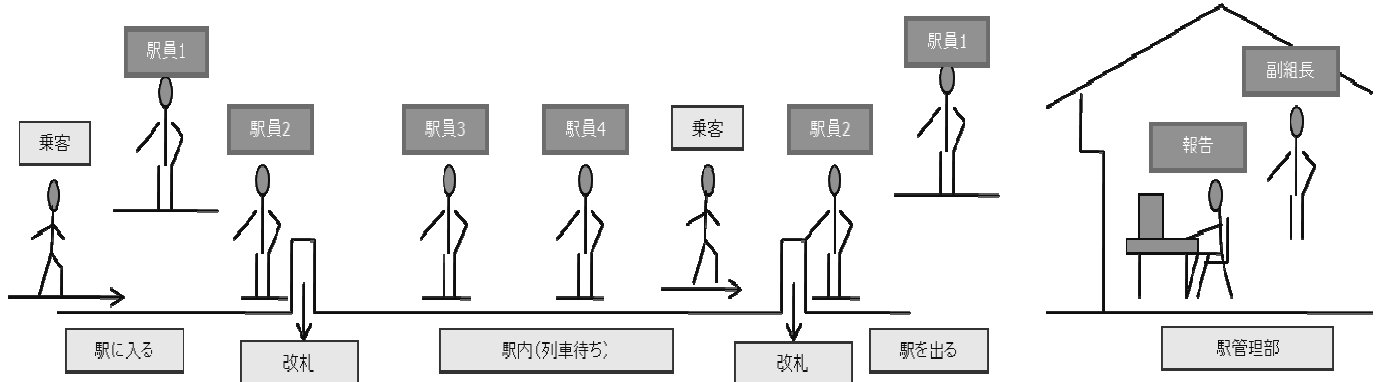


図 3. 営業部の業務記述（OU-現業）

- 1- 駅務員 1：乗車券の販売、運賃の受取り
- 2- 駅務員 2：乗車券の販売、安全乗車、行くルーティン、乗車券改札、事故発生・荷物遺失時の処理など乗客に案内する
- 3- 駅務員 3：列車到着・出発時の安全を警報し、列車の乗り換えに関する安全（警報）のアナウンス、乗客案内を行い、事故発生・荷物遺失時の処理を行う。
- 4- 駅務員 4：駅構内の掃除
5. 副組長：日常業務管理、日報作成

（駅務員 2,3 は安全警報を行い、事故発生など時に応急を乗客に案内する）

4－会社の営業種目の提案

4.1－主営業種目

- 都市鉄道輸送及び他方式輸送の営業
- 都市鉄道の管理、運行、保守及び修理
（初期段階では 1 路線及び将来には他の路線に対する）
- 都市鉄道に対する設備、部品をコンサルタント、調査、製造する。
- 都市鉄道の建設投資をコンサルティングする。
- 都市鉄道の人材（運転士等）を教育する。

4.2－他の営業種目

- 不動産営業（店舗や設置位置等を貸す）
- 駐車場営業
- 広告営業

構造物保守部

I. 本社:

1) 機能:

- 構造物保守に関する管理機能を助言し実施する。
- 構造物研究に関する機能を助言し実施する。
- (保守は検査、保守、修理、改善、更新の作業を含める)

2) 業務:

- 現業の検査作業を管理する。
- 現業の保守計画を検査する。
- 全線の全体保守計画を作成する。
- 各路線の保守に関する入札、委託契約に関わる作業を行う。
- 現業の保守職員計画を作成する。
- 現業の保守手順を検査する。
- 現業の設計、保守費用を検査する。
- 現業の資料供給、部品使用に関する計画を管理する。
- 各路線の保守作業を監査し検収し、保守作業を管理する。
- 構造物保守に関する規則、技術標準システム、テクノロジー手順を作成する。
- 構造物保守に関する作業に関する承認申請書を管轄機関に提出する。
- 事故を分析し確定し、事故対応の対策を策定する。
- 検査、保守方法改善に関する研究を行う。
- 構造物保守作業用設備の設計、改善に関する作業を行う。

3. 人数: 04 名

II. 現業:

1) 機能:

現業は会社の規則、手順により、構造物保守作業を直接に行う責任を持つ。

2) 業務:

- 現業の検査作業を行う。
- 現業の保守計画を立て、報告し、承認申請書を提出する。
- 保守に関する入札計画、委託契約の内容を策定し、承認申請書を提出する。
- 現業の保守に関する入札、委託契約に関わる作業を助言し提案する。

- 現業の保守職員計画を提案する。
- 作業を設計し、保守費用を計算する。
- 現業の材料供給、部品使用に関する需要を確定する。
- 保守作業を行い、監査し、その保守の内部検収を行う。
- 本社と協力し、完成済・未完成の保守作業を検収する。
- 事故を集計し分析し、本社に事故に関する意見を提案する。
- 保守に関する設備改善を提案する。

3)人数: 28 名

安全品質部

1.機能: 運行安全及び他のプロジェクト/投資営業活動の安全について助言し、その安全の機能を行う。

2.業務:

*** 安全作業:**

- (1) 会社の安全に関する政策、規則、計画を策定する。
- (2) 会社の他の部署及び現業の安全計画を検査する。
- (3) 安全に関するプログラム、プロジェクト、計画を検査する。
- (4) 会社の各部署及び現業が行う安全管理作業を監視し評価し監査する。
- (5) 安全に関する組織、管理、処理における決定レベルを分ける。
- (6) 会社の規定により事故、アクシデントの対応に携わる。
- (7) 安全上、建設完了の都市鉄道プロジェクトの受取り計画、対策を立て、その受取りを行う。
- (8) 本部門の業務に関する書類、責任説明書及び承認申請書を作成する。それは安全に関する許可申請の作業の主催を含める。
- (9) 社員総会、監査役にタイムリーに適正な情報を供給する。

(10) 分掌された業務に関する報告を行う。

* 品質作業

- (1) 品質に関する会社の政策、規則、計画を立てる。
- (2) 会社の各部署及び現業の品質計画を検査する。
- (3) 会社の各部署及び現業が行う品質管理作業を監視し評価し監査する。
- (4) 品質上、組織、管理、処理における決定レベルを分ける。
- (5) 安全上、建設完了の都市鉄道プロジェクトの受取り計画、対策を策定し、その受取りを行う。
- (6) 本部門の業務に関する書類、責任説明書及び承認申請書を作成する。それは（規定がある又は要求される場合）品質に関する許可申請の作業の主催を含める。
- (7) 社員総会、監査役にタイムリーに適正な情報を供給する。
- (8) 分掌された業務に関する報告を行う。

* 総裁が分掌した他の業務を行う。

3. 人数: 3-6 名

列車運行部

I) 機能：機能：絶対に安全、且つ効果、定時発着に運行できるように、指令・運行管理の機能を実施し、助言する。

II) 業務：

(a) 運行計画課 (operation planning section)

- (1) 列車運行計画を作成する。
- (2) 各路線のダイヤを作成する。
- (3) 運転士及び運行社員に対する育成計画・流れの作成及び監視・検査を実施する。

(4) 運転関係係員の適性検査に関する事項を担当する。

(5) 各路線間の人事の調整及び異動を担当する。

(b) 運送課 (transport section)

(6) 列車運行計画の調査・検討・改善を行う。

(7) 所管業務に係る関係官庁に対する通知、報告等に関する事項を実施する。

(8) 各 OU の OCC への管理・監督・評価を直接に担当する。OU と協力し、列車運行の事故を処置し、事項発生時の運行計画を決定する。

(9) 全ての線区の総合 OCC の設立を研究する。

(c) 安全運行課 (operation-safety section)

(10) 各 OU による実施される運行業務に係わる監視・評価・管理を実施する。

(11) 運行社員用の列車運行規程/基準に係わるマニュアルを作成する。

(12) 事項を防止するための保安設備の新設及び改良計画を作成する。

(13) 災害及び鉄道事故の防止、調査並びに報告に関する事項を担当する。

(14) 運輸施設及び設備（運転保安設備を除く。）に係る基本計画及び実施計画の策定並びに実施に関する事項を担当する。

(HQ) 運行部の要員数

部門／職位	要員数	備考
運行部部長	1	
運行部副部長	2	
運行計画課	2	
運送課	2	
安全運行課	2	
合計	9	

OCC の係員の機能・業務

1. 安全且つ効果運転を確保するために、列車の運転状態を全て監視、統轄する。
2. 安全保障装置が故障した場合に各列車の間の安全確保（指令方式に）に関する業務を実施する。
3. 電力供給システム及び電力配分システムを監視、操作する。
4. 列車ダイヤ通りに正常運行常態を復元する。
5. 事故や輸送障害発生時の緊急処置に関する業務を実施する。
6. 駅設備及び沿線設備の故障を監視し、関連機関へ報告する。
7. 線路閉鎖及び保守用車調整に関する業務を実施する。
8. 路線クローズに関する業務。
9. その他ハノイメトロ社長又は管轄機関によって指示される随時業務を実施する。

軌道保守部

I) HQ の軌道保守部の機能

- (1) 軌道設備保守に関する管理機能を助言し、実施する。
- (2) 軌道設備研究に関する機能を助言し、実施する。

（保守は、保全、修理、改造、更新の作業を含む。）

II) HQ の軌道保守部の業務：

- 1 - 軌道設備保守に関する各種規程、技術標準、テクノロジープロセスのシステムを作成する。
- 2-各関連路線の技術標準に基づいて軌道設備保守の手順・計画を審査する。
- 3- 各路線の軌道設備保守を監督、評価、管理する。
- 4-軌道設備保守に関して管轄機関の承認申請に関する業務を実施する。
- 5-軌道設備の設計、保守コストを審査する。
- 6-軌道設備保守に関する入札、委託契約の業務を実施する。
- 7- 技術検査、トラブル分析・確定、トラブル対策作成に関する業務を実施する。

8-軌道設備保守のための設備設計・改造に関する業務を実施する。

9- 検査、保守方法改善に関する研究をする。

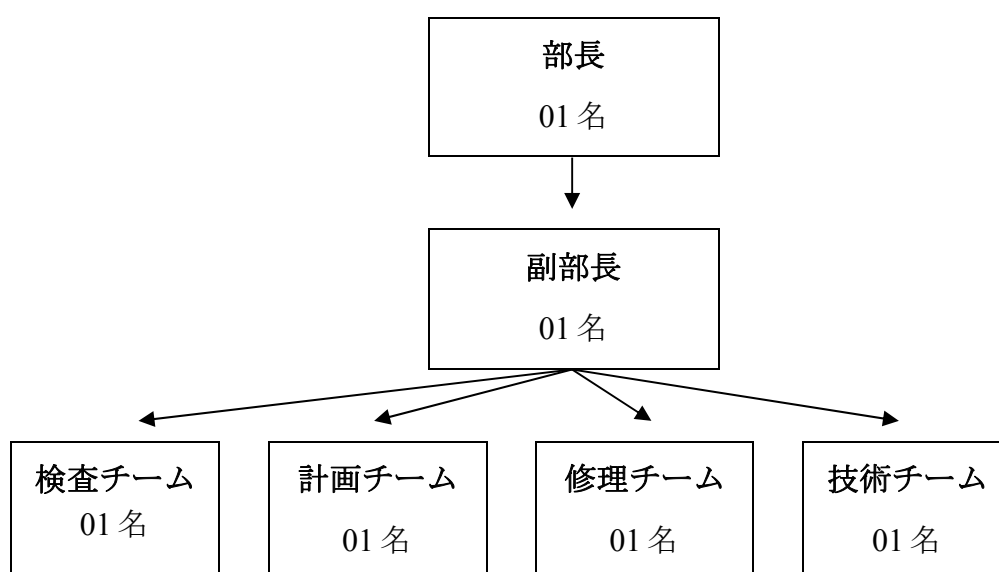
10- 各路線から保守作業受け取りを実施するために計画、方法、組織を作成する。

11- 各路線間の資材供給、部品使用に関する要求を調整、管理する。

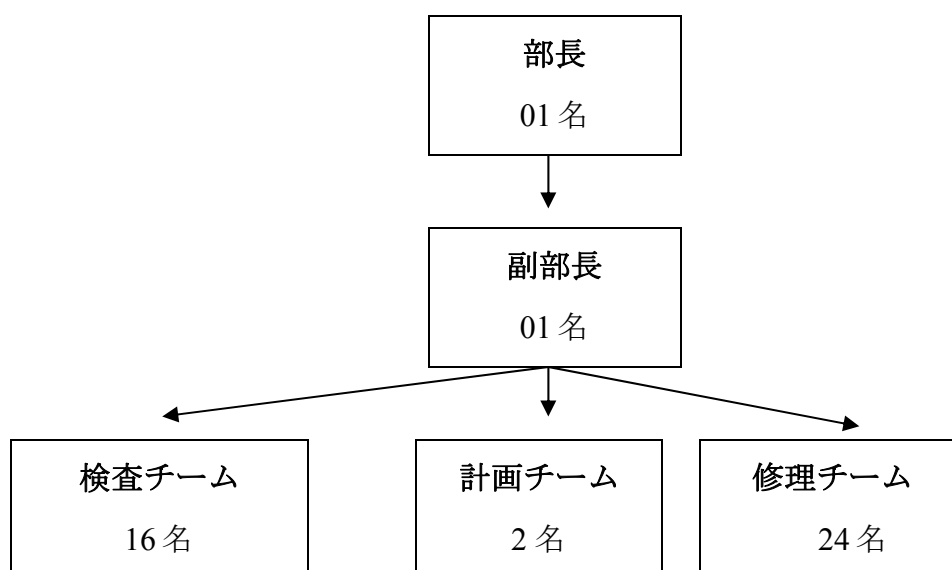
12-必要に応じ、各路線間の保守社員を管理し転勤する。

III)軌道保守部の組織図 (HQ と OU)

1) 本社 (HQ)



2) 現業企業 (OU)



注記：

本社 (HQ)

- 部長は、HQ と OU に対して責任を有し、不在時副部長に委任できる。
- 副部長は、HQ 及び OU の各チームに対して責任を有し、業務を統轄し部長へ報告する。不在時各チームリーダーに委任できる。
- 各チームリーダーは、HQ と OU における業務実施、部長、副部長への報告に関する責任を有する。

現業企業 (OU)

- 部長は、OU に対して責任を有し、不在時副部長に委任できる。
- 副部長は、OU の各チームに対して責任を有し、業務を統轄し OU 部長へ報告する。不在時各チームリーダーに委任できる。
- 各チームリーダーは、自分のチームで実施した業務、OU 部長及び副部長への報告に関する責任を有する。

中期経営計画（5年営業計画）

目次

I – 根拠	3
II – 方向性、目標	3
2.1 方向性	3
2.2 目標	3
III – 方法	4
3.1 2016 -2020 年のハノイの GDP 成長（付録 5）	4
3.2 2016 -2020 年のハノイ人口、観光客、旅客輸送需要の予測（付録 6）	4
3.3 Cat Linh-Ha Dong 路線、2 号線 Nam Thang Long-Tran Hung Dao、3 号線 Nhon-ga Ha Noi を利用する旅客流量予測（付録 7）	4
IV- 計画内容	4
4.1 収支計画	4
4.2 資金配賦計画	5
4.3 計画-安全-	5
4.4 会社強化（戦略 1）	5
4.5 市場進出/Maketing（戦略 2）	6
4.6 運賃（戦略 3）	6
4.7 他の公共交通形式との連携（戦略 4）	6
4.8 関連事業（店舗、広告、インフラ）（戦略 5、6、7）	7
4.9 駅構内での店舗を利用する旅客の接続（戦略 8）	7
4.10 人材計画	7
4.11 各部の計画	8
IV – 付録	9
付録 1 企業理念	9
付録 2 長期ビジョン	10
付録 3 経営戦略	11
付録 4 環境・経済社会の分析	13
付録 5 会社分析	17
付録 6 需要予測	23
付録 7 2A 号線 Cat linh-Ha Dong、2 号線 Nam Thang Long-Tran Hung Dao、3 号線 Nhon-Ga Ha Noi を利用する旅客流量	26

I – 根拠

- 2005/6/14 付 鉄道法第 35/2005QH11 号、
- 2014/11/26 付 企業法第 68/2014/QH13 号、
- 2014/11/25 付 不動産営業法第 66/2014/QH13 号、
- 2012/6/21 付 広告法第 16/2012/QH13 号、
- ハノイ鉄道一人有限会社設立についての 2014/11/27 付 HPC による決定文書第 6266/QĐ-UBND 号、
- ハノイ鉄道一人有限会社の組織・定款の承認についての 2015/6/15 付 HPC による決定書第 4694/QĐ-UBND 号、
- ハノイ鉄道一人有限会社の決定書第〇〇号により制定される財務規制、
- ハノイ鉄道一人有限会社の〇日付の決定書第〇〇号で承認、制定される企業理念、
- ハノイ鉄道一人有限会社の〇日付の決定書第〇〇号で承認、制定される長期ビジョン、
- ハノイ鉄道一人有限会社の〇日付の決定書第〇〇号で承認、制定される 30 年営業計画。

II – 方向性、目標

2.1 方向性

- 2016 年：会社管理システム整備、2A 号線 Cat Linh-Ha Dong の受取、開業、
- 2017 年：関連事業・沿線営業の活動展開、3 号線 Nhon-Ga Ha Noi 受取の準備、
- 2018 年：3 号線 Nhon-Ga Ha Noi の受取・開業、2 号線 Nam Thang Long-Tran Hung Dao 受取の準備、
- 2019 年：2 号線 Nam Thang Long-Tran Hung Dao の受取・開業、
- 2020 年：他の計画路線の受取準備。

2.2 目標

- 目標
 - + 収益：.....VND/2016 年
- 重要業績評価指標（KPI）
 - + 大事故件数：0

- +列車遅延 平均：〇〇分以下
- +予測を上回った旅客数：
- +関連事業を行う駅数（広告及び店舗）：

III – 方法

市場・提供製品のまとめ、分析、評価

3.1 2016 -2020 年のハノイの GDP の推移予測（付録 5）

3.2 2016 -2020 年のハノイ人口、観光客、旅客輸送需要の予測（付録 6）

3.3 Cat Linh－Ha Dong 路線、2 号線 Nam Thang Long-Tran Hung Dao、3 号線 Nhon-ga Ha Noi を利用する旅客流量予測（付録 7）

IV- 計画内容

4.1 収支計画

No.	内容	年					備考
		2016	2017	2018	2019	2020	
1	収益						
a.	営業収益						
a.1	運賃営業						
a.2	関連営業						
b.	設備売却による収入 （耐用年数の到来又 修復できない故障の 場合）						
2	運行・保守の費用						
a.	人件費（賃金等）						
b.	電気代						
c.	部品代（設備修繕）						
d.	関連営業費用						
e.	その他						
3	減価償却						
a.	構造物						
	高架区間						
	地下区間						
b.	電気機械の購入、設 置						
c.	車両						

No.	内容	年					備考
		2016	2017	2018	2019	2020	
d.	補充/回復（車両、電気機械の購入と設置）						
4.	税前純損益						
5	税後純損益						

4.2 資金配賦計画

No.	部門	年					備考
		2016	2017	2018	2019	2020	
1	総務部						
2	組織・教育						
3	安全・品質						
4	営業・広報						
5	企画・プロジェクト						
6	運行						
7	車両						
8	技術・保全						
	総計						

4.3 計画-安全-

No.	方法	年					基本的な内容	備考
		2016	2017	2018	2019	2020		
1	教育						運行・管理・高い技術のある修理係員を教育。	
2	検査、評価						- 開業前に全ての施設、システムを検査、評価する。	
	土木構造物						- 安全、消防、治安等のシステムを検査する。	
	設備							
	システム							
3	調整、追加							

4.4 会社強化（戦略1）

No.	方法	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	会社管理体制整備						2A 号線、3 号線、2 号線の受け取り、運行のために、会社管理体制の整備。	1

2	2A 号線受取	⇒					引渡計画の展開、管理体制の構築。安全且つ安定に運行する。	
3	3 号線受取		⇒				受取計画の策定、実施	
4	2 号線受取			⇒			受取計画の策定、実施	
5	人材教育						OJT。職員の育成計画の策定	
			⇒				新計画の実施 必要に応じて調整	

4.5 マーケティング（戦略 2）

No.	方法	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	認知度向上						政府、HPC などとイベントを開催	1
2	評価の向上						モニター、有名人、ウェブサイト	
3	ニーズの喚起						駅におけるイベント 試乗車券の実施	
4	ニーズの定着						その他媒体（テレビ、ラジオ、新聞など）	
5	利用機会の提供	⇒	⇒	⇒	⇒		駅の近くにある商工センター又新都心でイベントを開催し宣伝する。 他社と連携し、駅外で乗車券を販売する。	

4.6 運賃（戦略 3）

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	運賃	⇒		⇒		⇒	適正な運賃を設定	1
							常連顧客に対する割引、優待の検討	

4.7 他の公共交通形式との連携（戦略 4）

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	連携	⇒					バス会社とタクシー会社との交渉	1
2	3 号線	⇒					関連機関との交渉	

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
	2号線	→						
			→				3号線、2号線の受取計画の策定	
			→	→	→	→	各駅の改良（駅前広場等）	
	個人交通手段の減少	→	→	→	→	→	政府とHPCとの検討、計画策定。	
		→	→	→	→	→	展開	

4.8 関連事業（店舗、広告、IT）（戦略5、6、7）

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	駅内の店舗	→					市場研究	1
		→		→	→		活動方式の検討	
			→	→	→		店舗の施設を設置	
				→	→	→	実施、改善	
2	広告		→				広告用設備の設置	
				→	→	→	実施、改善	
	IT		→	→	→		必要な施設の研究と設置	
				→	→	→	実施、改善	

4.9 駅構内での店舗を利用する顧客の誘致（戦略8）

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	駅構内の店舗	→					優待の検討	1
				→	→	→	実施、改善	
	他の交通手段との連携	→					鉄道と他の交通手段を併用する旅客の優待を検討	
			→	→	→	→	駐車場建設研究プロジェクトを立案	
				→	→	→	建設実施	

4.10 人材計画

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
1	採用	→					採用政策の策定	3
			→	→	→	→	実施、改善	3
2	教育	→					教育計画の策定	3

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
							実施、改善	3
	給料及び顕彰						社員のインセンティブを検討	3
							実施、改善	3

4.11 各部の計画

順	対策	年					基本的な内容	長期ビジョンとの関係
		2016	2017	2018	2019	2020		
								1

IV – 付録

付録1 企業理念

スローガン：常に首都とともに走る

- 我々の使命は、都市交通システムを革新し、常に最先端の技術を導入し、最も便利なサービスを提供することにより、首都の発展に貢献し続けることです。
- 我々は、お客様、社員、取引先、社会に対する責任を果たします。
- 我々は、完璧で便利な顧客輸送サービスを提供し、透明性があり公正な営業活動を行い、近代的かつ文化的で団結力のある企業、ハノイメトロを創り、発展させます。

経営方針

お客様に対して

- 安全で快適な輸送サービスにより、人々から親しまれ利用される都市鉄道を運営します。
- 便利な生活関連サービスにより、人々の生活と文化を豊かにします。

社員に対して

- 社員の人権を尊重します。
- 社員の安定的な賃金、安全な勤務環境を保証します。
- 社員のやる気を高め、創造的な仕事を奨励する。

取引先に対して

- 共存共栄のため、尊重・公平の原則により取引を行います。

社会に対して

- ハノイ市、国の法律、方針、政策を遵守します。
- 交通渋滞減少、環境保護、国・首都の経済、文化の発展に貢献するために、インフラシステムを発展し、輸送サービスの品質を向上します。

社員の行動規範

- 安全運行の手順、ルールを遵守します。
- 一致団結し、ハノイメトロを力強く発展させます。
- 道徳、業務への責任、社会への義務を常に強く意識します。
- サービス提供、業務における取扱基準・ルール・行動に常に関心を持ち、改善します。

付録2 長期ビジョン

- ビジョン名：首都とともに力強く発展するための建設

- 期間：2016年～2026年の10年

+各路線を安全かつ安定的に運行する。

+ 体制、社内規程を完成させ、役職員の能力を向上させる。

+ 都市鉄道を宣伝し、普及させ、都市鉄道文化を造る。

+ サービスに関する市民のニーズを満たし、利便性を向上させる。

2016年：会社が2A号線を受取り、開業する。

2018年：3号線（Nhon-Hanoi 駅）を受取る。

2019年：2号線（Nam Thang Long-Tran Hung Dao）を受取る。

2020-2026年：安定的に力強く発展し、新たな目標を設定する。建設投資完了後の他の路線を受取る。

- この段階における会社の目標：

+安全、安定的に運行し、市民に信頼され、好まれる。

+健全な企業になり、常に革新し、首都の発展に寄与する。

+被用者にとって理想な職場になる。

目標を達成できるように具体的な行動：

+安全、安定的に運行し、市民に信頼され、好まれる。

*先進な技術を受取り、マスターする

*他の交通手段より都市鉄道使用の優秀性を宣伝し一般化する

+健全な企業になり、常に革新し、首都の発展に寄与する。

*適正な規程、内規を策定し、法律を遵守する。

* 新たな公共交通文化をつくるため、メトロ利用時の規程を策定する。

* 首都の経済社会発展及び環境保護の礎となる。

+被用者にとって理想な職場になる。

*能力のある人を採用・活用し、常に創造的な仕事を激励する。

*常に個々の職員に関心を持ち、その昇格と成長の方向を提示する。

付録3 経営戦略

都市鉄道輸送事業（運賃営業）

(1)顧客の対象及び目標：

- 会社員、沿線の住民
- 大学生
- 外国人（観光客又はビジネス客）

(2)会社強化（戦略1）

- 建設が完了した都市鉄道各路線（2A号線、3号線、2号線）を受け取る。
- 国内外の機関、組織と協力して、会社の人材を教育し、成長させる。

(3)マーケティング（戦略2）

- マーケティングを行うために、適正な計画を策定する。
- マーケティング：
 - + 公衆に都市鉄道のイメージ及びサービス、都市鉄道を使用することのメリットを宣伝するために、政府、ハノイ市人民委員会、沿線の各区と協力しイベントを開催する。
 - + 住民に都市鉄道を認知させるため、公衆とのコミュニケーションを強化する。
- 場所：他の会社、機関と連携して、乗車券を買う旅客の便宜を図る。

(4)運賃（戦略3）

- 住民の収入に適した運賃を設定する。
- 常連客に対して割引等の幾つかの割引特典を与えることで旅客のロイヤリティを向上させる。対象旅客は、法律の規定による。

(5)競合に対して（戦略4）

- 相互発展に向けての他の交通機関との提携：バスとタクシーが駅まで旅客を輸送する等、バス会社・タクシー会社と連携しそれぞれの交通モードの役割を明確化する。
- 個人交通機関使用の削減：バイク・車等の個人交通機関の使用を減少するための適正な対策を政府、ハノイ市人民委員会に提案する。

関連事業戦略

(6)目標対象

- 会社員、沿線の住民

- 大学生
- 外国人の顧客（観光客又ビジネス客）
- (7) 駅構内の店舗営業（戦略 5）
 - 2A 号線を開業した直後に旅客及び各駅に近く住んでいる住民のニーズに適した店舗を研究、営業する。
 - 営業方式：直営、若しくは委託、賃貸とする。
- (8) 広告（戦略 6）
 - ポスターやテレビより車内で広告を行う
 - 列車内外、駅における広告を実施するために広告会社と連携する。
- (9) 情報技術施設（戦略 7）
 - 運行に影響を与えないようなケーブル、インターネットシステム設置を研究を行う。
- (10) 駅構内の店舗との営業（戦略 8）
 - 駅構内の店舗において一定の総額で消費する者に対して無料乗車券を与える。
 - 1 日乗車券を購入した旅客に対して駅構内の店舗で利用可能な割引特典をつける。
他の交通機関と連携する。
 - 都市鉄道利用旅客に対して駐車料の割引特典を与える。
 - 駐車場又はバス停、タクシー停を駅にアクセスしやすい場所に設置することを提案する。

機能系統

(11) 人事戦略

- 管理：
 - + 採用：多様な源から、ニーズによる
 - + 新人教育
- 教育
 - + 座学：必要な時に行う教育、定期的に行う教育
 - + 現場での教育（OJT）
- 賃金及び顕彰
 - + 職位毎に賃金水準を設定する。
 - + 従業員に対して動機付けを行うために適正な顕彰制度を策定する。

付録4 環境・経済社会の分析

1. 会社分析 (Company)

会社が設立間もなく運行経験乏しいため、先進的且つ複雑な技術の導入は、長所にも短所にもなり得る。

メリット	デメリット
<ul style="list-style-type: none"> ・大量運輸 ・安全・定時 ・早い・快適 ・便利なサービス（関連事業） ・環境にやさしい 	<ul style="list-style-type: none"> ・ネットワークが未整備 ・新たな公共交通手段（使用する人民が少ない） ・人事の経験が少ない ・運行・保守費用が多い ・駅から（まで）歩く（人民が慣れていない） ・適正な駐車場、停車場がない ・運賃（高い可能）

2. 競合分析 (Competitor)

バス：

ハノイ市の主な公共交通機関である。70 路線、1180 台運行されている。利用旅客数は 2011 年：440.629.503 人 2012 年：453.719.550 人、2013 年：460.000.000 人（Tramoc の報告による）となっており、全ての交通手段のうち 10 % のシェアを占める（2009 年 Tramoc の調査による）。しかし、車内の治安が悪く、また、大気汚染原因となっている。とはいえ、バスはもっともシェアの高い公共交通機関であり、多数のハノイ市民の通行需要を満たしていると評価されている。

メリット	デメリット
<ul style="list-style-type: none"> - ネットワークが充実している - 運賃が安い - バス停が便利である 	<ul style="list-style-type: none"> - 渋滞 - 環境汚染を発生させる - 不安全（セキュリティー問題、かっぱらいなど） - 古いモデルのバスが使われる路線がある

バイク：2020 年までのベトナム陸上交通運輸整備計画によると、バイクの台数は 2020 年には 3600 万台の程度で頭打ちとなるとされている。しかし、MOT の統計

によると、2013 年前半において登録され、実際に利用されているバイクの台数は 3700 万台以上となっており、引き続き増加している。

ハノイ市においては、2020 年までにバイクの使用率が 30%となる見込みであり、バイクは未だ主な交通手段といえる。移動しやすく場所をとらないバイクはハノイ市の都市の事情に合っており、重宝されている。現在、このハノイ市において利用されているバイクの台数は 400 万台と推定されている。

メリット	デメリット
<ul style="list-style-type: none"> - 便利 - バイクの購入費用が収入金に適切する。 - どこへでも行ける - 止められる場所が多い - 首都の 95%の住民が所有している 	<ul style="list-style-type: none"> - 渋滞、事故のリスク - 環境汚染の原因 - 燃料が高い：2500 VND/L - ヘルメット、マスクなどが必要 - 雨の時危険で不便 - 運輸人数が少ない（最大 2 人） - 盗まれやすい

自動車及びタクシー:この数年間（2007-2012）、市場経済が不動産事業を中心に発展し、社会生活が向上したため、移動のニーズを満たすために市民が自動車を買うことが容易になった。その数は 38 万台と推定されている。（数字は市外からの自動車を含まない。）

ハノイ市は、優れた文化と長い歴史をのある観光都市である。統計総局のデータによると、来越観光客は 2014 年 4 月に、745.980 人回で、2014/3 月比 5,11%増加、2013/4 月比 21,51%増加している。2014 年の 1 月から 4 月の 4 か月間では、3.073.905 人回と推定されており、去年の同期比 27,32%増加した。それに伴い、タクシー事業者が増加し、台数は 16.000 台と推定されている。

メリット	デメリット
<ul style="list-style-type: none"> - 事業を行う会社が多い - 道路が便利 - 狭隘な道路でも利用できる 	<ul style="list-style-type: none"> - 費用が高い - 渋滞の主な原因 - 止められる場所が少ない - 市内で運行する時間が制限されている。

	(法令によりラッシュ時間帯（午前 7～8 時、午後 4 時半～6 時）タクシーが通行できない通り・区がある)
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3. 市場・顧客 (Customer)

a. 市場の規模

2008 年 5 月 29 日に国会の議決によりハノイ市の境界が調整され、面積が 3 倍以上の 3300km² に拡大し、人口は 2 倍の 640 万人となった。（議決 15/2008/QH12 号）。

2011 年 7 月 26 日に首相は 2050 年を見据えた 2030 年までのハノイ首都建設計画を承認した。その中で、2030 年までにハノイ市の人口は 920 万人に達するものの、中心部の人口は 460 万人にとどまると推計された。（決定書 1259/QĐ-TTg 号）。

b. 発展見込み

ハノイ市はベトナムの首都であり、国の経済・政治・文化の中心である。1991-2010 年時点でハノイ市の GDP 成長率は 10%以上である。政府はハノイの GDP 成長率の目標として 2011-2020 年の期間には 12,0 – 13%、2021-2030 年の期間には 9,5 – 10%を設定している。ハノイ市の一人当たりの GDP は、2020 年には 7100-7500 ドルであるが、2030 年には 16000-17000 ドルに増加する。（2012 年 02 月 22 日付けの決定書 222/QĐ-TTg 号）。

c. 顧客の需要

ハノイ市の人口の自然増加率は 1.31% (2009 年)である。しかし、人口の流入による増加が 2 倍に増加したため、ハノイ市の人口は 1 年当たり約 3.5%増加している。交通インフラの整備が不十分なため交通渋滞が恒常化するとともに、騒音・大気の汚染が深刻な問題となっている。

そこで、公共交通システムの能力を向上させるために、首都の公共交通の主な役割を果たす都市鉄道ネットワークを建設することとなった。

2050 年を見据えた 2030 年までのハノイ首都建設計画によると、各交通モードの需要は以下のとおりである。

単位：%

順	段階	手段	公共交通手段		個人交通手段		その他の交通手段
			都市鉄道	バス	自動車	自転車、バイク	

1	2020	都心	15	20 - 25	13 - 15	40-45	5
2		郊外都市	8	18	10	62	2
1	2030	都心	25	30	15	25	5
2		郊外都市	13	30	18	37	2
1	Sau 2030	都心	35	30-35	12	13 - 18	5
2		郊外都市	18	30	20	30	2

(首都の全体計画による)

付録5 会社分析

1. 会社分析（company）

各駅、各路線エリアにおいて利便性の高いサービスを提供し、より多くの旅客を誘致することを目標として、会社は沿線及び駅の周辺で下記のような営業を行う。

広告営業：列車内外・駅内外

店舗営業：下記のように駅内外のスペースに適した店舗を建設・設置し、収益が期待でき、かつ利便性の高い業種を営業する。

飲食店は、レストラン、喫茶店、ファーストフードなどを営業する。

物品店舗は、飲料・食料販売の他、文房具店などを営業する。

コンビニエンスストアは、飲料・食料、物品及び他のサービスを営業する。

駐車場、停車場の営業：住民を都市鉄道利用に誘致するために、自転車、バイク、自動車等の他の交通機関を利用する旅客用の駐車スペースを整備することが必要である。

光ファイバー及びインターネット設置事業：沿線と駅。

メリット	デメリット
<ul style="list-style-type: none"> -多数の旅客が通過する。（駅構内及び列車内での広告） - 広告、店舗の営業で余剰スペースを利用できる。 - 住宅地、新都心及び学校・大学に近い駅が多い。 - 路上と比較して、旅客が安全に広告掲示を見、また買い物をすることができる。 - 移動の途上で、買いたい物を買える。 - スピーカー、画像、ポスター等、用途に合った広告を掲示することができる。 	<ul style="list-style-type: none"> -多くの旅客・乗客が携帯電話を使用するため、広告に注意を払わないおそれがある。
駅構内の店舗	
<ul style="list-style-type: none"> - 旅客は関連事業の潜在的顧客である。 - 鉄道事業と連携することができる。 - 雨が降っても旅客は雨に降られずに買い物をすることができる。 	<ul style="list-style-type: none"> - 2A号線の各駅には、スペースが少ないため、面積の大きい店舗が設置できない。 - 駅構内では少数の店舗しか設置できない。 - 高架橋の柱が道路の中央分離帯にあるため、高架下に店舗を設置するのが難しい。

2. 競合分析 (competitor)

関連事業における主な競合は、民間飲食店・雑貨店、スーパー、沿線の広告看板である。

飲食店舗、物品店舗、コンビニについては、上記の分析どおりに、Cat Linh – Ha Dong の 2A 号線は、都心とその西南の Ha Dong 区とを結ぶ路線である。沿線に住宅地、商業施設、学校が多いため、物資の消費量も大きい。市民の需要を満たすために、沿線には多数の店舗があり、多様な商品が販売されている。これら利便性及び多様性は市民にとって利便性が高く、多く利用されている。

メリット	デメリット
<ul style="list-style-type: none"> - 店舗が多い - 品目が多様 - 購買が便利 - 適切な価格 - 文化、生活に適合している 	<ul style="list-style-type: none"> - 衛生的でない - 食品の生産地が不明

スーパーについて: 沿線をまず調査・分析したところ、沿線に新たな開発地域が 7 つあり、人口の密度が相対的に高いことがわかった。これらの開発地域の住民や周辺住民の生活需要を満たすために、スーパーが設置されている。例えば、Van Phu 地区には Me Linh- Ha Dong スーパー、Quang Trung 通りに Haiway スーパー、Lang Viet Kieu 地域に Coopmart スーパーがある。

Media、Tran Anh 及び Nguyen Kim という家電量販店は Quang Trung 通にあるが、これらのスーパーは、都市鉄道の関連事業の競合ではなく、旅客誘致施設になり得る。（その他、今後の Royal、Hoa Binh、Thai Ha 及び Cat Linh という開発地区が挙げられる。）しかし、HMC の旅客のニーズに合った店舗を設置するために、各スーパーの長所及び短所を明確に分析する必要がある。このことにより、HMC が戦略上重視する点が明確になる。

メリット	デメリット
- 規模が大きく、多くの人を誘致する	- 一般的な路面店舗より価格が高い

<ul style="list-style-type: none"> - 販売品目が多様 - 人口の多い地域で営業している - 娯楽施設がある 	<ul style="list-style-type: none"> - 市場や路面店舗での購買が一般市民の習慣となっている。 - 購入目的物の種類が少なく・少量の場合はスーパーではかえって時間がかかる
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Quang Trung – Nguyen Trai 通りの沿線にある広告形式：

メリット	デメリット
<ul style="list-style-type: none"> - あらゆる形式で広告できる - 広告の面積が大きい - 価格が適正 - 多くの人の目に触れる - バス路線、タクシーが走る通りである。 	<ul style="list-style-type: none"> - 視覚的な広告に限定される - ターゲットを絞ることが難しい

3.駅ごとに対する市場・顧客(coustomer)・住民の需要分析

予測データによると、開業当初の一日の旅客数が 259,400 人回、ラッシュ時最大断面 13,400 人回、その後一日の流量が 925,300 人回まで増加する見込みである。したがって、2A 号線は、都心部ーハドン間の輸送需要に応えるものである。ハノイ市を南北に走るこの路線の沿線には、住宅地・オフィス・大学が多くあり、バスターミナル等ハドンにおける複数の重要な交通ポイントを繋げている。したがって、関連事業は、旅客の利便性向上に資するものであり、高い営業効果をもたらす事ができる。

都市鉄道 2A 号線の路線帳は 13,06Km、12 つの駅があるが、そのうち、終端駅である Cat Linh はハノイ都市建物開発会社と連携してビジネスセンターを建設することとなっている。その他の駅の特徴は下記の通りである。

駅名	駅の周辺の特徴	旅客	2016 年の一日旅客流量（人）	
			乗車	降車
Cat Linh	<ul style="list-style-type: none"> - 建築資材店、飲食店、喫茶店 - ホテルが多い - オフィスビルが多い - 文廟 - 住宅が多い 	<ul style="list-style-type: none"> - 周辺の住民：通勤客、学生、経営者 - 観光客：大きなホテルから 	41987	42545

駅名	駅の周辺の特徴	旅客	2016 年の一日旅客流量（人）	
			乗車	降車
La Thanh	<ul style="list-style-type: none"> -喫茶店、衣料品店等の小規模営業 - 駅の周辺の住民が多い - 3 号線と接続する 	<ul style="list-style-type: none"> -周辺の住民 -通勤客 -学生、大学生 	209327	210830
Thai Ha	<ul style="list-style-type: none"> -事務所とマンションを併設した大規模ビル - Vinaconex、油等の本社が多い - ショッピングセンター - ロシア・ベトナム友好協会 -映画館 	<ul style="list-style-type: none"> -駅の周辺の住民 - 通勤客 - 買い物客 - 観光客 	36162	36342
Duong Lang	<ul style="list-style-type: none"> -共産党役員教育学校 -カラオケ店が多い -Nga Tu So 市場 -大きなショッピングセンター (Loteria の建物) -大規模なショッピングセンター・娯楽施設を併せる高級マンション 	駅の周辺の住民 大学生（通勤客） 買い物客 外国人	35753	35160
国家大学	<ul style="list-style-type: none"> - 国立大学 - 寮（学校寮及び学校以外家賃貸を含む） - 商工センター及びアパート・マンション - Thang Long タバコ生産工場、Thuong Dinh 靴生産会社 - 飲食店 	駅の周辺の住民 大学生（主な対象） 労働者、職員・役員	42725	42793
Vanh Dai 3	<ul style="list-style-type: none"> -百貨店 - Xay Dung 病院 - アパート 	<ul style="list-style-type: none"> -駅の周辺の住民 -大学生 -買い物客 	35714	35725

駅名	駅の周辺の特徴	旅客	2016 年の一日旅客流量（人）	
			乗車	降車
	<ul style="list-style-type: none"> - 靴会社、Rang Dong 魔法瓶会社、大学が多い - Pico プラザ（家電量販店） 			
Thanh Xuan 3	<ul style="list-style-type: none"> - ハノイ大学 - 美術短期大学、交通短期大学 - Phung Khoang 市場（大きな市場） - 各大学の寮 - アパート・マンションの地域 	<ul style="list-style-type: none"> - 駅の周辺の住民 - 大学生 - 通勤客 	8722	8720
Ha Dong バスターミナル(旧)	<ul style="list-style-type: none"> - 建築大学、公安学院、郵政通信学院、学院 - 大規模な電気・電子機器ショッピングセンター（Nguyen Kim, Tran Anh, Coopmark）を併設するアパート地域 - Lang Viet Kieu、Van Quan マンション群 	<ul style="list-style-type: none"> - 駅の周辺（アパート・マンションを含む）の住民 - 買い物客 - 通勤客 - 大学生 	7061	7061
Ha Dong	<ul style="list-style-type: none"> 商工センター Ha Dong 市場 Le Quy Don 高校 Ha Dong 運動場 Ha Dong 病院 	<ul style="list-style-type: none"> - 駅の周辺の住民 - 買い物者 - 通勤者 - 学生 	14033	14063
La Khe	<ul style="list-style-type: none"> 住民が大勢集まる地域であり、新しいアパート建設（2 軒） 	<ul style="list-style-type: none"> - 駅の周辺の住民 - 通勤客 - 学生・大学生 	6988	6996

Van Khe	-Nguyen Hue 高校 - Van Khe アパート（新規建設）	-駅の周辺の住民 -学生	5050	5020
Yen Nghia バスターミナル (Ha Dong 新バスターミナル)	- Yen Nghia バスターミナル（ハノイバスの停留所、北方行き バスのターミナル） - 経済短期大学 - Thanh Tay 大学	-駅の周辺の住民 -学生・大学生 -通勤客	70538	70453

(2A 号線の技術設計 No. HNHD-02-02-00-00-TDS-C（表 2-6）のデータによる)

4. 目標顧客

会社は、公共旅客輸送サービスを提供する会社であるため、上述した評価のほか、都市鉄道による旅客輸送が特定の層だけでなく、全ての顧客層に向けたサービスを行う必要がある。しかし、単純に都市鉄道だけを利用するのか都市鉄道サービスを利用して買い物をするのかというような、それぞれの顧客層のニーズをよりよく理解できるように、上記の 2.2.2 における分析によると、HMC の顧客は以下通りであることがわかった。

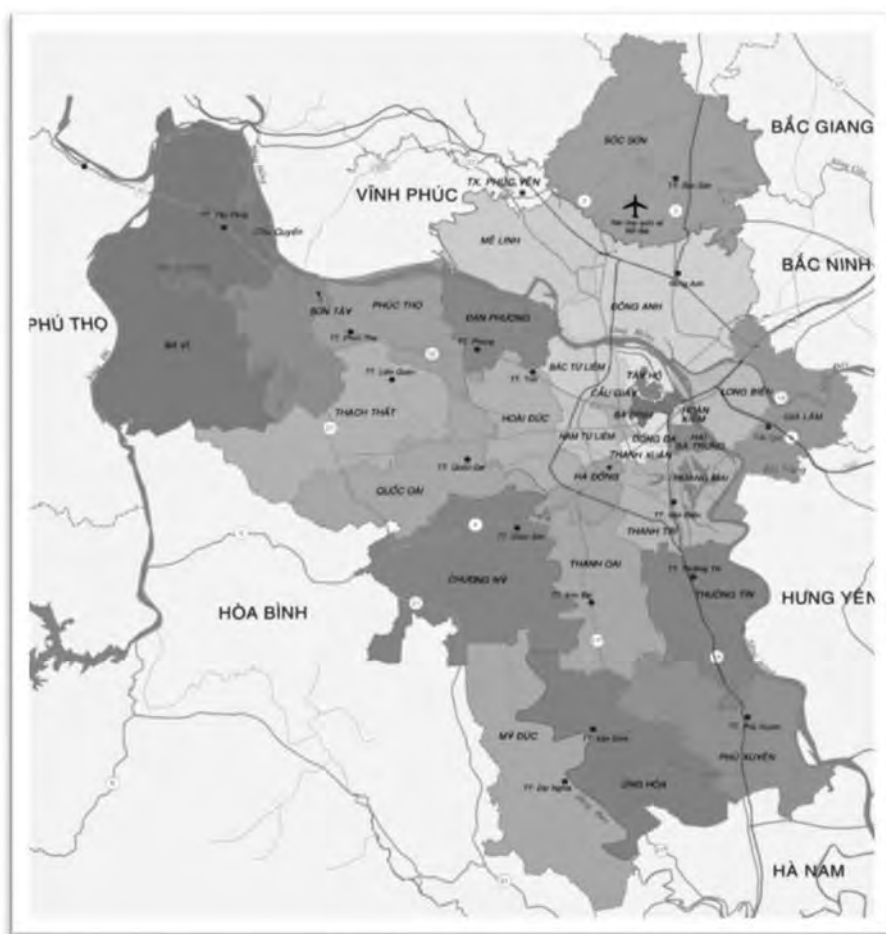
主に輸送サービスのターゲットとする顧客：職員、ワーカー、労働者、学生、大学生、

主に商業サービスのターゲットとする顧客：観光客、駅の周辺にいる住民。

付録 6 需要予測

ハノイ市はベトナム国の首都であり、国の経済・政治・文化の中心である。2008年5月29日に、ベトナム国会はハノイ市と関係省の行政境界を調整した議定15号を公布した。これに伴いハノイ市の面積が3倍以上に拡大し（3,344.7 k m²程度）、人口が690万人程度、10の区、1の町及び18の郊外郡からなる。ハノイ市の人口が全国で2番目に多く、世界の国の首都で面積が広い17都市のうちのひとつである（上記の人口は2009年のデータで、ハノイ市へ仕事で他省から来た人口を除く数字であり、それら含めれば千万人以上となる）。首相は、2011年7月26日に「2050年を見据えた2030年までのハノイ首都建設計画」を承認した（2011/7/26日付けの決定第1259/QĐ-TTgにより）。この決定によれば、2030年までにハノイ市の人口規模は920万人に増加する。

図:ハノイ市の行政地図



決定第1259/QĐ-TTg 号による

ハノイ市の発展は、国内の都市/省/地域、特に人口が2010年に1350万人から2050年に1800万人へ増加すると予想される6省を含める首都経済地域（面積13,436 km²）の発展と密接な関係がある。1991－2000年期間におけるハノイ市のGDP成長率は、平均10%/年を達成した。政府は2011－2020期間のハノイ市のGDP成長率を12－13%に、2021－2030期間でのハノイ市のGDP成長率を9.5－10%とし、2020年の一人当たりGDPを7100－7500USDに、2030年の一人当たりGDPを16000－17000USDに目標として設定した（実際の価格による）（2012年2月22日付けの首相の決定No. 222/QĐ-TTg）。

経済・社会の成果と共に、ハノイ市において急速な都市化が見られた。その都市化のスピードが今後30年にも増加しつづけると予想される（現在の都市化率は41%¹）。急速な都市化はメリットもあるものの、解決すべき課題、特に交通問題をもたらす。1998年より2020年までのハノイ市マスタープランにおいて「市民の移動需要の大半を満たすためにBRT、都市鉄道といった公共乗客交通運輸システム発展強化、首都の公共乗客運輸ネットワークの、都市鉄道システムの構築を優先する」との方針が示された（1998年6月20日付けの決定No.108/1998/QĐ-TTg）。2008年、首相によって2030年²までのハノイ首都の交通運輸発展計画案が承認され、1998年に作成された交通運輸に係わるマスタープランが策定された。2008年におけるこの交通運輸計画案においては、5路線196キロからなる都市鉄道システムが示された。

ハノイ市特に中心地における人口増加スピードは速い（4.1%/年）が、交通インフラシステムは発展途上である。渋滞が恒常化しているため移動に時間を要し、騒音や大気汚染が深刻である。

ハノイ市民は主に個人の交通手段を利用している。個人交通手段は移動ニーズの90%を占めており、公共交通システムはその残りのニーズの10%相当129.6万人の乗客のニーズを引き受けている（Trancocen,

¹2009年度ベトナムにおける人口・住宅調査－統計総局、2009。

²首相による決定 No. 90/2008/QĐ-TTg 2008年7月8日。

2012)。主な公共交通手段は 106 万人の乗客を輸送するバスシステムである。その他の交通手段はタクシー、タクシーバイクなどである。

一般的には、バスシステムの運輸能力成長率が約 6%であり、混雑時のバスシステムの混雑率は高く、平均で 1.4 であり、3 に上がる場合もある（*Trancocen*、2012）。このことから、ハノイ市のバスシステムの輸送能力は限界にきていることがわかる。公共交通システムの輸送能力を向上させるため、ハノイ市は他の対策を検討しなければならない。現在、選択されている実行可能なオプションは首都の公共交通システムの大動脈となる都市鉄道システムを構築するものである。

表：ハノイ市における往来需要まとめ

指標		時点		
		1995 (JICA)	2005 (HAIDEP)	2009
人口 (1,000 人)		2.431	3.186	6.448
1 日に交通手段の 総移動本 (1,000 本 /日)	歩行も含む	6.223	8.721	14.898
	歩行を含まない	3.082	6.545	11.93
移動係数 (移動本数/人/日)	歩行も含む	2.56	2.73	2.31
	歩行を含まない	1.27	2.01	1.85

出典：Trancocen 2012

付録 7 2A 号線 Cat linh-Ha Dong、2 号線 Nam Thang Long-Tran Hung Dao、3 号線 Nhon-Ga Ha Noi を利用する旅客流量

ハノイ首都は、面積が3,348.5 km²、人口が647万人であるが、その内市内の人口は240万人である。人口は均一に分布しておらず、特に市内の区部の人口密度は高い状況にある。ハノイ市の平均的な人口密度は1,979 人/km²である。ハノイ市特に中心地における人口増加スピードは速い（4.1%/年）が、交通インフラシステムは発展途上である。渋滞が恒常化しているため移動に時間を要し、騒音や大気汚染が深刻である。

ハノイ市民は主に個人の交通手段を利用している。個人交通手段は移動ニーズの 90%を占めており、公共交通システムはその残りのニーズの 10%相当 129.6 万人の乗客のニーズを引き受けている（*Trancocen, 2012*）。主な公共交通手段は 106 万人の乗客を輸送するバスシステムである。その他の交通手段はタクシー、タクシーバイクなどである。

一般的には、バスシステムの運輸能力成長率が約 6%であり、混雑時のバスシステムの混雑率は高く、平均で 1.4 であり、3 に上がる場合もある（*Trancocen, 2012*）。このことから、ハノイ市のバスシステムの輸送能力は限界にきていることがわかる。公共交通システムの輸送能力を向上させるため、ハノイ市は他の対策を検討しなければならない。現在、選択されている実行可能なオプションは首都の公共交通システムの大動脈となる都市鉄道システムを構築するものである。

2A 号線、2 号線、3 号線各プロジェクトの研究によると、各段階における予定旅客流量は以下の表通りである。

表：都市鉄道各プロジェクトで調査された旅客流量

年	技術研究データ (1000 人回/年)			
	2 号線	2A 号線	3 号線	合計
2016		94,681		94,681
2017		118,012		118,012
2018		141,343	59,641	200,984
2019	37,465	164,673	91,834	293,972

2A 号線以外の 2 号線、3 号線は 3 号線の一部区間の工事が開始されているのみである。またハノイ市内における都市鉄道システムを完成するためには、その他の路線にも投資し続ける必要がある。さらに衛星都市（ハノイ市に所属する 5 つの衛星都市）の公共交通システム整備の需要がさらに高まることが予想される。したがって、（公共乗客サービス供給について）市場需要が非常に大きく、市場の発展可能性が期待できる。

単年度計画経営（1年営業計画）

I. 根拠	3
II. 目的、目標	3
2.1 目的	3
2.2 目標	3
III. 方法	3
3.1 2016 年におけるハノイの GDP 成長についての分析（付録 1）	4
3.2 2016 年におけるハノイ人口の予測（付録 2）	4
3.3 2016 年におけるハノイへの観光客の予測（付録 3）	4
3.4 2016 年における旅客輸送需要の予測（付録 4）	4
IV. 計画の内容	4
4.1 収支計画	4
4.2 資金配賦計画	5
4.3 安全に関する計画	5
4.4 会社強化、2A 号線の受け取り、人材教育（戦略 1）	6
4.4 都市鉄道利用への住民の誘致（戦略 2）	7
4.6 運賃（戦略 3）	7
4.7 他の公共交通形式との連携（戦略 4）	8
4.8 関連事業（店舗、広告、IT）（戦略 5、6、7）	8
4.9 店舗及び他の公共交通手段を利用する者との連携（戦略 8）	9
4.10 人材計画	9
4.11 各業務部の計画	10
V. 付録、組織	10
5.1 付録 1：2016 年におけるハノイの GDP 成長についての分析	10
5.2 付録 2：2016 年におけるハノイ人口の予測	10
5.3 付録 3：2016 年におけるハノイへの観光客の予測	10
5.4 付録 4：2016 年における旅客輸送需要の予測	10

I. 根拠

- 2005/6/14 付 鉄道法第 35/2005QH11 号に基づき、
- 2014/11/26 付 企業法第 68/2014/QH13 号に基づき、
- 2014/11/25 付 不動産営業法第 66/2014/QH13 号に基づき、
- 2012/6/21 付 広告法第 16/2012/QH13 号に基づき、
- ハノイ鉄道一人有限会社設立についての 2014/11/27 付 HPC による決定第 6266/QĐ-UBND 号に基づき、
 - ハノイ鉄道一人有限会社の組織及び活動定款の承認についての 2015/6/15 付 HPC による決定第 4694/QĐ-UBND 号に基づき、
 - ハノイ鉄道一人有限会社の決定第〇〇号により制定される財務規制に基づき、
 - ハノイ鉄道一人有限会社の〇付 決定書第〇〇号で承認、制定される企業理念、
 - ハノイ鉄道一人有限会社の〇付 決定書第〇〇号で承認、制定される長期ビジョン、
 - ハノイ鉄道一人有限会社の〇付 決定書第〇〇号で承認、制定される 5 年営業計画。

II. 目的、目標

2.1 目的

下記の事項に注力する。

- 会社の管理システム整備。
- 2A 号線（Cat Linh-Ha Dong）の受け取り。
- 都市鉄道利用への市民の誘致。
- 関連事業及び 2A 号線の計画の作成。

2.2 目標

- 目標の価値：（2A 号線が未完成のため未確定。）
- 主効率量を計る指数：（2A 号線が未完成のため未確定。）

III. 方法

会社の経営に直接影響する要素を分析する。

3.1 2016 年におけるハノイの GDP 成長についての分析（付録 1）

3.2 2016 年におけるハノイ人口の予測（付録 2）

3.3 2016 年におけるハノイへの観光客の予測（付録 3）

3.4 2016 年における旅客輸送需要の予測（付録 4）

IV. 計画の内容

4.1 収支計画

単位：VND

No.	内容	2016 年				備考
		第 1 四 半期	第 2 四 半期	第 3 四 半期	第 4 四半 期	
A	収益					
1	鉄道（運賃）事業					
2	関連事業					
2.1	店舗					
2.1	広告					
					
B	費用					
1	運行費用					
2	保全、修理費用					
4	人件費					
5	施設投資費用					
	事務資機材					
	車					
					
C	税前の純収益					
D	税後の純収益					

4.2 資金配賦計画

部署	2016 年				主な内容
	第 1 四 半期	第 2 四 半期	第 3 四半 期	第 4 四 半期	
総務部					
組織・教育部					
財務会計部					
安全・品質部					
営業・広報部					
計画・プロジェクト 部					
列車運行部					
技術・保全部					
総合					

4.3 安全に関する計画

運行及び運営における安全は、会社の活動過程において会社幹部によって特に重視される前提条件である。

方法	2016 年				基本的な内容	5 年営業計 画との関係
	第 1 四 半期	第 2 四 半期	第 3 四半 期	第 4 四 半期		
運行時の安全			→	→	役職員、従業員に 対して訓練する。	
駅で監視カメラを 設置する箇所の確 認			→	→	不足であれば追加 設置し、適切に調 整する。	
消防設備の確認			→	→	不足であれば追加 据付し、適切に調 整する。	
脱線に関する現場 訓練			→	→	想定訓練	
消防に関する現場 訓練			→	→	想定訓練	
その他の事故に関 する現場訓練			→	→	想定訓練	

(安全は、都市鉄道において最優先されるべきものである。ハノイのみならずベトナムでは都市鉄道は新しいシステムであり、運行経験がない。大量輸送の可能な交通手段であるため、安全が会社の前提条件である。)

4.4 会社強化、2A 号線の受け取り、人材教育 (戦略 1)

中期営業計画	展開業務内容	2016 年			
		第 1 四半期	第 2 四半期	第 3 四半期	第 4 四半期
管理システム整備	法的手続き	→	会社設立後に直ぐ展開		
	施設（本社）	→	会社設立直後及び 2A 号線受取後に展開		
	組織・人材	会社設立直後 →			
	財務スキーム	→	会社設立直後		
	計画、規程、規則、マニュアル等	会社設立直後 →			
2A 号線の受け取り	2A 号線の受取計画展開	PMUR と計画調整 →			
	試運転	計画準備 →		展開 →	
	開業				展開 →
人材教育	現場での教育				→
	社員能力向上計画作成	計画ドラフト作成 →		計画調整 →	

4.4 都市鉄道利用への住民の誘致（戦略2）

中期計画に従う	展開業務内容	2016年			
		第1四半期	第2四半期	第3四半期	第4四半期
激励 認知度向上：	社員の仕事				
評価向上：	利用者の引付	プログラム →		展開 →	
	（モニター）有名人		選定 →	展開 →	
	マスメディア	内容作成 →		掲載 →	
	ウェブサイト	内容作成 →		掲載 →	

4.6 運賃（戦略3）

中期計画に従う	展開業務内容	2016年			
		第1四半期	第2四半期	第3四半期	第4四半期
運賃	適正な運賃を設定	☆ →			
	常連顧客に対する運賃割引等の特典を検討		提案を出す →		

4.7 他の公共交通形式との連携（戦略4）

中期計画に従う	展開業務内容	2016年			
		第1四半期	第2四半期	第3四半期	第1四半期
連携：	バス会社とタクシー会社との交渉	準備	交渉		
	2A号線の関連機関との交渉	交渉			
	3号線の関連機関との交渉		交渉		
	2号線の関連機関との交渉		交渉		
	3号線に対して計画を策定（駅の建設）				
	2号線に対して計画を策定（駅の建設）				
個人交通手段の制限	政府とHPCと、計画を策定する。	計画ドラフト作成	計画調整	展開	

4.8 関連事業（店舗、広告、IT）（戦略5、6、7）

中期計画に従う	展開業務内容	2016年			
		第1四半期	第2四半期	第3四半期	第1四半期
駅の店舗	市場研究	請負業者選定	研究	分析	
広告	管理方法検討		方法検討	決定	
IT	研究	研究	展開		

4.9 店舗及び他の公共交通手段を利用する者との連携（戦略8）

中期計画に従う	展開業務内容	2016年			
		第1四半期	第2四半期	第3四半期	第4四半期
駅の店舗	何をどのように優遇するか検討	研究	優遇方法検討	決定、展開	
他の交通手段との連携	鉄道とともにその他の交通手段を使用する旅客に特典を提供することを検討	研究	優遇方法検討	決定、展開	
	駐車場の建設	位置選択		計画作成、展開	

4.10 人材計画

中期計画に従う	展開業務内容	2016年			
		第1四半期	第2四半期	第3四半期	第4四半期
採用	採用政策の策定		会社設立後に直ぐ展開		
教育	人材教育の仕組みを出す	国内、中国	現場	現場	
給料、賞与	従業員のモチベーションを上げるための要素の研究		会社設立後に直ぐ展開		

4.11 各業務部の計画

対策	計画	2016 年			
		第 1 四 半期	第 2 四 半期	第 3 四 半期	第 1 四半 期

(各部は、部署の業務内容及び経費を含む計画を作成する。統一書式を検討して、作成する。)

V. 付録、組織

5.1 付録 1：2016 年におけるハノイの GDP 成長についての分析

5.2 付録 2：2016 年におけるハノイ人口の予測

5.3 付録 3：2016 年におけるハノイへの観光客の予測

5.4 付録 4：2016 年における旅客輸送需要の予測

5.5 付録 5：2016 年における各業務部の計画

**HANOI PEOPLE'S
COMMITTEE**

THE SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

**ARTICLES
OF INCORPORATION AND OPERATION
OF HANOI METRO ONE MEMBER LIABILITY LIMITED COMPANY**
*(Promulgated with Decision no. /QĐ-UBND
datemonth..... year 2014 by Hanoi People's Committee)*

**CHAPTER I
GENERAL PROVISIONS**

Article 1. Definition of terms

Except for other definitions of terms in Articles, clauses of this AOI, the following terms are understood as following:

1. Owner: Hanoi People's Committee is the owner of Hanoi Metro One member Liability Limited Company, to execute rights and obligations of the owner towards the Company.

2. Company: refers to Hanoi Metro One member liability limited company (hereinafter called "Company").

3. "Urban railway": Except for other definition in this AOI, "Urban railway" is understood as mass passenger transit, which uses electricity and run on specialized track in one city or between a city with its sub-areas; types of urban railway shall include metro, elevated trains, at-grade trains, mixed trains, tramway, monorail and others.

4. Other terms in this AOI, which are explained in the Civil Law, Enterprise Law and other legal documents, shall be understood as description in those legal documents.

Article 2. Company's name and headquarters

1. Name:

- Full name in Vietnamese: CÔNG TY TRÁCH NHIỆM HỮU HẠN NHÀ NƯỚC MỘT THÀNH VIÊN ĐƯỜNG SẮT ĐÔ THỊ HÀ NỘI
- Business name in Vietnamese: CÔNG TY ĐƯỜNG SẮT ĐÔ THỊ HÀ NỘI
- International business name in English: HANOI METRO COMPANY
- Short name: HANOI METRO
- Abbreviated name: HMC
- Address of HQs: Phu Luong Ward, Ha Dong District, Hanoi City

- Temporary address of HQs: No. 8, Ho Xuan Huong Street, Nguyen Du Ward, Hai Ba Trung District, Hanoi City
- Telephone:
- Fax:
- Email:
- Website:
- Logo :

2. Type of enterprise: One member liability limited company

Article 3. Legal form and legal position of the Company

1. Hanoi Metro One Member LLC (hereinafter called the Company) is established by *Decision no. date month year201... by HPC*, is an enterprise operating in compliant with Enterprise law and this AOI.

2. The Company has legal position, its own stamp, logo and can open account in VND and foreign currency at domestic banks or foreign banks as regulations.

3. The Company shall have own capital and assets, be responsible for loans payment by its all assets.

4. The Company has the rights to own, use and make decisions on name, trade brand, unique logo of the Company as regulations.

Article 4. Company's Charter capital and Adjustment on Charter capital

1. Charter capital:

Charter capital of Hanoi Metro One Member Liability Limited Company :
 ... VND (in words: VND)

2. Adjustment of Charter capital:

a. The adjustment on Charter capital of the Company is decided by its Owner in accordance with regulations.

b. When the charter capital is adjusted, the Company must re-register to business registration agency and publicize the adjusted charter capital in compliant with regulations.

Article 5. Legal representative of the Company

Legal representative of the Company is Chairman of Board of Members.

Article 6. Owner of the Company

1. Company's owner: Hanoi People's Committee.

- Address: No. 79, Dinh Tien Hoang Street, Ly Thai To Ward, Hoan

Kiem District, Hanoi City.

2. Board of Members of the Company is direct representative of the Owner at the Company.

Article 7. Duration of Operation

The Company starts its operation from the date of issuance of Business registration certificate by competent agency.

Operation duration of the Company is under decision by the owner.

Article 8. Objectives and Business categories of the Company

1. Objectives:

a. To maximize productivity, preserve and develop the equity that the Owner invests into the Company, and the capital that the Company invests into other enterprises.

b. To guarantee the works for employees and interests of the Company as regulations.

c. To complete other tasks assigned by the Company's Owner.

2. Business categories:

a. Main business categories:

- Code 4931 Road passenger transport in urban and sub-urban area (by urban railways)
- Code 3312 Repairing urban railway machines, equipment
- Code 3315 Repairing and maintaining transportation vehicles
- Code 4210 Constructing railway and road works
- Code 3020 Manufacturing electricity units and cars (Urban railway)
- Code 8532 Vocational education (Urban railway)
- Code 8541 College level education (Urban railway)
- Code 7830 Supply and manage labor resources (Urban railway)

b. Other business categories except for main ones

- Code 5610 Restaurants and movable food services
- Code 5210 Goods yard and storage
- Code 5510 Short-term staying service
- Code 7310 Advertisement
- Code 7320 Market research and community survey
- Code 7911 Tourism agent
- Code 7920 Supporting services for promoting and organizing tours

c. The Company is only eligible for doing business for categories based on decision of the Company's owner and will be granted with additional

registration (license) by competent authority. Only be eligible for operating business categories if necessary conditions are fulfilled as regulations.

3. Scale of Operation:

Hanoi Metro One Member Liability Limited Company will operate within the border of Vietnam and in foreign countries in compliant with Vietnamese and international regulations.

Article 9. State management on the Company

The Company is under state management in accordance with regulations.

Article 10. Political and Socio-political organizations in the Company

1. Political and socio-political organizations shall operate in compliant with the Constitution, regulations and Articles of those respective organizations which are in accordance with regulations.

2. The Company shall respect and create favorable conditions for employees to establish and participate in activities of organizations as stipulated in clause 1 of this Article.

CHAPTER II

RIGHTS AND OBLIGATIONS OF THE COMPANY

Article 11. Rights of the Company for capital and assets

1. Manage, use capital and assets of the Company for business purpose; implement legal benefits by using capital and assets of the Company.

2. Have the rights to make decision over capital and assets of the Company in compliant with regulations and this AOI.

3. Use and manage properties assigned and lent by the Government, i.e. land, natural resources in accordance with regulations about land and natural resources.

4. The Company's owner shall not shift the capital invested by the Government to the Company, as well as capital and assets of the Company in non-payment method.

5. Have the rights to possess, use and make decisions over the name, logo and trade brand of the Company as regulations.

6. Execute other rights for capital and assets as regulations

Article 12. Rights for Doing business of the Company

1. Be proactively organize the production, business, organizing the managerial structure as business requirements, and assure effective business.

2. Conduct business within categories as stipulated in the Business registration certificate and within categories under approval of the Owner, and in compliant with regulations; expanding the business scope on the basis of capability and demand of domestic and foreign markets.

3. Search for domestic and foreign market and customers; organizing to

sign and implement contracts.

4. Make decision itself for purchasing price and selling price of products, services, except for public services and products, services priced by the Government since they are following price level or price scale of the Government

5. Make decision on investment projects as regulations about investment; use capital and assets of the Company to associate and invest capital into other domestic enterprises; rent, purchase part or entire of other company, in compliant with regulations and this AOI.

6. Make decision on investing to other aspects out of Company's scope within total financial investment value of the Company and less than 50% of charter capital.

7. To report for decision of the Owner if the Company wants to use capital or mobilized capital to invest to establish other company.

8. Open branches, representative offices in and outside the country in compliant with regulations.

9. Develop and apply the norm of labor and materials, unit price for wages and other expenses on the basis of ensuring business effectiveness of the Company and in compliant with regulations.

10. Select, allocate, use, train, reward and deal with violations, dismiss labours, select salary and reward payment method, which is suitable to business features of the Company as well as in compliant with labor regulations.

11. Make decision to dispatch staff of the Company to oversea working trips in compliant with regulations of the Government and the City.

12. Have right to do other business following the market demand, and in accordance with regulations.

Article 13. Rights for the finance of the Company

1. Mobilize capital to do business under such methods as issuance of Company's bonds and bill of exchange; borrow banks, credit institutions and other financial organizations, individuals and organizations out of the Company, borrow labours and other capital mobilizing methods as regulations and under the regulations by the Owner.

The mobilization of capital for business is executed on the principle of the Company's own responsibility for repayment, ensuring the effectiveness of using mobilized capital, without changing the ownership type of the Company.

2. Proactively use capital for the Company's business; be able to form, use and manage Company's funds as regulations.

3. Be eligible for making decision on salaries and other expenses on the basis of revenue derived from the Company's operation, in compliant with regulations.

4. Make decision to depreciate the fixed assets, on the principle of

possibility of recovering for tangible and intangible depreciation of fixed assets from minimum deduction of depreciation.

5. Receive subsidy or other preferential systems of the Government while implementing public activities, national defence and security activities; prevent and fighting for natural disasters or supply products, services under price policy issued by the Government, when the revenue is not sufficient to cover costs to produce those products or services of the Company.

6. Be eligible to disburse to reward innovations in reforming, technical improvement, management and technology; reward for increase of labor productivity; reward for materials saving and cost saving, in compliant with regulations.

7. Receive preferential schemes for investment, re-investment in compliant with regulations.

8. Be eligible to refuse and denounce on any requests for provision of deregulated resources derived from any individuals, organizations or agencies, except for voluntary amounts for humanitarian and public purposes.

9. Implement other rights in terms of finance as regulations.

Article 14. Company's obligations on capital and assets

1. Preserve and develop the capital invested by the Government at the Company and capital mobilized by the Company itself; be responsible for debts and other assets liabilities of the Company within the scope of assets of the Company.

2. Periodically re-evaluate the assets of the Company as regulations.

3. Implement other obligations of the Company in terms of capital and assets as regulations.

Article 15. Obligations in business of the Company

1. Do business within scope of registered categories; ensure quality of products and services supplied by the Company as registered quality.

2. Reform, modernize the technology and management method to improve the effectiveness and competitiveness.

3. Ensure rights and benefits for labours as labor regulations, ensure the rights of labors to participate in management activities of the Company as regulations in Chapter VII of this AOI.

4. Comply with Government's regulations in terms of national defense, security, culture, social order and safety, protection of natural resources and environment.

5. Implement accounting, auditing, finance statement and statistics statement systems as regulations, and following the requirements of the Owner.

6. Be under the monitor and inspection of the Owner or organization authorized by the Owner; execute decisions relating to inspections of financial organizations and competent Government organizations as regulations.

7. Have the responsibility towards the Company's Owner about the usage

of capital to invest in establishment of other enterprises or invest into other enterprises.

8. Use at least 70% of total investing capital into aspects which belong to main business categories of the Company. Total investment capital contributed outside of the Company (including both long term and short term investments) shall not be over charter capital of the Company. For investment and capital contribution into banking, insurance, securities sectors, the Company shall be eligible for investing in one company for each sector; the investment capital amount shall not be more than 20% of charter capital of receiving organization, but the capital contribution amount of the Parent Company and Subsidiaries in the Company must not be over 30% of the charter capital of invested organization.

9. The Company shall develop Rules on management and using assets to clarify responsibilities of each step in the management; organize the accounting to reflect the facts in sufficient, correct and timely manner; organize the inventory and comparison periodically or upon requirements of the Owner; implement the investment to fixed assets, managing and using assets as stipulations at this AOI and legal regulations.

10. Perform other business obligations of the Company as regulations.

Article 16. Financial obligations of the Company

1. Doing profitable business, ensure the target return on Government's capital invested in the Company, which is set up by the Owner; register, declare and submit sufficient tax amount, implement obligations towards the Owner as well as other financial liabilities as regulations.

2. Manage and use effectively business capital including the capital investing into other companies (if any); manage, use effectively the natural resources, land and other resources assigned or lent by the Owner. Board of Members, General Director are responsible for timely settling bad debts and irrecoverable debts in compliant with regulations.

3. Use capital and other resources to implement other special tasks when the Government requests.

4. Sufficiently execute capital, assets, funds, accounting and auditing management schemes as regulations; be responsible for truthfulness and lawfulness in Company's financial activities.

5. Execute other tasks as stipulated in financial management scheme of the Company and in other legal regulations.

Article 17. Rights and obligations of the Company in public activities

Apart from rights and obligations of the Company as stipulated in Article 11, 12, 13, 14, 15 and 16 of this AOI, the Company shall have the following rights and obligations if participating in public activities:

1. Produce, supply public products and services on the basis of bidding or appointment. As for Government-ordered/planned public activities, the

Company is obliged to providing public products and services towards receivable candidates, under prices and fee stipulated by the Government.

2. Be responsible towards the Government for results of Company's public activity operation; be responsible towards customers, the laws about public products and services which are supplied by the Company.

3. Develop and apply norms for expenses, unit price of wages in the contracting prices in works ordered or assigned by the Government.

4. Implement other tasks of the Company as other regulations about production and supply of public products.

CHAPTER III

RIGHTS AND OBLIGATIONS OF THE OWNER

Article 18. Rights of the Owner

1. Make decision on establishment, re-organizing, merging, dissolving, bankrupt and switching of the Company's ownership; make decision on approval for contents, amending and supplementing the AOI of the Company; accept for the Board of members to make decision on the establishment of Branches, Representative offices of the Company in and outside the country; make decision on business categories, supplement functions and responsibilities of the Company on the basis of requests of the Company or related organizations/branches.

2. Approve for 5-year production plans and investmen & development plans; list of annual investment projects of class A and B, and notice Ministry of Planning and Investment, Ministry of Finance for compiling and supervision.

3. Make decision on alternatives of mobilizing capital which is more than charter capital of the Company, on the basis of requests by the Company and related organizations/branches.

4. Make decision on investing projects, contracts of purchasing, selling and lending of properties which are valued equal or more than 50% of total assets amount as recorded in the latest financial statement of the Company, based on requests by the Company and related organizations/branches.

5. Make decision on investing into non-Company's projects which are valued more than 50% of charter capital, on the basis of requests by the Company and related organizations/branches.

6. Approve for policies of borrowing, lending, purchasing, selling assets which are valued equal or more than 50% of Company's charter capital; approve for Company's policy to borrow from foreign organizations, and request MOF to consider and accept.

7. Make decision on amendment of Company's charter capital ; switch partly or entirely of Company's charter capital to other organizations,

individuals based on requests by the Company and related organizations/branches.

8. Make decision on the investment, capital contribution to enterprises operating on categories which are different to main ones of the Company, on the basis of requests by the Company and related organizations/branches.

9. Make decision on approval for utilization of land and assets of the Company to invest and capitalize with partners in and outside the country, in order to establish other companies, or in oversea projects of the Company, on the basis of requests by the Company and related organizations/branches.

10. Make decision on managerial organization structure of the Company, make decision on appointment, re-appointment, mobilization, circulation, dismissal, reward, punishing, resigning, retiring; make decision on wage level, rewards and other benefits for Chairman of Board of members, General Director, members of Board of members, Deputy General Directos, Chief accountant and auditors of the Company as per management classification for officers of the City.

11. Make decision on appointing Chairman of Board of members, members of Board of members, General director, Deputy General directos, Auditors, Chief Accountant of the Company to join in management of capital that the Company contributes at other enterprises.

Make decision to dispatch staff of the Company to join in management of the Company contributed capital at enterprises which have received capital contribution of foreign counterparts.

12. Make decision to assign Chairman of Board of members, members in Board of members, General director, Deputy General director, Chief accountant, Auditors of the Company to join oversea working trips, as per requests of the Company.

13. Retrieve the entire assets of the Company after it is dissolved or bankrupted.

14. Supervise, check and insepct the conformity to legal regulations; the management, using, preservation and development of capital; the implementation of strategies, plans; the implementation of recruitment scheme, wages, rewards of the Company; the implementation of the structure and officers individually as classified in Article 31 of Decree no. 25/2010/NĐ-CP dated 19/3/2010 by the Government, this AOI and other legal regulations. Appraise the implementation of goals, tasks and business categories as assigned as well as results of operation, effectiveness in the operation of the Company. Conduct evaluations towards Chairman and members of Board of members, Auditors, General Director, Deputy General Director, Chief accountant in management and operating of the Company.

Check and supervise the rights of Company's Owner towards affiliated companies under the Company.

15. Organize the arrangement and reformation of the Company after submitting and getting approval of the Prime Minister for a Master plan of such

changes.

16. Approve for policy of capital contributing, keeping, increasing, reducing capital of the Company at other enterprises; for other enterprises to voluntarily join in as affiliated or associated companies.

17. Accept for Board of members of the Company to ratify annual financial statement, profit distribution, recording and using funds.

18. Organize to check the compliance and execution of decisions made by the Owner; the conformity with this AOI; with rights and obligations of the Company as regulations.

19. Implement other rights and obligations as regulations.

Article 19. Obligations of the Owner

1. Complying with the AOI.

2. Invest sufficient capital to the Company.

3. Be responsible for debts and asset liabilities of the Company within the charter capital of the Company, define and separate assets of Owner – the Government, and assets of the Company.

4. Assure legal business operation for the Company.

5. In 30 (thirty) days since the receiving of report from Company's Board of members as well as recommendations for approval from members of Board of members for contents stipulated in clause 12, Article 20 and clause 3, Article 27 of Decree no. 25/NĐ-CP dated 19/3/2010 of the Government and this AOI, the Owner shall make decision in written form to approve or feedback the Company.

6. Implement other obligations as regulations.

Article 20. Restrictions towards rights of the Owner

1. The Owner shall be eligible to withdraw the capital by transfer partly or the entirety of charter capital to other organizations or individuals. In case of withdrawing part or entire of contributing capital from the Company under other methods, the Owner shall have associated liability for loans and other asset liabilities of the Company.

2. The Owner shall not be eligible to withdraw the profits of the Company when the Company cannot sufficiently repay for due loans and other assets liabilities.

3. Other restrictions as regulations.

CHAPTER IV

ORGANIZATION OF COMPANY MANAGEMENT

Article 21. Organization structure of management and operation of the Company

Structure of management and operation of the Company shall include:

- a. Board of members.
- b. General Director.
- c. Deputy General Directors.
- d. Auditors.
- e. Chief Accountant.
- f. Functional Departments/Boards
- g. Subordinate units

2. During the operation, the structure of functional departments/boards/production units of the Company can be changed and amended to match the operation requirements of the Company, on the basis of stipulations in this AOI and legal regulations.

SECTION I

BOARD OF MEMBERS

Article 22. Functions and structure of Board of members

1. Board of members is the direct representative of the Owner at the Company; implementing rights and obligations of the Owner as classification stipulated in this AOI; be responsible towards the Owner and the laws for implementation of tasks, rights and obligations, and responsibilities in the development of the Company following objectives and tasks which are assigned by the Owner.

2. Board of members is eligible to make decision on matters relating to definition and implementation of objectives, tasks and interests of the Company, on behalf of the Owner, except for those under authority and responsibilities of the Owner as stipulated in Article 18 of this AOI.

3. Board of members shall have permanent members and impermanent members, who shall be appointed, dismissed, rewarded and punished by the Owner.

Board of members shall include 3 to 5 members who will be decided by the Owner, including Chairman of Board of members and members.

Article 23. Obligations and authorities of Board of members

1. Receive, manage and use capital, land, resources invested by the Owner as well as other resources in effective manner.

2. Make decision on 5-year strategies, business plan and investment plan for the Company after the approval of competent authorities. Make decision on business coordination alternatives between parent company and affiliated companies whose charter capital are entirely owned by the parent company or which are involved by dominant shares or capital of parent company in

compliant with regulations.

3. Make decision on investment projects, purchasing, selling, lending, borrowing contracts and others which are valued under 50% of total value of assets as recorded in the latest financial statement of the Company.

4. Make decision on projects out of the Company, within the total financial investment value of the Company which is also less than 50% of charter capital.

5. Make decision on alternatives of capital mobilizing which are valued less than charter capital of the Company.

6. Make decision on the option of organization of management, business, staffing and the usage of management structure as well as internal management rules of the Company (Rules of recruiting, using paying salaries and rewarding, training and dismissing; rules of operation of Board of members; rules of operation of Auditors; rules of internal inspection and supervision; rules of officers affairs; rules of implementing democracy at enterprises, etc.), planning and training for the labors. Make decision on new establishment, re-organization, dissolution of affiliated units of parent Company, branches, representative offices of parent company in and outside the country after pursuing approval of the Owner as regulations. Approve for AOI, Financial mechanism of branches, representative offices, affiliated units of parent company.

7. Ratify annual financial statements of the Company and consolidated financial statement of Parent Company – Affiliated Companies.

8. Approve for financial statement, profits distribution, recording and using funds after pursuing approval from competent authorities.

9. Make decision on capital contributing, keeping, increasing, reducing capital of the Company at other enterprises; the receiving of affiliated companies, associated companies after the Company applies and getting the Owner's approval for policy of the receiving.

10. Report the Owner about Decision to receive enterprises voluntarily joining as associated members with the Company.

11. Approve for economic-technical norms, labor norms, expenses and finance and other norm as requirements of the General Director. Make decision on product standards, salary unit price, salary payment system for laborers and management staff applicable in the Company and subordinate units as requirements of General Director.

12. Approve for methods to mobilize capital for business, which shall not be more than charter capital and shall not change the ownership of the Company.

13. Develop methods to contribute capital to other Companies which operate in business other than main categories of the Company, and submit for decision of the Owner.

14. Request the Owner to make decision on appointment, reappointment, dispatching, circulating, dismissing, rewarding, punishing, resigning and

retiring; make decision on salary level, rewards and other benefits for Chairman of Board of members, members of Board of members, General Director, Deputy G. Director, Chief Accountant and Auditor of the Company.

15. Make decision on appointment, re-appointment, dispatching, circulating, dismissing, rewarding, punishing for discipline violations, resigning and retiring; make decision on salary level, rewards and other benefits to Managers of Departments/Boards/subordinate units and other equivalent ones in the Company.

16. Request the Owner to assign Company's officers who are under direct management of the City (including titles of Chairman of Board of members, Members of Board of members, General Director, Deputy G. Director, Auditor and Chief accountant of the Company) to participate in management over capital of the Company at other enterprises.

17. Make decision to assign staffs who are under direct management of the Company to participate in management over the capital of the Company at other enterprises which joins capital with other domestic partners on the basis of request from General Director.

Request the Owner to assign Company's staffs to take part in management of capital of the Company at enterprises which joins capital with foreign partners.

18. Make decision on assignment of Managers of Departments/boards/subordinate units and other equivalent ones in the Company to overseas working trips.

19. Submit the Owner to make decision on other matters of the Company, which are under the authority of the Owner as stipulated in Article 18 of this AOI and in other relevant regulations.

20. Organize to check and supervise the General Director, Deputy G. Director, Chief Accountant and representative for Company's contributed capital in other enterprises in terms of implementation of functions and responsibilities following regulations at Article 31 in Decree 25/2010/NĐ-CP dated 19/03/2010 of the Government and other related regulations.

21. Make decision on production, business and annual investment and development plans of the Company, and submit decisions to concerned departments/boards and the Owner to compile and supervise.

22. Request the Owner to adjust the charter capital, amend and supplement AOI of the Company; re-organize, transfer the ownership, dissolve and request for bankruptcy of the Company.

23. Request the Owner to approve in policy for foreign loans.

24. Make decision on solutions to develop the market, promotion and technology of the Company.

25. Take responsibility for managing and operating enterprises to comply with regulations and decisions made by the Owner; for managing, using, preserving and developing capital in effective manner; timely report to the Owner about deficits, loss of debt servicing capacity, impossibility to complete

targets and tasks assigned by the Owner, or other mistakes.

26. Other authorities and obligations stipulated in Enterprise Law, relevant laws and regulations by the Owner.

Article 24. Working system of the Company's Board of members

1. Board of members shall work in team-based manner, meet at least once a quarter to review and make decision on matters which are under respective authority and functions; for matters which are not required for discussions, Board of members must pursue opinions from members in written form.

Board of members shall organize unscheduled meeting to settle urgent matters of the Company when:

a. It is requested by the Owner, Auditor and others as regulations of the Owner.

b. It is recommended by Chairman of Board of members or General Director.

c. It is recommended by more than half of members of Board of members.

2. Chairman of Board of members or Members of Board of members authorized by the Chairman of BOM to call and chair the meeting of BOM. Contents and materials for meetings shall be sent to members of BOM and other participants (if any) at least 03 working days in advance.

3. Meetings or acquiring comments from members of BOM shall be valid if more than half of members in BOM participate in. Resolution, Decision of BOM shall be valid if more than half of members of BOM vote approval; In case that the vote are equal, the party which obtain the vote of the Chairman of BOM shall be recognized. Members of BOM have the right to reserve their opinions.

When discussing about the works of the Company relating to rights and obligations of the labours, it is compulsory to invite the participation of representative from Company's Labor Union. Representatives from organizations and agencies asked for participation in meetings shall be able to raise their opinions, but not join in voting.

4. Contents of discussing matters, opinions, results of voting, decisions shall be pursued ratification of members of BOM, and conclusions in meetings of BOM shall be minuted. Chairperson and secretary in the meetings shall be associated with responsibilities for the truthfulness and accuracy of minute of BOM meeting. Resolution and decision of BOM are compulsory for execution in the Company.

5. Members of BOM shall have rights to request General Director, Deputy G. Director, Chief Accountant, management staffs of the Company to provide information, materials about financial situation and operation of the Company in compliant with Resolution of the BOM. Requested person must be responsible for providing information and materials in timely, sufficiently and correctly manner, in accordance with requests of BOM, except for the BOM shall have

another decision.

6. Budget for operation of BOM, including salary, allowances and wages shall be accounted for corporate management expenses of the Company as regulations.

In necessary case, the BOM shall have the rights to organize the comments acquisition from domestic and foreign consultants before making decision on important matters under the authority of BOM. Budget for pursuing opinions from consultants is stipulated at Financial rules of the Company.

Article 25. Responsibilities of members of BOM

Members of BOM shall take responsibilities towards the Owner and the laws for the decisions made by BOM if those decisions may cause damages to the Company and the Owner, except for members who vote to disagree on such decisions.

Article 26. Standards and conditions of Members of BOM

Standards and conditions for Members of BOM shall be in compliant with existing regulations of the Government and the City regarding standards for corporate management officers.

Article 27. Appointment, dismissal and replacement

1. Appointment:

Members of BOM shall be appointed by the Owner on the basis of Company's requests. Working term for each member of BOM shall be 05 years. Members of BOM can be considered for re-appointment by the Owner.

2. Dismission:

Members of BOM shall be dismissed in the following cases:

- a. Incomplete of tasks assigned by the Owner.
- b. Violating the laws to be prosecuted or cases of dismissing or replacing in accordance with regulations in the AOI of the Company; in this case, the BOM shall have the right to request the Owner to supplement and replace members in BOM.
- c. Have insufficient capability and knowledge for assigned positions; loss or restrict of civil behavior capability.
- d. Dishonest in examinations or abusing positions, authorities to benefit themselves or others.
- e. Putting the Company into one of following cases: consecutive loss in 2 years; unable to pursue target Return on equity of Government in 2 years or there is one among 2 years profitable or breakeven, except for the case of loss or decrease of profits on Government equity due to objective reasons to be explained concretely and accepted by competent authorities.
- f. Other cases as regulations.

3. Replacement:

Members of BOM shall be replaced in the following cases:

- a. Apply for resignation.
- b. There are decisions on transferring or allocating another positions.
- c. Other cases as regulations.

Article 28. Chairman of BOM

1. Functions, responsibilities and authorities

a. Represent the BOM to sign to receive capital, land and other resources that the Owner invest into the Company; manage the Company in compliance with Resolution, Decision of BOM.

b. Organize to study on the development strategy, long-term plan, large scale investment projects, alternatives for personnel reformation and key personnel of the Company to submit to BOM.

c. Prepare operation program, plan of the BOM; make decision on program, agenda of meetings and materials for meetings; call and chair meetings of BOM.

d. Represent BOM to sign resolutions, decisions of BOM.

e. Organize to monitor and supervise the implementation of Resolutions and Decisions of BOM; have the right to suspend Decisions made by General Director which are contrary to Resolution and Decision of BOM, the AOI of the Company and be responsible towards the BOM and the laws for his/her decisions.

f. Execute other responsibilities and authorities as classified and authorized by BOM of the Company, the Owner and as regulations.

2. Appointment

Chairman of BOM shall be appointed by the Owner by selecting among members of BOM.

Chairman of BOM can take position of General Director at the same time.

3. Dismissal, replacement

Chairman of BOM shall be dismissed or replaced as stipulations at clause 2, 3 of Article 27 in this AOI.

4. Salary, allowances, rewards and other benefits

Chairman of BOM shall be entitled to salary, rewards and other benefits on the basis of existing regulations of the Government and the City.

SECTION II

GENERAL DIRECTOR

Article 29. Functions of General Director

General Director is person who operates daily works of the Company

following objectives, plans and Resolutions, Decisions of BOM, which are in compliant with the AOI of the Company; be responsible towards the Owner, BOM and the laws for the implementation of assigned rights and obligations as stipulated in this AOI and relevant regulations.

Article 30. Responsibilities and authorities:

1. Prepare development strategies, long-term and annual plans that the Company reports to BOM, in order to submit the Owner for approval; develop Plans about organization of management, internal management rules, functions and responsibilities of supporting structure of the Company; business associating alternative between the parent Company and affiliated companies whose charter capital is totally owned or dominant shares, dominant contributing capital by the parent Company, to submit BOM for decision in accordance with the authority, and complying with regulations.

2. Make decision on investment projects, purchasing, selling, lending, borrowing and other contracts which are valued as classification or authorities of the BOM.

3. Develop methods to mobilize capital, to use capital and assets of the Company to invest into out of the Company; invest, contribute capital to establish other Companies, buy shares of or other company as well as other types of investment to report to BOM, in order to submit the Owner for decision making as authorities.

4. Make decision to select, appoint and re-appoint; dismiss; reward; punish; resign and retire; make decision on salary level, rewards and other benefits for Deputy Managers of subordinate Departments/boards/units and equivalent ones of the Company.

5. Request BOM to submit to the Owner to appoint, re-appoint; dispatch, circulate, dismiss, reward, punish, resign, retire; make decision on salary, rewards and other benefits to Deputy G. Director, Chief Accountant and Auditors of the Company.

6. Request BOM to make decision on appointment, re-appointment, dispatching, circulating, dismissal, rewarding, punishing, resigning, retiring; make decision on salary, rewards and other benefits to Managers of subordinate Departments/boards/units and equivalent ones of the Company; assign representative of contributing capital of the Company in other enterprises.

7. Develop norms of economic-technique, product standards, unit price for salary applicable in the Company and its subordinate units, in compliant with regulations of the Government, and submit to BOM for approval; check conformity during the implementation of norms, standards and unit price as stipulated in Company's internal regulations.

8. Organize to implement production, investment plans, and make decision on solutions for market development, promotion and technology; Control the operation of the Company in order to execute Resolutions and Decisions made by BOM and the Owner.

9. Sign civil and economic contracts of the Company. For contracts which are valued more than the level of authorization of the General Director as stipulated at clause 2 and 3 of this Article, the General Director shall only sign after there are Resolutions or Decisions of BOM or of competent authorities.

10. Report BOM about operation and business results of the Company, and other issues under the authority of BOM as stipulated in Article 23 of this AOI; execute the propaganda of financial statements as stipulated by Ministry of Finance.

11. Be under the inspection and supervision of the Owner, BOM, competent government organizations towards the implementation of functions and obligations as stipulated in Enterprise Law and other regulations.

12. Be entitled to apply necessary methods in urgent cases and need to promptly report to BOM and competent Government organizations.

13. Rights: receive salary, rewards and other benefits as existing regulations of the Government and the City.

14. Make decision on other matters as regulations.

Article 31. Appointment, dismissal and replacement

1. Appointment

a. General Director is decided by the Company Owner to appoint, re-appoint, transfer, rotate, demote, dismiss, reward, discipline, terminate, retire, determine salaries and bonuses, and allowances and other entitlements on the proposal of the Chairman of the Board of Members. General Director's term of office shall be 05 (five) years. The General might be considered to re-appoint.

b. The person who is selected to be General Director shall meet the standards and conditions in accordance with the current regulations of the State and the City on enterprise management personnel.

2. Dismissal

a. The Owner shall decide on dismissal before the term of the General Director based on the provision in point b of sub-clause 2 of this Article.

b. T General Director shall be dismissed before his term of office in the following cases:

- Let the Company fall into one of the following cases: consecutive losing in 02 years; Company ranking Class C in 02 (two) consecutive years: not reaching the targeted rate of return over the capital invested by the State in 02 (two) years or between 02 years having 01 year of profit or of no gain-no loss, except loss or profit reduction over the capital invested by the State due to objective reasons explained in detail and accepted by the competent authority.

- The company falls into bankruptcy but not submit application form to request for bankruptcy under the legal provisions of bankruptcy.

- Not complete tasks or targets assigned by the Board of Members.

- Dishonesty in enforcement of powers or abusing his powers and rights

to get benefits for himself or for others; dishonest reporting on financial status of the Company 02 (two) times or more, or one time but seriously distort the financial condition of the Company.

- Lost or limited civil act capacity.
- Be sentenced by court judgment or decision that has legal effect.
- Violate resolutions and decisions of the Board of Members, the charter of organization and operation of the Company.
- Other cases prescribed by law

3. Replacement

- Be volunteer to resign.
- When decided to move or arrange with other jobs.
- Other cases prescribed by law.

SECTION III AUDITOR

Article 32. Appointment and re-appointment

The Owners of the Company appoints no more than 03 (three) Auditors for a term of not more than 03 (three) years; the Owners of the Company appoints one person generally in charge of making work plan, allocating and allocating works of the Auditors. The Auditors may be considered for re-appointment.

Article 33. Tasks, rights and obligations of the Auditor

1. Task

a. To check the lawfulness, honesty and diligence of the Board of Members and the Company in performing owner's rights, and in management and operation in the Company, including the following contents:

- Re-organization, transfer of ownership, dissolution and requirement of bankruptcy for the company; new establishment of a subsidiary to be one member limited liability company; contribution, holding, increase or decrease in capital of the company to another company; establishment, reorganization and dissolution of its branches, representative offices and dependent accounting units; receiving enterprise volunteer to participate in working as a subsidiary company and associated company;
- Implementation of the Charter of the Company;
- Implementation of goals, tasks and business fields; business strategy and plans and investment and development plan in 5 years and annual plan of the Company;
- Increase of the charter capital, transfer of part or all of the Company's charter capital to institutions and individuals;

- Preservation and development of the Company's capital;
- Implementation of investment projects, sale contracts, borrowing, lending contracts and other contracts of the Company;
- Implementation of financial regime, income distribution, setting up and using the funds of the Company under the provisions of law;
- Other contents specified by the owner.

b. To appraise financial statements, business performance, management and other reports before they are submitted to the Owner of the Company or relevant state agencies; submit reports on examination thereof to the Company Owner;

- To make requests to the Company Owner for change and addition of the organizational structure of business management and performance of the Company.

c. Other tasks specified in the Company Charter or as requested or decided by the Company Owner.

2. Rights

a. Auditors shall be entitled to request any dossiers and documents of the Company at the headquarter, or the branches or representative office for study and review for execution of tasks as prescribed. In case it is necessity to review records and documents of subsidiary and associated companies, the Auditor shall coordinate with the representatives of the capital part of the parent company in subsidiary and associated companies after obtaining consent of the owner

b. The Auditor shall be provided with full information, documents and reports on the contents under the jurisdiction of the Board of Members, General Director relating to operation and business execution of the Company and shall perform other duties assigned by the owner

c. The Auditor shall attend in periodical meetings and meetings of the Board of Members, the Board of Directors, conferences related to implementation of the Auditor's tasks in the company. The Auditor participating in the meeting can make a statement but not vote, unless otherwise stipulated in Paragraph 1 of Article 75 of the Law on Enterprises

d. The Auditor shall be entitled to use the seal of the company to stamp on documents and materials within the scope of functions, duties and powers of the Auditor. The company shall be in collaboration with the Auditor to build rules on seal usage to ensure compliance with the laws

e. The Auditor is trained for controlling profession. Where necessary, the Auditor is entitled to request for consultation of experts and institutions for activities of the Auditor after getting written consent of the owner. The cost of hiring consultants, professional organizations and other operating expenses of the Auditor shall comply with expenditure framework decided by the owner in the Working Rules of Auditor and shall be included in costs of production and business enterprise by law.

3- Obligations

a. To comply law, the Company's Charter and provisions of the owners in implementation of assigned rights and duties. Auditors are responsible by law

and to the owner in performance of their rights and duties

b. To implement rights and duties assigned honestly, diligently and at best to ensure maximally legal benefits of the Company and the owner of the company.

c. To be loyal to the interests of the company and the company owner. To manage and keep confidential of information under provisions of the owner and regulations of the company; Not allowed to take advantage of assigned power to obstruct operation and business activities of the Company; Not allowed to use information, know-how, business opportunities of the Company; Not allowed to abuse their positions, titles and assets of the Company for personal gain or for benefits of other organizations and individuals.

d. To gradually grasp the situation, gather information and report timely, completely and accurately to the owner on the enterprises that the Auditors and the relevant persons of the Auditor controls or have shares or dominant capital share. This notice is posted at the headquarters and branches of the Company.

dd. To make periodical or unscheduled reports at request of the owner on situation, business performance results, financial issues of the Company and carry out assigned tasks.

e. Proactively report and timely recommend to the owners of unusual activities contrary to laws and regulations of the owner; to be responsible to the owners and bylaw for intentional acts to ignore or covering up violations

f. Other obligations prescribed by the Working rules of the Auditor, relevant law and the company charter.

Article 34. Standards and conditions

1. Standards of the Auditor are in compliance with the current regulations of the State and City.

2. Condition: The Auditor shall not simultaneously hold position of management and administration of the enterprise or shall not be a person related to the management and administration of the enterprise, including:

a. Mother company, management person of the mother company and person who has power to appoint such management person to the subsidiary company.

b. Persons or groups who have the ability to influence decisions and activities of the enterprise through enterprise management agencies.

c. Enterprise management person.

Article 35. Remuneration, salary and other benefits of the Auditor

The Auditor shall enjoy remuneration, salary and other benefits in accordance with current regulations of the State and the City

SECTION IV

OBLIGATIONS. RESPONSIBILITIES AND RELATIONSHIP BETWEEN THE BOARD OF MEMBER AND THE GENERAL

DIRECTOR

Article 36. Relationship between the Board of Members and General Director in management and operation of the Company

1. When implementing Resolutions and Decisions of the Board of Members, if problems that do not benefit to the Company are detected, the General Director shall report to the Board of Members to review and revise Resolution and Decisions. The Board of Members shall consider proposals of the General Director. If the Board of Members does not revise resolution and decisions, the General Director still have to follow but have right to make requests to the Owner of the company.

2. Within 15 days from the end of the quarter and 30 days after the end of the year, the General Directors must submit a written report on the Company's activities and orientations expected to perform in next term to the Board of Member.

3. The Chairman of the Board of Member has right to attend or assign the member of the Board of Member to participate in periodical meetings and meetings for preparation of schemes to submit to the Board of Members chaired by the General Manager. The chairman of the Board of Member or the representative has right to make a statement but not to conclude the meeting.

4. In case the General Director who is not a member of the Board of Members is invited to the meeting of the Board of Member and has right to make a statement but not to vote.

Article 37. Obligations and responsibilities of the Chairman of the Board of Member and General Director.

1. The General Director shall take responsibility to the Company Owner and the Board of Members and by law for the his assigned rights and obligation.

2. The members of Board of Members shall take responsibility to the Company Owner and by law for decisions of the Board of Members (except the members who do not vote for that decision) regarding result and effectiveness of the Company's operations.

3. The chairman of the Board of Member, Members of the Board of Members and the General Director have the following obligations:

a. To honest and responsible for assigned tasks and rights for benefits of the Company and of the State.

b. Not allowed to abuse their positions and powers to use capital and assets of the Company to make profits for themselves and others; Not allowed to give the company's assets to the others; Not allowed to disclose the Company's confidential while is working as Members of the Board of Members or General Director and within a period of at least three years after the members leave the Board of Members or stop being the General Director of the Company, unless otherwise the Board of Members approves.

c. Not allowed to let his/her wife or husband, father, adoptive father, mother, adoptive mother, child and adoptive child, siblings hold a position of Chief Accountant or Treasurer of the Company, or if letting his/her wife or husband, father, adoptive father, mother, adoptive mother, child, adoptive child, and siblings hold a position of Chief Accountant or Treasurer of the Company, he/she has to resign being the Chairman of the Board of Members, Members of the Board of Members, the General Director of the Company. It is required to inform the person who appoints General Director with economic contract, labor contract, civil contract of the Company signed with the Members of the Board of Members, General Director, wife or husband, father, adoptive father, mother, adoptive mother, adoption, brother, and sisters of the members of the Board of Members and Director General. Where contracts that are not yet signed are found to be self-interest purpose, it is entitled to request the Members of the Board of Member and the General Director not to sign such contracts, if contract which have been signed shall be deemed to be invalid and the Member of the Board of Members and General Director shall pay damages to the Company and shall be treated by law.

d. When the Company fails to pay all due date debts and other property obligations, the General Director of the Company shall report to the Board of Members, to find out ways to deal with difficult financial situation and inform financial situation of the Company to all creditors; the Chairman and Members of the Board of Members and the General Director of the Company shall not allowed to decide to raise salary, not allowed to deduct profit paying bonuses to managers and workers.

e. When the Company fails to pay all due debts and other property obligations without implementation of provisions at Point c of this Article, he or she shall be subject to personal liability for any damage caused to creditors.

f. Where the Chairman of the Board of Members, the Member of the Board of Members or the General Director of the Company who violate the charter, or decide beyond their authorities, and abuse their positions and powers, causing damages to the Company and the State shall compensate under the provisions of law and this Charter. The Owners of the Company shall determine compensation level.

4. When violating any of the following cases but not serious enough for criminal prosecution, the Chairman and the Members of the Board of Members, the General Director of the Company shall not be rewarded, and not salary increase and shall be dealt with discipline, depending on the violation level, including:

- a. Company suffers loss.
- b. Loss of the State capital.
- c. Investment project decision is not effective, unable to recover investment fund and pay debts.
- d. Unable to guarantee salaries and other benefits for employees in the Company under provisions of labor law.

e. Mistakes occurring on the management of capital and assets, regulations on accounting, auditing and other modes prescribed by the State.

5. The Chairman of the Board of Members who is irresponsible and fails to comply with the provisions of point 2 of Article 49 of the Enterprise Law in 2005 which leading to a breach of Clause 4 of this Article shall be dismissed depending on the consequences of the breach and shall pay damages under the provisions of law.

6. Where letting the company suffer from losses in two consecutive years, or failing to achieve the rate of return over invested capital of the State in two consecutive years or in a state of one profit year and loss year but not overcome, except the case of loss or profit reduction over invested capital of the State approved by the competent authorities; loss or profit reduction over invested capital of the State due to objective reasons to be explained and accepted by the owners of the company. New investment to expand production and innovate, technology, depending on the seriousness of the violation and consequences, the Chairman of the Board of Members and the General Director of the Company shall be salary lowered or dismissed, and must pay damages under the provisions of law

7. Where the company falls into bankruptcy condition that General Director of the Company does not apply form for bankruptcy, the General Director shall be dismissed and responsible under the provisions of law. Where the General Director of the Company does not apply form for bankruptcy that the Board of Members does not request the General Director to apply for bankruptcy, the Chairman of the Board of Members and the Members of the Board of Members, and the General Director shall be dismissed.

8. The Company is subject to re-organization, dissolution or change of ownership without conducting procedures of reorganization, dissolution or change of ownership, the Chairman of the Board of Members, the Members of the Board of Members, and General Director shall be dismissed.

9. The Chairman of the Board of Members, the Members of the Board of Members, and General Director shall perform other obligation under provision of laws.

SECTION V

VICE GENERAL DIRECTOR, CHIEF ACCOUNTANT, SUPPORTING SYSTEM AND SUBSIDIARY UNITS

Article 38. Vice General Director and Chief Accountant

1. Vice General Director:

a. Functions and tasks:

Vice General Director assists the General Director to control one or some activity sector of the Company in accordance with allocation and mandate of the General Director.

The Vice General Director shall take responsibility to the Company Owner, the Board of Member, the General Director and by law for his/her assigned tasks.

b. Standard:

The Vice General Director of the Company shall execute in accordance with the regulations the State and the City on personnel.

c. Appointment and dismissal:

- Appointment: The Vice General Director is assigned by the company owner upon the request of the Chairman of the Board of Members and the General Director of the company with a term of 5 years.

The Vice General Director is considered to re-appoint if assigned tasks of the previous term have been completed.

- Dismissal: The Company Owner shall decide to dismiss the Vice General Director upon the request of the Chairman of the Board of Members and the General Director of the company in the following cases:

+ Law violation to be prosecuted or violation of regulations on dismissal cases.

+ Lost or limited civil act capacity or be decided to move and arrange with other work by the state authorized agency.

+ Dishonesty in enforcing rights or abuse power to gain for themselves or for other people, disclose secrets, causing damages to the company.

+ Not complete task of organizing execution of business and operation assigned by the General Director of the Company, causing the Company unfulfills the annual development targets that the Company has decided.

+ Other cases prescribed by law.

d. Rights:

The Vice General Manager shall receive wages, bonuses and other benefits under the current regulations of the State and the City.

2. Chief Accountant:

a. Functions and tasks:

Chief Accountant of the Company shall assist the Board of Members and the General Director of the Company in management, inspection, monitoring, and implementation guidelines on financial and accounting profession of the Company as prescribed by law.

The Chief Accountant is responsible to the Company owner, the Board of Members, and the General Director of the Company and the law for the assigned tasks or authorization.

b. Standard:

The Chief Accountant implements the current regulations of the State and

the City on personnel organization activities.

c. Appointment and dismissal:

- Appointment: The Chief Accountant is decided by the Company Owner to appoint or dismiss upon the request of the Chairman of the Board of Members and the General Director of the company with a term of 5 years.

The Chief Accountant is considered to re-appoint if assigned tasks of the previous term have been completed.

- Dismissal: The Company Owner shall decide to dismiss the Chief Accountant upon the request of the Chairman of the Board of Members and the General Director of the company in the following cases:

+ Law violation to be prosecuted or violation of regulations on dismissal cases.

+ Decision made exceeded the authority provided in financial regulations of the Company and in violation of state regulations led to serious consequences for the financial operations of the Company

+ Lost or limited civil act capacity, apply for resign or decided to move and arrange with other work by the state authorized agency.

+ Dishonesty in enforcement of powers or abusing his powers and rights to get benefits for himself or for others. Disclosing confidential caused damages to the company. Dishonest reporting on financial status of the Company two (02) times or more, or one time but seriously distort the financial condition of the Company.

+ Not complete tasks assigned by The Board of Member and the General Director of the Company, causing the Company unfulfills tasks, targets and business and operation plan assigned by the Company Owner.

+ Other cases implemented as prescribed by law.

d. Rights:

The Chief Accountant shall receive wages, bonuses and other benefits under the current regulations of the State and the City.

Article 39. Conditions of involvement in other company for The Chairman of the Board of Members, full-time members of the Board of Members, General Director, Vice- General Director, and Chief Accountant of the Company.

1. The Chairman of the Board of Members, full-time members of the Board of Members, General Director, Vice- General Director, and Chief Accountant shall be not allowed to hold concurrently the titles of President, General Director, Vice- General Director, and Chief Accountant of one member liability limited company under the Mother company.

2. The Chairman of the Board of Members, full-time members of the Board of Members, General Director, Vice- General Director, and Chief Accountant shall be allowed to manage the equity capital amount of the

company in the joint stock company.

3. Other cases implemented as prescribed by law.

Article 40. Supporting system

1. Specialized departments have functions to advise and assist the Board of Members and the General Director in operation control and management of the Company.

2. Concrete tasks of the specialized departments is stipulated in the internal management process of the Company built up by the General Director and submitted to the Board of Members for approval, the signed for issuance by the Chairman of the Board of Members.

3. During operation, the General Director may request the Board of Members to change the organizational structure, number of personnel, functions and duties of the specialized Departments in accordance with operation and business demand of the Company and by law. Members of the Board of Member shall consider and decide on changes requested by the General Director of the Company.

CHAPTER V

CAPITAL MANAGEMENT AND ASSIGNING THE REPRESENTATIVE TO MANAGE CAPITAL AMOUNT INVESTED IN OTHER ENTERPRISE

Article 41. Capital invested in other enterprises

1. The Company's capital invested in other enterprises, including cash value of land use rights, value of tangible or intangible assets owned company invested in other enterprises.

2. The Owner Company's capital investing and contributing in other enterprises is assigned to Company.

3. The value of state capital invested in divisions of the Company is equitized or converted into two member liability limited company.

4. The Capital borrowed by the Company for investment.

5. The re-investment capital from divided profits.

6. Other capital as prescribed by law.

Article 42. Rights and obligations of the Company in participation of investing and contributing capital in other enterprises

1. The Company shall be the owner of the equity capital in other enterprises by law.

2. Rights and obligations in management of the equity capital in other enterprises

a. Rights and obligation of the Company:

- To decide on capital investment and contribution, increase, or decrease as prescribed by relevant laws, this Company Charter and the Charter of the other enterprise which the Company has equity.

- To decide on assignment, change, dismissal, reward and discipline to the person represented for the equity capital of the company in other enterprise; To introduce the representative to be candidate for the Board of Directors and the Board of Auditors of the enterprise having equity capital of the Company in accordance with the provisions of the Charter of the Company and the relevant laws in Vietnam and oversea countries.

- To decide in allocation of the capital amount relative to the number of votes for each representative.

b. Rights and obligation of the Chairman of the Board of Member of the Company:

- To decide on assignment, change, dismissal, reward and discipline to the representative who manages invested capital of the Company upon request of the General Director.

- To assign task, instruct and request the representative to perform the following contents:

- + Orientation to implement the targets and plans to coordinate in investment and operation with the enterprises that have the company's equity capital .

- + Periodical or unscheduled report on financial status, investment result business performance results and other issues.

- + Report on critical issues of the enterprise that has capital of the Company in order to ask for advices before voting.

- + Report on usage of capital, market, technological know-how and other issues for development orientation and goals of the Company.

- To resolve requests of the representative of the Company in the enterprise having equity capital of the Company.

- To collect profits and bear losses from the equity capital in the other enterprises with the company's equity capital. Capital withdrawn including interest shall be revenue accounted as stipulated. In case of re-organization, the Company shall manage the equity capital in accordance with laws.

- To check and monitor usage of the Company's capital and take responsibility for usage efficient, maintenance and development of the company capital in the enterprise having the equity capital of the Company.

- Other rights prescribed by law.

Article 43. Rights and obligations of the capital management representative.

1. To directly involve in running for election in the management and

administration system of other enterprise under the provisions of the Charter of that enterprise.

2. When performing the rights of shareholders, the equity capital partners, joint venture partners in General Meeting of Shareholders, the capital contributed members, the joint venture parties have to use the rights in prudent manners in accordance with direction of the capital owner.

3. To monitor and supervise business and financial status, business performance results of other enterprises as provided by law and in accordance with the enterprise charter. To perform periodic reports as required by the owner on business performance situation and results, and financial matters of other enterprises, and on implementation of the tasks assigned by the capital owner.

4. The person who engages in the management and administration Board of other enterprise shall study and propose operation directions and measures in the other enterprises to submit the Capital Owner for approval. For important matters of the enterprise to be discussed in the Board of Directors, Board of Management, the General meeting of shareholders or members of the joint venture capital contribution such as business direction, strategy and plan, mobilization of additional equity and capital, dividends and so on, the representative shall actively reports to the capital owner for written comments. The representative who is responsible for giving speech in the meeting shall give the speech in accordance with the directive opinion of the Owner. Where more than one representative joining in the Board of Directors, the Board of Management of other enterprises, these representatives shall implement the directive opinions of the owner uniformly.

5. The representatives in the enterprise having the company's dominant equity capital shall be responsible to direct that enterprise to go with proper objectives and orientation of the Company and shall use the dominant right or veto right to determine additional business fields. When the enterprise is detected to deviate from the objective and orientation of the company, the representative shall immediately report to the owner and propose countermeasure. After the capital owner approves, it is necessary to immediately implement to lead the enterprise to be promptly in the right direction and objectives.

6. To be responsible to the capital owner for the assigned tasks. In case of lacking of responsibility, taking advantage of tasks and powers, causing damages to the capital owners, the representative shall bear responsibility and material compensation as prescribed by law.

7. To perform reporting regime to the Board of Members and the General Director Chief Executive Officer on efficient use of the equity capital.

8. To execute the rights and obligations prescribed by law, the Enterprise Charter and the Company Charter.

Article 44. Standards, conditions and rights of the capital representative.

1. The person who is assigned to be the representative of the equity capital

in other company having equity capital of Hanoi Urban railway one member Co., Ltd shall meet all standards and conditions as prescribed by the State and the City.

2. The person who directly the equity capital of the Company shall enjoy the regime of salary and allowances and responsibility allowance and other regimes as prescribed by the State, the City and the Company.

CHAPTER VI

SUBORDINATE DEPARTMENTS, DIVISIONS AND UNITS

Article 45. Subordinate departments, divisions and units of the Company

Hanoi Urban railway one member Co., Ltd has Subordinate departments, divisions and units by the time of approving the Charter (refer to the enclosed Appendix).

Article 46. Relationship between the Company and the Subordinate units.

1. The dependent accounting unit shall perform accounting decentralization mode stipulated by the Company, allowing to create revenue sources from implementation of service contracts, scientific research and technological transfer training with units out or in the Company. The unit shall operate in accordance with the rules built up by the Company General Director and approved by the Board of Members.

2. The subordinate units are entitled to sign economic contracts and perform business activities and financial activities and organize personnel in accordance with mandate of the Company prescribed in the Rules of the dependent accounting unit built up by the Company General Director and approved by the Board of Members. The Company shall be responsible for financial obligation arising to commitments of the dependent accounting units.

3. The dependent accounting units shall not have separate capital and assets. All capital and assets of the subordinate units are under the company ownership. Transferring capital and assets to the subordinate units shall be based on the subordinate units' business alternatives approved by the Board of Members of the Company.

CHAPTER VII

RIGHTS AND OBLIGATIONS OF THE EMPLOYEES

Article 47. Rights of the Employee

1. The Employees shall have rights to manage the Company through the

following organizational forms:

- a. General Meeting of the Company's employees.
- b. Trade Union organization of the Company.
- c. People's Inspection Board of the Company.
- d. Executing rights of petition, claim and accusation by law.

2. The employee or the employee's representative may participate in discussions, make suggestions before the General Director decides or request the Owner of the Company to decide on the following issues:

- a. Orientation, planned mission, business and operation development method, re-arrangement of operation and re-organization of the Company's employees.

- b. Plans of equitization, diversity or transformation of company ownership.

- c. Regulations and Rules of the Company directly relating to the rights and obligations of the Employees by law.

- d. Labor protection measures to improve working conditions, physical and spiritual life, environmental sanitation, training and re-training of the employees.

- e. Vote for trust of the titles of the Chairman and the Members of The Board of Members, General Director, Vice General Director, Auditor, and Chief Accountant of the Company and other management titles upon request.

3. Through the General Meeting of the Company's employees, the Employees are entitled to discuss the following issues:

- a. Contents or modification and addition to the contents in the Collective Agreement, Regulations on salary and bonus payment; The employees shall assign their representative to negotiate and conclude collective labor agreements with the General Director of the Company

- b. Rules on use of welfare and reward funds, and the other targets of the Company directly related to the obligations and rights of the employees in accordance with legal provisions .

- c. Evaluation of operation result and action program of People's Inspection Board of the Company.

- d. Vote for People's Inspection Board of the Company.

4. Participation in other contents in accordance with legal provisions .

Article 48. Obligation of the employees

1. The employees are obliged to perform labor contract signed with the General Director or the person who is authorized by the General Director of the Company, and to perform labor regulations, collective labor agreements and other relevant regulations related to the employees ratified by the Company General Meeting of the employees.

2. The employees must not stop learning and improving their

professional skills to complete the assigned work.

3. The employees shall abide by all policies and laws of the State and the City and plans to re-organize business operation, and plans of the company employee reorganization.

4. Perform other obligation in accordance with current regulations of the Labor Code and the legal regulations of the Company.

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CHAPTER VIII

FINANCIAL MANAGEMENT OF THE COMPANY

Article 49. Financial Operation Mechanism of the Company

Financial operation mechanism of the company shall be executed in accordance with the current financial rules approved by the Company Owner or current legal provisions.

CHAPTER IX

RE-ORGANIZATION, CHANGE, DISSOLUTION AND BANKRUPTCY

Article 50. Re-organization of the Company

Reorganization forms of the company include: merger, consolidation, division, separation and other forms prescribed by law.

Reorganization of the Company is decided by the Company Owner or submitted by the Board of Member for consideration and decision on the basis of law.

Article 51. Change of the Company owner

1. The Company changes the owner by the following forms:

- a. The owner transfers all charter capital to other organization.
- b. Equitization of all or parts of the Company.
- c. Sale all or parts of the company.
- d. Delivering the Company to the employee collective.

2. When decision on changing the owner, the Company shall carry out changing in accordance with sequence and procedures of the law on ownership change.

Article 52. Dissolution of the Company

1. The Company shall be dissolved in the following cases:

- a. Consecutive loss but not yet in the status of losing ability to pay due debts.
- b. Unable to perform obligations prescribed by the State after application of the necessary measures.

- c. Unnecessary to continue maintaining the Company.
2. Sequence and procedure of the company dissolution is executed in accordance with current provisions of law and of the Company Owner.

Article 53. Bankruptcy of the Company

To be carried out in accordance with law on bankruptcy.

**CHAPTER X
BOOKS AND RECORDS OF THE COMPANY**

Article 54. Right to access books and records of the Company

1. The Board of Members is responsible to annually report to the Owners on the required documents as stipulated by law.
2. In extraordinary cases, the Owners of the Company may request in writing the Board of Members to provide any records or documents relating to implementation of the rights of the owner as stipulated by law and by this Charter
3. The General Director shall be responsible to prepare and report to the Board of Members to provide with records and documents upon request of the Company Owner. The Chairman and the Members of the Board of Member who asks the General Director to provide with records and document shall prepare Regular Meeting of the Board of Members. The Chairman and the Members of the Board of Members have rights to request the General Director, Vice General Director and management officials to provide all records and documents related to performance of functions and tasks of the Board of Members.
4. The General Director shall be responsible to organize to keep and secure records and documents of the Company.
5. The Employees in the Company are entitled to learn about information of the company through General Meeting of the Employee and People's Inspection Board of the Company.
6. Other cases as stipulated by law.

Article 55. Information publicity

1. The General Director of the Company shall implement provisions of law and the organization and working rules of the Company on information publicity and responsibility for implementation of such regulations. The records and documents storing division of the Company can only provide information to the outside by decision of the General Director or the person authorized by General Director of the Company.
2. Forms, contents and location to send information shall comply with provisions of law.
3. Where inspection and examination are required by the State authorized agency, the General Director of the Company is responsible for providing information in accordance with law on inspection and examination.

CHAPTER XI

INTERNAL DISPUTE SETTLEMENT AND REVISION OF COMPANY CHARTER

Article 56. Internal dispute settlement

Internal dispute settlement of the Company or disputes concerning relationship between the Company Owner and the Company, between the Company Owner of the Company and the Board of Members, between the Board of Members and the General Director of the Company, and supporting system shall be based on the Charter and provisions of law.

Article 57. Revision and Addition of the Charter

1. All revision and addition to the Charter shall be decided by the Owner upon request of the Board of Members of the Company.

2. The Board of Members is entitled to request the Owner for charter revision and addition plan.

CHAPTER XII

IMPLEMENTATION

Article 58. Implementation validity

1. This Charter includes 12 Chapters and 58 Articles shall be legal basis for organization and operation of the Hanoi Urban Railway One Member Co., Ltd. All individuals and Subordinate units of the Company are responsible for implementation of this Charter.

2. This Charter shall take effect from signing date.

3. The Subordinate units of Hanoi Urban Railway One Member Co., Ltd shall buildup Working rules of the unit based on provisions of the relevant laws with its legal form not contrary to the Charter, and submit to the competent authority for approval.

4. In cases where provisions of law relating to activities of Hanoi Urban Railway One Member Co., Ltd. has not been specified in the Charter or in the case of new legal provision different from clauses and articles of the Charter, such provisions of law shall be automatically applied. Hanoi Urban Railway One Member Co., Ltd. shall submit to the Owner for amendment and supplementation.

LIST OF DEPARTMENTS. DIVISION, AND SUBORDINATE UNITS OF HANOI URBAN RAILWAY ONE MEMBER CO., LTD

1. Department and division of the Company:

- Administration Department;
- Organization and Human Resource Department;
- Financial and Accounting Department;
- Sales and Public Relation Department;
- Planning and Project Department;
- Common Train Operation Department;
- Maintenance and Technical Division;
- Safety and Quality Department.

2. Site Operation Units under the Company:

- Line 2A Urban Railway Site operation Unit;
- Line 2 Urban Railway Site operation Unit (not yet established shortly);
- Line 3 Urban Railway Site operation Unit (not yet established shortly);

THE SAFETY MANAGEMENT RULE FOR URBAN RAILWAY TRANSPORTATION (DRAFT)

PART 1: GENERAL PROVISIONS

Chapter 1: Objectives

Article 1: Objectives

1. The regulations aims to establish a Safety Management System and improve urban railway Safety standards by prescribing policies and methods of urban railway operation.
2. Safety of railway transportation will be ensured by following the Regulations, related regulations and rules are developed by departments of the Company, and in compliant with Vietnam Railway Law, other related laws and regulations, standards, technical regulations which are stipulated by MOT.

Chapter 2: Basic policies to ensure safety of railway transportation

Article 2: Basic safety policies

1. President and board members shall seek to build systems and regulations to operate urban railways with safety-first mind, the establishment of management policies to ensure safety in every aspect such as railway facilities, vehicles, and employees.
2. President, board members and all the employees shall observe the following rules:
 - (1) Ensuring safety is the most critical in railway transportation.
 - (2) Observing laws and regulations is the basis of safety
 - (3) Serious and strict work attitude is essential for safety.
 - (4) In case of accidents, incidents occurred, or if there is risk of occurring accidents, incidents, it is necessary to prompt implement appropriate countermeasures, putting the most priority in lifesaving.
 - (5) Safety information is circulated sufficiently, quickly and correctively.
 - (6) Always be highly aware of safety and completion of works
3. Measures to maintain and improve safety for UR facilities, RS and other issues which have been developed based on policies in clause 1 of Article 2 will be reviewed from time to time based upon the implementation to ensure transport safety.

Chapter 3: Systems to implement and manage measures to ensure safety in urban railway transportation

Section 1: Organizational structures to ensure safety in urban railway transportation:

Article 3: Responsibilities of Board members, General Director, Deputy General Director

1. Board members will take final responsibility to ensure safety in urban railway transportation.
2. Board members shall set up a management system and establish measures to implement the tasks to ensure safety in urban railway transportation.
3. In formulating business plans relating to facilities, operation, personnel, investment, budget and others, General Director, Deputy General Director of the Company shall request managers and aforesaid managerial personnel in Article 4 to implement assessment over safety and feasibility.
4. Board members shall need to understand UR operation business and its management and implement improvements if necessary.
5. Board members shall respect comments and opinions of general safety managers.
6. To prepare for accidents, incidents cases, or risks of accidents, incidents, disasters as well as cases possibly causing difficulties to transportation safety, it is necessary to define the establishment of a Special Reacting Committee, and deciding on personnel in charge, reacting measures and other necessary items in compliant with scope, contents and notice to all employees.

Article 4: Organization structure

1. The organization structure relating to safety in urban railway transportation is shown as “safety management system (appendix 1)”, in which responsibilities and authorities of each in-charge person and each manager are as follows:
 - (1) General safety manager: control tasks to ensure UR transport safety.
 - (2) Operation safety manager: control operation-related matters under supervision of general safety managers.

- (3) Train crew manager: responsible for qualification and performance of train crew or drivers in Depot under supervision of the operation safety manager or RS manager.
 - (4) Manager of Business, PR department: responsible for general works at stations, under instruction of general safety manager
 - (5) Manager of Electricity, signaling, telecommunication department: responsible for works relating to electricity, signaling, telecommunication equipment, under instruction of general safety manager.
 - (6) Manager of civil works department: Responsible for works relating to civil works and architectures under instruction of general safety manager.
 - (7) Manager of station equipment, track department: Responsible for works relating to station equipment, track under instruction of general safety manager.
 - (8) Manager of Rolling stock department: responsible for works relating to RS under the instruction of general safety manager.
 - (9) Manager of Safety – quality department: responsible for works relating to measures to ensure safety and prevent accidents, incidents, under instruction of general safety manager.
 - (10) Manager of Finance – accounting department: responsible for works relating to finance, which are necessary for ensuring UR transport safety under instruction of general safety manager
 - (11) Manager of organization, human resources department: responsible for works relating to personnel management and training, in order to ensure transport safety, under instruction of general safety manager.
 - (12) Manager of Planning, project department: responsible for works relating to necessary business plan to ensure UR transport safety under instruction of general safety manager.
2. Nomination and dismissal of the above-mentioned managers and managerial personnel must be noticed to Board members and all employees, often updating, clarifying about transport safety related responsibilities and institutions.
 3. Managerial personnel and managers listed in clause 1 of Article 4 shall conduct works and manage the safety appropriately by close communications and sharing of necessary information about operation plan, facilities and rolling stock.

4. In case that managerial personnel and managers in clause 1 of Article 4 cannot execute their works due to accidents or other reasons, authorized persons and representatives of managers shall take over the tasks.

Article 5: Nomination and dismissal of general safety manager

1. General safety manager shall be nominated from those who met the requirements set by governmental regulations and have sufficient knowledge and experience of safety management. Usually, general director of urban railway company will take over this position.
2. General safety manager will be dismissed in the following cases:
 - (1) In case he or she does not meet the requirements any more due to transfer to a different position.
 - (2) In case that government regulator requests on dismissal
 - (3) In case they cannot continue the works due to illness, injuries or any other uncontrollable reasons.
 - (4) In case that there is possibility that general safety manager breaks any rules and it might damage urban railway transport safety if the managers stay at the position.

Article 6: Nomination and dismissal of UR operation manager

1. Operation safety manager will be nominated among those who meet requirements of government regulations. Usually, manager of integrated train operation department will take over this position.
2. Based upon clause 2 in Article 5, regulations on dismissal cases of operation safety manager will be applied.

Section 2: Responsibilities of general safety manager of the company

Article 7: Responsibilities of general safety manager

General safety manager has following responsibilities relating to urban railway transport safety:

- (1) Ensure safety of operation, equipment, rolling stock and appropriateness between departments, as well as comprehensively managing departments and monitoring transport works implementation, putting top priority on lifesaving.
- (2) Make sure all employees fully observe related laws and regulations and aware of safety-first policy.
- (3) Check the implementation and management of transportation, safety management system, and take improving actions if necessary.

- (4) Join important decision-making processes to ensure transport safety, express opinions necessary to ensure safety to board members, Deputy General Directors and related managers.
- (5) Gather necessary information regarding accidents and disasters and provide it to the operation safety managers, and other related managers or give them necessary instructions.

Article 8: Responsibilities of operation safety manager

1. In order to ensure safety, operation safety manager is responsible for the tasks relating to train operation, including developing and revising operation plan, using staffs on-board and RS, training for train crew, train operation management, collecting information about train operation.
2. Operation safety manager will nominate train crew manager from staff who manage train crew members and report to general safety manager.
3. Operation safety manager must coordinate with managers of other departments to confirm safety and feasibility in developing train operation plan and other related plans by considering conditions relating to personnel and facilities of operation, and RS.
4. Operation safety manager shall probably manage the training of operation related personnel.
5. Operation safety manager will closely communicate and coordinate with general safety manager to ensure safe train operation.
6. Operation safety manager shall share necessary information relating to operation to general safety manager and other related managers to ensure safety for train operation.

Article 9: Responsibilities of train crew manager

1. Train crew manager is assigned by operation safety manager and under instruction of operation safety manager, he/she will have following responsibilities:
 - (1) Relating to management, maintenance of qualification of train crew.
 - (2) Relating to periodical confirmation about education of qualification of train crew members and report to operation safety manager
2. Train crew manager assigned by RS department manager will be under instruction of manager of RS department and will have following responsibilities:

- (1) Relating to management and maintenance of qualification of drivers in depot
- (2) Relating to periodic confirmation on education of qualification of drivers in depot and report to manager of RS department.

Article 10: Responsibilities of manager of business, PR department

1. Manager of business, PR department is responsible as following, in order to manage station works, aiming at ensuring transport safety.
 - (1) Relating to operation at station
 - (2) Relating to provision of necessary information such as weather forecast, so that train can safety be operated
 - (3) Relating to management and maintenance of qualification of station staffs
2. When considering on preparation of transport plan and other related ones, Business, PR manager shall affirm safety and feasibility by considering overally the situation of station staffs, equipment and facilities at station.
3. Business, PR manager properly manages the training and education for station staffs.
4. Clause 5, 6 of Article 8 are also applicable for business, PR manager.

Article 11: Responsibilities of manager of electricity, signaling and telecommunication department

1. Electricity, signaling and telecommunication manager takes following responsibilities to manage and maintain electricity, signaling and telecommunication equipment, in order to ensure transport safety:
 - (1) Relating to development and changes in management system as well as management plan of maintenance and improvement of electricity, signaling and telecommunication equipment.
 - (2) Relating to the ensuring of compatibility between UR facilities, RS with operation.
 - (3) Relating to safety in maintenance and improvement of electricity, signaling and telecommunication facilities.
 - (4) Relating to sharing of necessary information for safe train operation such as weather and status of electricity, signaling and telecommunication equipment.
 - (5) Relating to maintenance of qualification of staffs to maintain, improve electricity, signaling and telecommunication equipment.

2. While reviewing maintenance plan, manager of electricity, signaling and telecommunication department shall need to confirm on safety and feasibility by overally considering conditions of related personnel and status of electricity, signaling and telecommunication equipment.
3. Manager of electricity and signaling, telecommunication department shall properly manage the training for personnel relating to electricity, signaling and telecommunication equipment.
4. Clause 5, 6 of article 8 are also applicable to manager of electricity, signaling and telecommunication department.

Article 12: Responsibilities of manager of station equipment, track department

1. Manager of station equipment, track department is responsible as following, to manage and maintain station equipment, track, ensuring transport safety:
 - (1) Relating to establishment, changes of management system as well as management plan of maintenance, improvement of station equipment and track.
 - (2) Relating to ensuring of compatibility between UR facilities, RS with operation.
 - (3) Relating to safety in maintenance and improvement of station equipment and track.
 - (4) Relating to sharing necessary information for safe operation such as weather forecast and status of station equipment, track.
 - (5) Relating to managing qualification of staffs in maintaining, improving station equipment and track.
2. While reviewing maintenance plan, manager of station equipment, track shall confirm safety and feasibility by overally considering conditions of personnel relating to station equipment, track and status of station equipment, track.
3. Manager of station equipment, track department shall properly manage the training and education for station equipment, track staffs.
Clause 5, 6 of Article 8 are applicable for manager of station equipment, track department.

Article 13: Responsibilities of manaer of Civil works department

1. Manager of civil works department has following responsibilities to manage and maintain civil works, in oder to ensure transport safety:

- (1) Relating to establishment, changes in management system as well as management plan of maintenance and improvement of civil works.
 - (2) Relating to ensuring compatibility between civil works, RS with operation.
 - (3) Relating to ensuring safety in maintenance, improvement of civil works
 - (4) Relating to sharing of necessary information for safe train operation such as weather forecast and status of civil works.
 - (5) Relating to management of qualification of staffs to maintain, improve UR civil works.
2. While reviewing management plan of maintenance, manager of civil works department must confirm the safety and feasibility by considering conditions of civil works' maintenance staffs and status of civil works.
 3. Manager of civil works department shall properly manage the training and education for civil works staffs.
 4. Clause 5, 6 of Article 8 are also applicable for manager of civil works department.

Article 14: Responsibilities of manager of RS department

1. Manager of RS department takes following responsibilities to manage the maintenance of RS, in order to ensure transport safety:
 - (1) Relating to establishment, changes of management system, as well as management plan of maintenance and improvement RS.
 - (2) Relating to ensuring compatibility between UR facilities, RS with operation.
 - (3) Relating to coordination between RS turning plan and operation plan.
 - (4) Relating to management of qualification of personnel to maintain, improve RS.
2. Manager of RS department shall nominate train crew manager from staff who are at management positions of drivers in depot, and report to general safety manager.
3. While developing usage plan of RS, manager of RS department must confirm the safety and feasibility by overallly considering about RS staffs and status of equipment.
4. Manager of RS department shall properly manage the training and education for RS related staffs.

5. Clause 5, 6 of Article 8 are also applicable for mamaber of RS department.

Article 15: Responsibilities of Manager of Safety-Quality department

Manager of Safety – quality department shall have responsibilities of confirming the implementation and measures of management to ensure transport safety by implementing internal audit, promotion of measures to improve safety such as those to avoid recurrence.

Article 16: Responsibilities of Manager of Finance – accounting department

Manager of Finance – accounting department shall overally consider about the safety and other contents, developing estimation plan and other necessary ones.

Article 17: Responsibilities of Manager of organization, human resources department

Normally, Department of organization, human resources shall overally consider about improvement of safety, establishing HR plan, training plan which are necessary to ensure transport safety and others necessary.

Article 18: Responsibilities of manager of project, planning department

By considering overally about safety and implementation of necessary adjustments to develop and implement business plans and other necessary ones, manager of planning, project department shall manage progress of those above works.

Chapter 4: Implementation and management of tasks to ensure urban railway safety

Article 19: Report of work

1. Manager of safety – quality department often receive reports from operation safety manager and managers of other related departments regarding useful information to prevent accident's recurrence, unsafe activities, and those affecting transport safety, as well as reporting for acknowledgement of general safety manager.
2. Manager of safety – quality department shall try to share information from report received at clause 1 of this article to related departments.
3. All staff to share necessary information to ensure train operation safety.

Article 20: Measures to prevent accidents, incidents

1. General safety manager shall instruct to manager of safety – quality department for analyzing and adjustments of useful information in order to prevent recurrence of accidents, disasters, ensuring transport safety, discussing on necessary measures to prevent accidents, incidents.
2. General safety manager shall receive report as mentioned in clause 1 of Article 20, setting up necessary measures. As well as, based on viewpoint of improving awareness of safety and prevention of risks of accidents, incidents, general safety manager shall notice to related departments about contents necessary to be announced to participants, in order to ensure information sharing among staff.

Article 21: Report of accidents, incidents and solutions

1. All staff shall understand about Special reacting committee, in-charge personnel, solutions, reacting activities, other necessary activities when accident, incident happens; in case of accidents, disasters, it is necessary to implement solutions, reactings.
2. Operation safety manager and managers of other related departments shall implement flexible and appropriate measures which may be beyond their authority if necessary.
3. If anyone is noticed of the accidents, incidents or disasters, he/she shall swiftly report with a designated method.
4. Operation safety manager and managers of other related departments shall report about accidents, incidents, disasters swiftly to government agencies as regulations.
5. Specific reacting contents are mentioned in “Regulations on reacting when accidents, incidents occur”, “Operation rules” and other related regulations.

Article 22: Confirmation of tasks

1. General safety manager, operation safety manager and managers of departments shall continuously finding out potential risks by visiting the site to confirm the implementation of tasks regarding transport safety in the company and the application of safety management system, as well as working out clear and correct measures for those needed improvements.
2. Manager of safety-quality department shall prepare annual internal auditor, asking for approval of general safety manager, and based on that plan, to inspect activities stipulated in this regulations towards related departments.

3. Manager of safety – quality department shall request related departments to improve via request of improvements if improvement needed items are found while internal auditing.
4. Manager of related departments after receiving request for improvements will need to promptly set up necessary solutions for improvements, and report to manager of safety – quality department for acceptance of report of improvements.
5. General safety manager shall receive report of internal auditing from manager of safety – quality department and develop appropriate handling measures for items which are in need of improvement.

Article 23: Training and education about transport safety

General safety manager shall request related departments to frequently prepare training, education plans for staffs, and organize the training, in order to ensure transport safety, as well as, requesting evaluation on training process, developing appropriate measures if necessary.

Article 24: Building up regulations/rules on safety

1. In addition to this provision, the operation safety manager and other related department managers shall develop the necessary safety regulations regarding maintenance of urban railway rolling stock and equipment, train operation, and review them continuously.
2. All staff shall be informed of the provision described in the clause 1 of this article in order to ensure train operation safety.

Article 25: Management of regulations, documents and records

1. This regulation, other safety regulations, documents on urban railway facilities and rolling stock structures and specifications, and other materials shall be properly managed and stored in regarding divisions.
2. The general safety manager's opinions and minutes of the meetings to decide safety policies shall be properly stored in accordance with regulations of the information management system of the company.
3. Rules relating to operation safety assurance and necessary documents shall be properly stored and managed by the chiefs of responsible unit in accordance with regulations of the information management system of the company.

PART 2: MANAGEMENT OF TRAIN OPERATION

Chapter 1: Management of train operation

Article 26: Operation management system

To prescribe Regulations on The system for operation management and instruction and command system

Article 27: Operation plan

1. When developing concrete operation plans, the operation safety manager shall confirm the safety and feasibility of the plans based upon specific train performance curves, taking into consideration following factors.
 - (1) Travel time between stations
 - (2) Loading and unloading of passengers at stations
 - (3) Restraints by passing and signaling facilities
 - (4) Restraints regarding on-board crews and vehicle
 - (5) Other matters necessary for smooth train operation
2. The train performance curves shall be developed, in consideration of vehicle performance including acceleration and deceleration, maximum speeds, and curving performance, track conditions including curves and slopes, and drivers' skills.
3. The operation safety manager shall check the development and changes of the operation plans.
4. The operation safety manager in cooperation with the department managers of rolling stock, electricity, station equipment, track, and civil works shall prepare documents regarding vehicle performance, track conditions, and speed limits at curves which are necessary to develop operation plans,

Article 28: Work shift of on-board crews

The operation safety managers shall develop work shift plans for on-board crews in consideration of appropriately balancing work hours and on-board hours based upon relevant regulations

Article 29: Management of qualifications of on-board crews

1. The train crew manager shall confirm regularly whether on-board crews fulfill qualifications according to the operation safety manager's instructions.
2. In case the train crew manager finds out that any of the crews do not meet the qualifications physically or mentally, or in terms of the knowledge

and skills, he or she shall take actions such as suspension from work or on-board retraining, and shall report the situation to the operation safety manager.

3. In case the operation safety manager receives a report on questionable qualifications and performances of any crews, he or she shall swiftly make a decision on necessary measures such as suspension/re-education based upon comments of the crew training manager.
4. In case any of the crews who have been suspended from work are expected to improve their knowledge and skills by training, the train crew manager shall develop an education program, confirm the results after the re-education, and decide whether they can get back to work or not, based upon the discussion with the operation safety manager.

Article 30: Report on qualifications of on-board crews and drivers in Depot

Regarding qualifications of on-board crews and drivers in Depot, the operation safety manager shall compile reports from the train crew manager and rolling stock department manager to make report and send it to the management agency in accordance with the regulation on the following matters:

- (1) The driver's licence No. and the results of medical checks and aptitude tests
- (2) Numbers of driving errors and the performance in the training and re-education program

Article 31: Training, management and maintaining of qualifications of operation related staff

1. The operation safety manager and other department manager shall understand and manage the competence, knowledge, and skills of train operation staff with appropriate methods and procedures designated in the "Operation Rules".
2. The persons who are responsible to supervise operation related staff shall base on "Operation Rules" to regularly check necessary matters regarding operation related staff's competence before or during their work hours and give them necessary instructions.
3. The persons who are responsible to supervise operation related staff shall record the competence of operation related staff under their supervision and confirm its changes over time.

Article 32: Train operation system

1. The operation safety manager shall designate responsible persons, command and control systems, and control methods regarding the following matters and specific train operation management in the operation rules:
 - (1) Understand the state of operation in time of confusion and disruption of operation
 - (2) Unexpected changes of operation schedules
 - (3) Important safety-related instructions such as change of operation, etc. in order to ensure safety among trains
 - (4) Gathering and sharing the information on abnormal weather
 - (5) Communication of approval to start maintenance, improvement and other works which may affect train operation and information related to restart operation after their completion
2. The operation engaging person shall understand information of state of operation, track conditions, and abnormal weather, etc., and, in case those conditions may affect safe train operation, he or she shall give to priority to take quick and appropriate actions
3. When operation is suspended due to incidents, accidents or disaster, the OCC manager shall give the restart command after confirming the safety of the site.
4. In case an operation schedule has to be changed due to incidents, accidents, disaster, the OCC manager's command shall be complied, contact and confirm with related persons in accordance with the operation rules to make sure that instructions are transmitted.
5. In case operation safety might be disrupted due to abnormal weather, the operation safety manager shall take proper actions such as suspension of operation.
6. The operation safety manager shall record and store the information on the state of operation, communications of regarding persons, and proper actions for accurate operation.

Article 33: Measures taken in case of incident, accident, disaster, etc.

1. In case of emergency such as incidents, accidents and disasters, the operation engaging person shall take quick and proper actions in order to rescue passengers and minimize the damage in accordance with Regulations on reacting when accidents, incidents occur.

2. In case of incident, accident, disaster, the emergency personnel or other people need to enter track area in order to conduct rescue and first-aid activities, the OCC manager shall take necessary actions including suspension of operation to ensure those people's safety.

Chapter 2: Management of urban railway facilities

Article 34: Management system of urban railway facilities

1. To prescribe regulations of management system of urban railway facilities
2. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall develop regulations regarding improvement and maintenance of railway facilities and report them to the general safety manager. The case of changes shall be applied similarly.
3. When maintenance and improvement work of urban railway facilities is carried out, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall develop maintenance plans appropriate to the necessity for improving safety and reliability and consistency between rolling stock and the future operation schedule, and report the plans to the general safety manager.
4. For implement and check of completion of urban railway facility maintenance and improvement, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall closely communicate with the related divisions and make proper plans in compliance with railway facility standards and maintenance rule to avoid affecting guarantee of operation safety.
5. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall summarize inspection plan and inspection results of urban railway facilities, prepare maintenance plan and improvement plan and report the plans to the general safety manager.
6. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall designate methods and procedures of inspection, maintenance and

improvement work of urban railway facilities in accordance with the urban railway facilities standards and rules make sure that all the related employees completely understand them.

7. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall share information to the related person in order to carry out daily inspection based on maintenance rules and maintain urban railway facilities in safe condition for use.

Article 35: Ensuring safety in maintenance and improvement of urban railway facilities

1. Regarding maintenance and improvement of urban railway facilities, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall stand on the viewpoint of securing safe train operation and preventing accidents to confirm the details of the work item from stage of maintenance and improvement plan.
2. The workers (including contractor) who are involved in the urban railway facility maintenance and improvement work shall exchange information in with related people on the details, methods, and sequence of maintenance and improvement work.
3. The workers (including contractor) who are involved in maintenance and improvement work of urban railway facility before, during, and after the work, shall confirm the train operation status, properly deal with errors of urban railway facilities, confirm the safety after completion of the work based on regulations of departments.
4. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall make sure that all the maintenance and improvement workers (including contractor) thoroughly understand the rules and necessary manuals to carry out works safely.
5. When maintenance and improvement work of urban railway facilities is carried out within track areas, the maintenance and improvement workers (including contractor) shall have close communications with the OCC manager and conduct confirmation and necessary report.
6. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall provide

urban railway facility maintenance and improvement workers (including contractor) with necessary information on train operation status to ensure safety of trains and workers.

7. The managers of electricity, signaling telecommunication department, civil work department, station equipment, track department shall gather accident information, including incidents and accidents happened on other sites as much as possible and make sure that maintenance and improvement workers (including contractor) thoroughly understand them.
8. In case of being concerned about problems which may affect train operation, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall promptly notify the OCC manager and other related persons.

Article 36: Management of qualifications of urban railway facility maintenance and improvement workers

1. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall prepare training plans, implement necessary training in compliance with training regulations, manuals and standards of the departments and simultaneously manage capacity, knowledge and skills of the worker related to urban railway facility maintenance and improvement.
2. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall regularly check the qualifications of the workers related to urban railway facility maintenance and improvement.
3. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall record the qualifications of the workers related to urban railway facility maintenance and improvement work and confirm the changes.
4. Management of qualifications of operation-related staff among workers related to urban railway facility maintenance and improvement shall comply with Article 31.

Article 37: Outsourcing of urban railway facility maintenance and improvement work

1. When urban railway maintenance and improvement work is outsourced, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall

examine experience, scale, skill and performance records of the candidate companies, designate the scope of work to be outsourced and methods to select the companies among the qualified companies.

2. In order to let the outsourced company that undertake maintenance and improvement work (hereafter called Contractor) perform maintenance and improvement work properly, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall choose from the contractor a person that takes responsibility of supervision.
3. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall clearly designate instructions, reports, procedures (including communication mechanism in case of emergency) necessary to maintenance and improvement work with the responsible person.
4. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall provide necessary information to maintenance and improvement work and instructions if necessary to the contractor through the responsible person.
5. The managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall request the responsible person of the contractor to carry out education, training and examine competence in accordance with Article 36 in order to help workers of the contractor have sufficient knowledge and skill necessary to carry out maintenance and improvement work and promptly report the results.
6. In case of incidents, accidents, etc. or risk of happening incidents, accidents, etc. due to operation performed by the contractor, the managers of electricity, signaling telecommunication department, civil works department, station equipment, track department shall request the responsible person of the contractor promptly report and give necessary instructions.
7. The managers of electricity, signaling telecommunication department, civil work department, station equipment, track department shall conduct inspections of operation performed by the contractor, if any problems which may affect train operation, give instructions to solve them.

Chapter 3: Rolling stock management

Article 38: Rolling stock management system

1. To prescribe regulations on the system related to rolling stock management.
2. The manager of the rolling stock department shall develop rules and regulations regarding manufacturing, maintenance and improvement of rolling stock and report to the general safety manager. The same shall be applied to cases of change.
3. When rolling stock is manufactured, maintained and improved, the manager of the rolling stock department shall develop maintenance plans appropriate to the necessity for improving safety and reliability and consistency between urban railway facilities and the future operation schedule, and report the plans to the general safety manager.
4. Regarding execution of manufacturing and improving rolling stocks, the manager of the rolling stock department shall stipulate inspection method and procedure during manufacture and at completion and make sure that the related people understand sufficiently.

The manager of the rolling stock department shall summarize inspection plans and inspection results of rolling stocks, develop rolling stock maintenance plans, and report to the general safety manager.

6. The manager of the rolling stock department shall designate methods and procedures of inspection and maintenance in compliance with regulations of Vietnam, codes and standards on environmental guarantee, noise, maintenance rules for rolling stock etc., and share these contents with the related staff.
7. The manager of the rolling stock department shall share information to the related person in order to carry out daily inspection based on maintenance rules and maintain rolling stock in safe condition for use.

Article 39: Rolling stock operation plan

The manager of the rolling stock department shall make rolling stock operation plan, ensuring operation safety taking rolling stock structure and functions into consideration, track structure and operation safety protection equipment and rolling stock inspection plan which is required in train operation.

Article 40: Management of qualifications of rolling maintenance workers

1. The manager of the rolling stock department prepare training plans, implement necessary training in compliance with training regulations, manuals and standards and simultaneously manage capacity, knowledge and skills of the rolling stock maintenance worker.
2. The manager of the rolling stock shall regularly check the qualifications of the rolling stock maintenance workers.
3. The manager of the rolling stock department shall record the qualifications of the rolling stock maintenance workers and manage to confirm the changes.
4. Management of qualification of train drivers in depot shall be in compliance with Article 29 “Management of qualifications of on-board crews”. In this case, it is possible to change “On-board crews” to be “train drivers in depot”, and change “Operation safety manager” to be “The manager of the rolling stock department”.
5. Management of qualifications of operation-related workers among rolling stock workers shall comply with Article 31.

Article 41: Outsourcing of rolling stock maintenance

1. When rolling stock maintenance work is outsourced, the manager of the rolling stock department shall examine experience, scale, skill and performance records of the candidate companies, designate the scope of work to be outsourced and methods to select the companies among the qualified companies.
2. In order to let the outsourced company that undertake rolling stock management work (hereafter called Contractor) perform maintenance work properly, the manager of the rolling stock department shall choose from the contractor a person that takes responsibility of supervision.
3. The manager of the rolling stock department shall clearly designate instructions, reports, procedures (including communication mechanism in case of emergency) necessary to maintenance work with the responsible person.
4. The manager of the rolling stock department shall provide necessary information to maintenance work and give instructions if necessary to the contractor through the responsible person.

5. The manager of the rolling stock department shall request the responsible person of the contractor to carry out education, training and examine competence in accordance with Article 40 in order to help workers of the contractor have sufficient knowledge and skill necessary to carry out maintenance work and promptly report the results.
6. In case of incidents, accidents, etc. or risk of happening incidents, accidents, etc. due to operation performed by the contractor, the manager of the rolling stock department shall request the responsible person of the contractor promptly report and give necessary instructions.
7. The manager of the rolling stock department shall conduct inspections of operation performed by the contractor, if any problems which may affect safe operation of rolling stock, give instructions to solve them.

PART 3: IMPLEMENTATION

Article 42: Responsibility of implementation

Right after this regulation takes effect, Safety and Quality Department shall be responsible to individuals, units and departments related to let individuals, units and departments be responsible for specific assignment and make detail form, and implement of this regulation.

Article 43: Building up and adjustment of safety management regulation

In addition to this safety management regulation and other related regulations, Safety and Quality Department shall be responsible to build up and adjust necessary regulation related to safety management to ensure operation safety.

Annually, the general safety manager shall summarize and evaluate results and announce performance of safety in a year. The general safety manager of the company shall review and adjust the contents in this regulation if necessary in order to enhance safety degree in operation but ensure properly comply with legal regulations and performance capacity of the company.

Article 44: Implementation effect

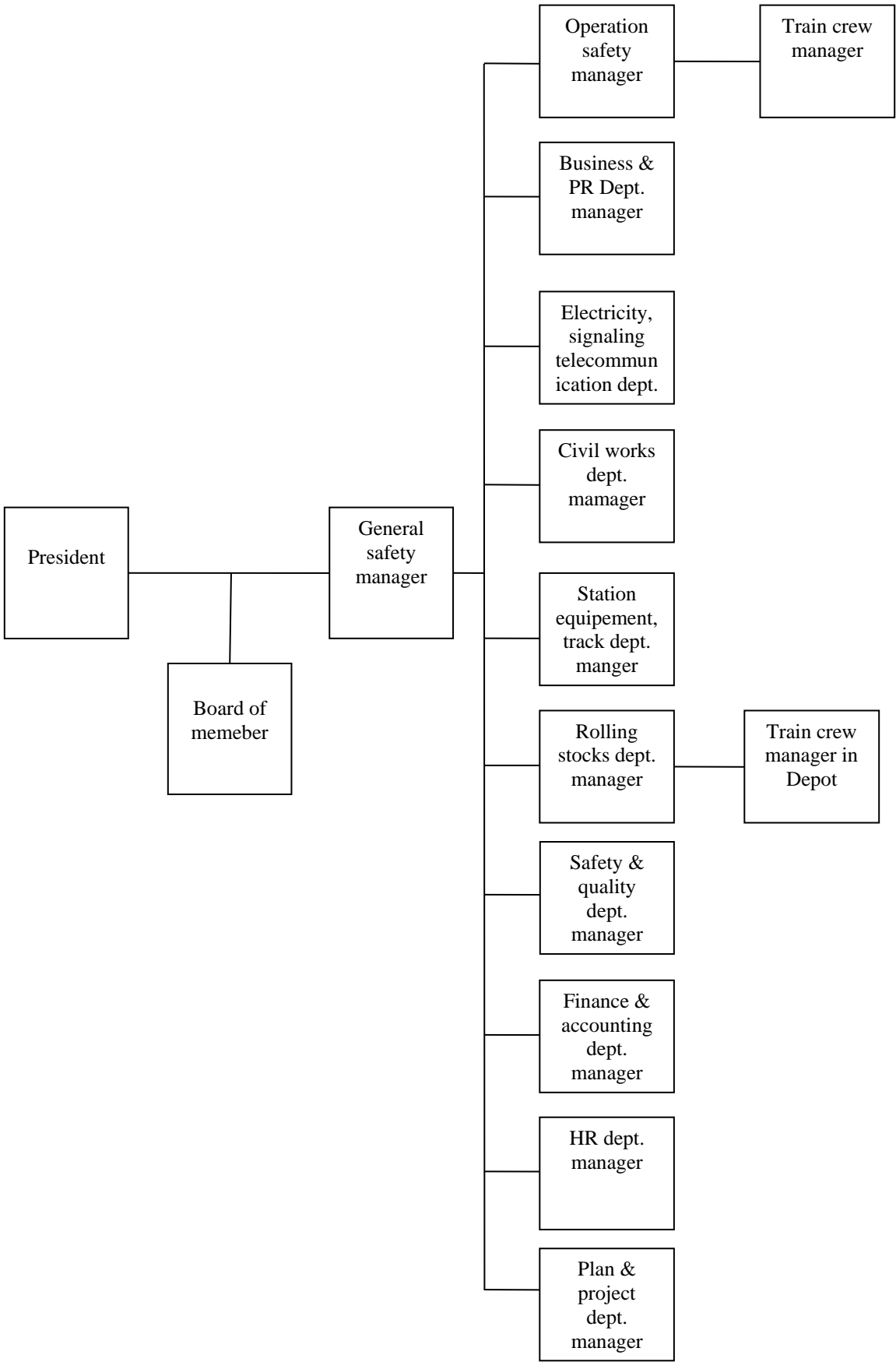
Regulation on Safety management including 02 parts ... article, comes into effect from to ... all individuals, units and departments of the company.

During the implementation, if any contents need to be adjusted, changed or added to be suitable with the practical activities, the relevant individuals,

units, departments shall be responsible for comments to the leader of the company to promptly issue necessary supplement and modifications.

(Attachment 1)

SAFETY MANAGEMENT MECHANISM CHART OF COMPANY HMC



THE RULE OF RESPONDING URBAN RAILWAY INCIDENTS AND ACCIDENTS (DRAFT)

Chapter 1: General Regulation

Article 1 Objective

1. This rule is prepared for the purpose of establishing regulations on response of the company when accidents, incidents, disasters happen..., appropriate implementation to ensure the safety of passengers, employees, and restore the original after accident, incident through regulation on measures to response in case of accidents, incidents on urban railway.
2. Response to urban railway accidents, incidents must be ensured by compliance with this rule, related regulations and rules prescribed by the departments within the company, as well as compliance with Vietnam Railway Laws and regulations issued by Vietnam's Ministry of Transport (MOT).

Article 2 Definition

1. Definitions of technical terms in this rule are as follows.
 - a) Railway accident is railway vehicles in collision, derailment, train overturn, crash, hitting people, other vehicles and vice versa or rail vehicles in operating to stab and hit obstacles causing damages to lives and health of people or damages of property.
 - b) Railway traffic incidents are incidents occurred in railway transport activities causing interferes to train operation but not an accident yet.
2. Classification of accidents, incidents
 - a) Classification of urban railway accidents:
 - Classification based on causes:
 - + Accident caused by subjective reasons is the accident occurred due to provisions of laws and related regulations on urban railway transportation of organizations and individuals under Hanoi urban railway Company.
 - + Accident caused by objective reasons is the accident due to force majeure (natural disasters, enemy sabotage) or other causes other than subjective reasons of Hanoi urban railway Company.
 - Classification based on characteristic of urban railway accidents
 - + Operation accidents are the accidents happening when trains in collapse, derail, overturn, crash, hit obstacles or accidents relating to urban railway civil works and equipment causing losses and damages to lives and health of people or damages of property.

- + Other accidents are the accidents relating to people, trains hit people, people jump down or fall down from trains, people throw a stone/clod to trains causing losses and damages to lives and health of people or damages of property
- Classification based on damages caused by urban railway accidents
 - + Less serious accident is accidents causing 01 – 05 people injured or property damages from ____ VND to less than ____ million VNDs;
 - + Serious accident is accidents causing 01 person died or 06– 08 people injured or property damages from ____ VND to less than ____ million VNDs;
 - + Very serious accident is accidents causing 02 persons or more died or 09– 10 people injured or property damages from ____ VND to less than ____ million VNDs;
 - + Extremely serious accident is accidents causing 03 persons or more died or 11 people or more injured or property damages from ____ VND to less than ____ million VNDs;

b) Classification of urban railway incidents:

Classification based on incident causes: urban railway incidents are due to subjective and objective causes.

+ **Subjective cause:** Civil works, signaling telecommunication equipment, electricity, rolling stocks malfunction or other cases due to violation of legal regulations and related regulations on urban railway traffic and organizations and individuals under Hanoi urban railway Company.

+ **Objective cause:** Natural disasters, enemy inflicted devastation or other causes other than objective causes of Hanoi urban railway Company.

Article 3 Basic actions of the company staff

When accidents, incidents happens, the staff of the company shall coordinate together and take actions in accordance with the measure regarded to be the best based on the following list to ensure safety for passengers and company staff:

- (1) Rescue and guide passengers to evacuate
- (2) Ensure the safety of themselves and other employees
- (3) Prevent secondary disasters and accidents, incidents from occurring (top priorities given to train protection)
- (4) Support and help victims
- (5) Communicate and notify

- (6) Preserve property
- (7) Keep the witness among passengers
- (8) Other necessary issue

Chapter2: Accidents, incidents prevention

Article4 Establishment of regulations on accidents, incident prevention

The General Director shall prescribe for Accident Handling Council and At-site response committee, necessary members to control and prepare ready to gather members.

Article5 Prevention measures

Department Managers in HQ and Director of OU shall implement the following contents to prevent accidents, incidents from happening.

- (1) Manage and maintain urban railway facilities and equipment properly
- (2) Regulate communication network among the company staffs
- (3) Prepare tools used in emergency
- (4) Prepare tools necessary for passenger protection and carry out training for use of these tools.

Article6 Wide notice to passengers

To smoothly carry out guiding passengers to refuge when accidents or incidents happen, the Director of OU shall widely inform passengers and endeavor to grasp knowledge related to accidents, incidents.

Article7 Education and trainings

- 1. Department Managers of HQ and the Director of OU shall carry out education and training for staffs about initial settlements such as rescuing passengers when accidents, incidents happen.
- 2. Departments of OU shall have plans to execute education and training on restorations when accidents, incidents happen.

Chapter3: Accident, incident response

Part 1: Regulations in case of accidents, accidents

Article8 Classification of Accident Handling Council

- 1. The person who establishes the Accident Handling Council, Chairman of Accident Handling Council and members of Accident Handling Council are as follows.

Classification	the person establish the Council	Chairman of Accident Handling Council	Members of Accident Handling Council (HQ)
Extremely serious accident	General Director of HMC	General Director of HMC	Manager of Safety and Quality Department Manager of Sales and Public relations Manager of Integrated Train Operation Manager of Rolling Stocks Department Manager of Civil Works Manager of Electricity – Signaling Telecommunication Department Manager of Station Equipment, Track Manager of Admin Department Director and Vice Director of OU
Very serious accident	General Director of HMC	General Director of HMC	Manager of Safety and Quality Department Manager of Sales and Public relations Manager of Integrated Train Operation Manager of Rolling Stocks Department Manager of Civil Works Manager of Electricity – Signaling Telecommunication Department Manager of Station Equipment, Track Manager of Admin Department Director and Vice Director of OU

Serious accident	HMC's Deputy General Director in charge of Operation	HMC's Deputy General Director in charge of Operation	Manager of Safety and Quality Department Manager of Sales and Public relations Manager of Integrated Train Operation Manager of Rolling Stocks Department Manager of Civil Works Manager of Electricity – Signaling Telecommunication Department Manager of Station Equipment, Track Manager of Admin Department Director and Vice Director of OU
Not so serious accident	HMC's Deputy General Director in charge of Operation	HMC's Deputy General Director in charge of Operation	Manager of Safety and Quality Department Manager of Sales and Public relations Manager of Integrated Train Operation Manager of Rolling Stocks Department Manager of Civil Works Manager of Electricity – Signaling Telecommunication Department Manager of Station Equipment, Track Manager of Admin Department Director and Vice Director of OU

2. The Manager of Safety and Quality Department receives accident, incident report from the head of OCC and inform the person who in charge of establishment of Accident Handling Council to establish the Accident Handling Council.
3. In case the Chairman of the Accident Handling Council is absent, if the chairman is the General Director, the Deputy General Director in charge of operation shall

be on behalf of the General Director; if the Chairman is the Deputy General Director in charge of operation is absent, the Deputy General Director in charge of safety and quality shall be on behalf to be in charge of the Chairman.

4. The Accident Handling Council shall still be established even though OU's Director and Vice Director are absent.

Article9 Establishment and Dissolution of the Accident Handling Council

1. When urban railway accident happens, the Accident Handling Council must be established immediately in accordance with Article 8, and the person who establishes this council shall immediately notify all over the company.
2. After restoration of accident is finished and safety of the site is confirmed, the Accident Handling Council shall be dissolved.
3. Dissolution of the Accident Handling Council and change of its classification shall be decided by the Chairman of the Accident Handling Council.
4. When the Chairman of the Accident Handling Council dissolves the Accident Handling Council or change its classification, he shall immediately inform entire the company.
5. The Chairman of the Accident Handling Council may limit the assigned members of the Council based on the situation of the accident, incident

Article10 Response in OU

1. The Director of OU and Department Managers of OU shall prescribe the contents of accident, incident responses necessary to deal with accident, incidents, for example, and instructions of evacuation for passengers and staffs seeking shelter, and restoration after incidents, accidents
2. The contents of responding accidents, incidents and communication system of the OU's department must be prescribed in the Rules of Responding accidents, incidents of the departments.
3. The OU's department Managers, after receiving notification of accident, incident shall confirm the contents of accident, incident and immediately together with staff required to respond come to the site.
4. The OU's department Managers shall prepare materials, equipment for restoration and necessary tools to the site of accident, incident to be ready for use at any time.

Article 11 Response in case accident, incident possibly and warningly happens:

1. Handling train operation when having warning of abnormal weather condition like heavy rain, storm, fog, flood, etc. shall be in compliance with the provisions on the rules of train operation.
2. Other departments as Electricity –Signaling Telecommunication, Station

Equipment – Track, Civil Work, Rolling Stocks shall have appropriate measures and comply with the regulations on handling in case that accident, incident possibly or warningly happens, developed by these departments;

Part 2: Accident Handling Council

Article12 Responsibilities of the Accident Handling Council

The responsibilities of the Accident Handling Council are as follows.

- (1) Assist at accident, incident site
- (2) Confirm the place to where the injured or died people is taken and level of injury
- (3) Contact with the families of the victims, arrange waiting place
- (4) Arrange, assist materials, equipment and staff necessary for restoration, clothes and accommodations for persons in charge of restoration.
- (5) Gather, record information of accident, incident.
- (6) Report on the situation to the concerned agencies
- (7) Respond to the accident investigation agency
- (8) Investigate and protect the scene
- (9) Respond to the press agency
- (10) Other necessary contents

Article13 Handling measure till establishment of the Accident Handling Council

1. During the time till establishment of the Accident Handling Council, the OCC Head shall handle emergency works.
2. The OCC Head shall report to the manager of safety and quality department on contents to handle works till the Accident Handling Council is established and hand over works.

Article14 Responsibilities of the members of the Accident Handling Council

1. The Chairman of the Accident Handling Council shall generally manage the Accident Handling Council
2. The manager of the safety and quality department shall generally manage the activities of the Accident Handling Council. In addition, he is responsible for communication of the Accident Handling Council, receiving report from OCC and convey the instruction to OCC.
3. The members of the Accident Handling Council shall receive the instructions of the Chairman of the Accident Handling Council, to direct the staffs of each department and their staff to execute the regulations prescribed in the Attachment1
4. The Director and Vice Director of OU shall gather detail information of the situation from the departments in OU, and report to the Chairman of the Accident Handling Council.

Article15 Communication

1. Communication related to the accident, incident shall be as the Attachment 2.

2. Provision of instructions and information from the Accident Handling Council shall be executed in the prescribed form in order for absolute communication.

Article 16 Public announcement

1. Public announcement of accident, incident shall be carried out by the manager of Sales- Public Relations Department or the person who is assigned by the manager of Sales – Public Relations.
2. Public announcement shall be complied with Article 15, sub clause 2.

Article 17 Investigation of accident, incident site

1. In case accident, incident site is required to be investigated, the Chairman of the Accident Handling Council shall organize and investigate the site.
2. In case the accident investigation agency comes to investigate the site, the Chairman of the Accident Handling Council shall instruct the investigation team to respond appropriately such as protecting the site for investigation of the investigation agency.

Part 3: At-site response committee

Article 18 Establishment of at-site response committee ...

1. In case of accident, at-site response committee shall be established to integrate the communication system.
2. Together with setting of information media position with OCC is ensured, at-site response committee shall clearly indicate the marked to clarify the setting position.
3. All staffs of the at-site response committee shall wear the marker to show appearance.

Article 19 Responsibilities of the at-site response committee

Responsibilities of the at-site response committee are as follows.

- (1) Ensure safety of passengers and staffs, rescue and instruct evacuation.
- (2) Confirm the place to where the injured or died people is taken and level of injury, others.
- (3) Grasp accident, incident situation and report to the Head of OCC and estimate restoration based on this situation.
- (4) Prevent secondary disasters and accidents, incidents from occurring; Prepare for restoration and carry out restoration
- (5) Protect the site
- (6) Handle site-investigation
- (7) Other necessary contents

Article 20 Responsibilities of the members of the at-site response committee

1. The Leader of at-site response committee shall be the manager of OU's department where the accident happens. However, on the mainline, the master of

the station nearest to the accident shall be on behalf of the Leader of the response committee in accordance with appointment of the manager of the station management department. In Depot, the Head of Depot may be on behalf of the leader of the response committee in accordance with appointment of the manager of the rolling stocks department.

2. In principle, the leader of the at-site response committee shall stay in the at-site response committee to unify the committee and report on the site status to OCC and receive instructions from OCC.
3. When performing tasks, the head of the at-site response committee may take actions based on his prediction and experience. However, if necessary, the chairman of the accident handling council shall give instructions. In that case, the leader of the at-site response committee shall report to the head of OCC.
4. The persons in charge in the response committee shall receive instructions from the leader of the at-site response committee and instruct their staffs and together with them to perform the tasks specified in the Attachment 1.
5. The in-charge persons of the at-site response committee shall grasp information of the accident site to report to the leader of the at-site response committee and estimate restoration.
6. In case the accident handling council is established, the in charge person to the at-site response committee shall also report to the in-charge vice director as subclause5.
7. In order to unify communication, all persons working on the accident site shall report thru the leader of the at-site response committee.

Article21 Exempting the leader of the at-site response committee from investigation of responsibility

The leader of the at-site response committee shall be exempted from investigation of responsibility for handling accident, incident in case of not-serious mistakes.

Article22 Dissolution of the at-site response committee

When restoration is finished, after safety is confirmed on the accident site, the leader of the at-site response committee shall report this information and dissolve the committee.

Part 4: Emergency mobilization

Article23 Mobilization of Response staff on occurrence of accident

Department managers of HQ and department managers of OU shall mobilize staff to respond in case of accident

Article24 Appointment of response staff

1. Department managers of HQ and department managers of OU shall regulate in advance the response staffs among their staffs.
2. Department managers of HQ and department managers of OU shall make the list of response staffs with their names, contact system and leave it in the working area to quickly mobilize these staffs.

Article 25 Responsibility of the response staff

When receiving the mobilization notification, if there is no special reason, the response staff shall urgently go to the working place, the site, and receive instructions from the accident handling councilor the in-charge person of the at-site response committee at the site and take actions.

Article26 Mobilization report

In case of mobilizing response staffs, the department managers of HQ and department managers of OU shall be reported to the accident handling council on mobilization status.

Chapter4: Accident/Incident Report

Article27 Initial accident/incident report

1. The person finds out accident shall immediately inform the OCC.
2. Contents to be reported as follows.
 - (1) Accident location (Line, Section)
 - (2) Time
 - (3) Number of death, injury, if any
 - (4) Site situation (Damages of urban rolling stocks and facilities ...)
3. Department Managers in OU shall manage accident location and make initial report in accordance with the prescribed form.

Article28 Report after accident/incident restoration

1. Report after accident/incident restoration shall be made at site by OU's department managers who are mainly in charge of analyzing cause and measures to avoid reoccurrence.
2. Settlement of report after restoration is shown in the attachment 3
3. In case accident report is submitted to the other agencies, the manager of safety and quality department shall be contact and response person.

Attachment 1 : Roles of HQ and departments of OU in case of accidents, incidents

Role	Accident Handling Council (HQ)	At-site response committee (OU)
The person taking highest responsibility	<u>Chairman of Accident Handling Council</u> (Chairman of Accident Handling Council as Article 8)	<u>Leader of At-site response committee</u> (Leader of At-site response committee, Article 19, sub-clause 1)
The person providing detail information	<u>Manager and Vice Manager of OU</u> 1. Related to capture the details of the current situation of the site from the departments at OU under the management 2. Related to the detailed report of the current situation of the site that required for the accident handling council, according to article 14, paragraph 3	—
The team generally managing and investigation	<u>【 Safety and Quality Department 】 The person in charge: The Manager of Safety and Quality Department</u> 1. Related to establishment and control of the Accident Handling Council 2. Related to report on situation and communication from OCC 3. Related to instructions and communication from the Accident Handling Council 4. Related to notes and revision of the Accident Handling Council 5. Related to response to the accident investigation agencies 6. Related to investigation of causes and summary of report	<u>【 Safety Department 】 The person in charge: The Manager of Safety Department</u> 1. Related to notes and revision of the at-site response committee (When the Accident Handling Council is established, the manager of the Safety Department shall be present at OCC) 2. Related to investigation of cause at site 3. Related to site protection 4. Related to investigation of causes and summary of report

Sales- Public Relation Team	<p><u>【 Sales - Public Relation Department 】 The person in charge: The Manager of Sales - Public Relation Department</u></p> <ol style="list-style-type: none"> 1. Related to rescuing passengers 2. Related to arrangement of passenger transport 3. Related to investigation of causes 4. Related report on passenger transport business to the regulator 5. Related to assistance and advice regarding the site 6. Related to responses to the outsiders such as press agency 	<p><u>【 Station Management Department】 Person in charge: The manager of station management department</u></p> <ol style="list-style-type: none"> 1. Related to rescuing, guiding passengers to evacuate 2. Related to the investigation and response to died or injured passengers 3. Related to protection of equipment (facilities) of the station 4. Related to investigation and report on the loss of business facilities 5. Related to passenger transportation business 6. Related to arrange transportation for passengers 7. Related to announcement to passengers and to prevent chaos 8. Related to investigation and report on caused, site protection 9. Related to witness protection
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Operation team	<p><u>【 Integrated train operation department】 Person in charge: The manager of the Integrated train operation department</u></p> <ol style="list-style-type: none"> 1. Related to rescuing passengers 2. Related to train operation schedule 3. Related to investigation of causes 4. Related report on passenger transport business to the train operation regulator 5. Related to assistance and advice at the site 	<p><u>【Train operation management department】 Person in charge: The Manager of Train operation management</u></p> <ol style="list-style-type: none"> 1. Related to rescuing, guiding passengers to evacuate 2. Related to the investigation and response to died or injured passengers 3. Related to protection of operation equipment 4. Related to investigation and report on the loss of operation facilities 5. Related to train operation 6. Related to announcement to passengers and to prevent chaos 7. Related to investigation and report on caused, site protection 8. Related to witness protection <p><u>【OCC】 Person in charge: the Head of OCC</u></p> <ol style="list-style-type: none"> 1. Related to report on the situation from the at-site response committee 2. Related to train operation 3. Related to preparation for reoperation based on the status report 4. Related to restoration for normal operation after re-operation
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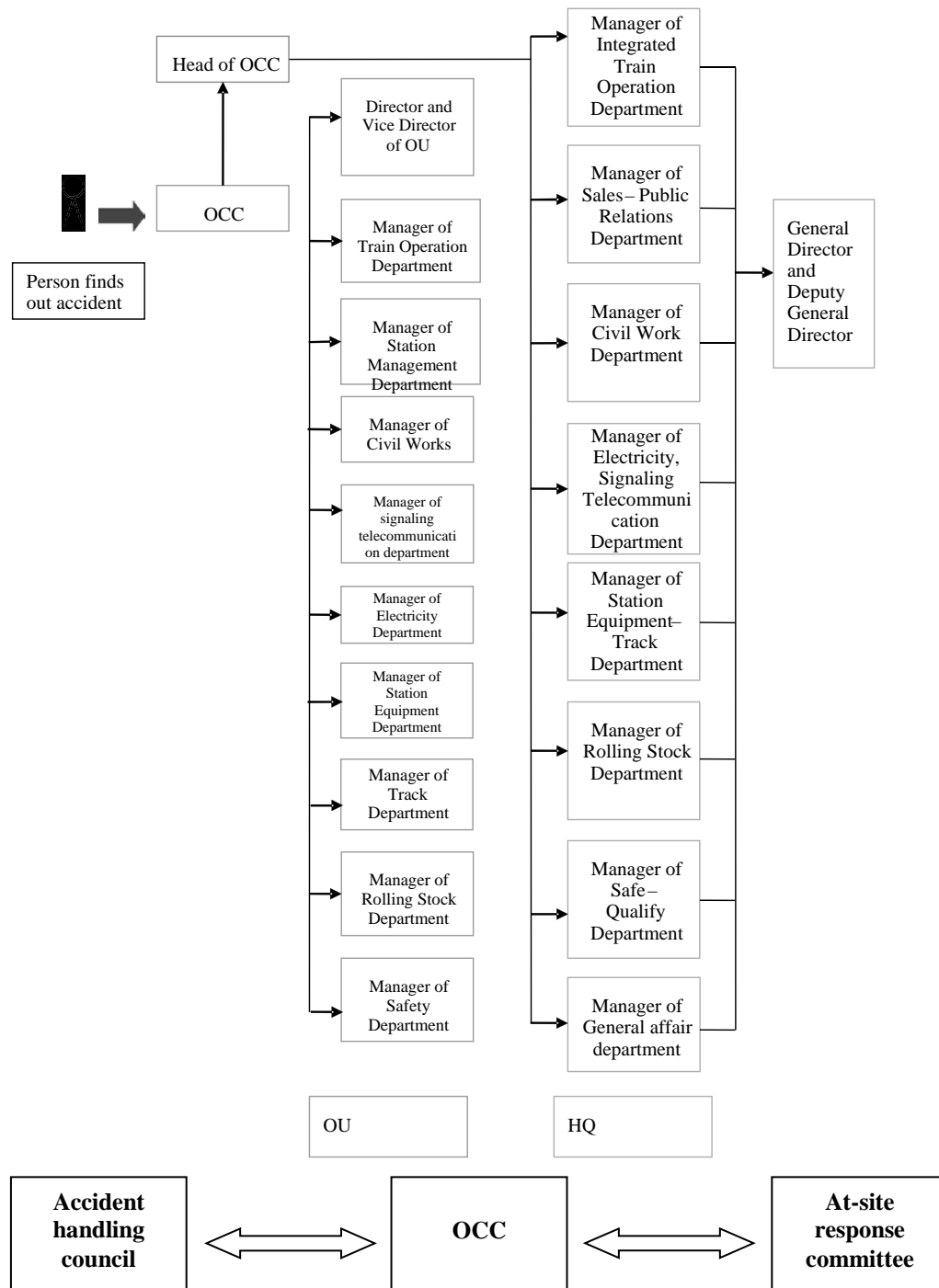
Civil works team	<p><u>【 Civil work department 】</u> <u>Person in charge: The Manager of Civil Work Department</u></p> <ol style="list-style-type: none"> 1. Related to guarantee of restoration equipment and machines and support staff outside of the company 2. Related to investigation of causes 3. Related to assistance and advice regarding the site 	<p><u>【 Civil work maintenance department 】 :Person in charge: The Manager of Civil work maintenance department</u></p> <ol style="list-style-type: none"> 1. Related to rescuing, guiding passengers to evacuate 2. Related to protection and restoration of equipment and facilities under its management 3. Related to preparation of equipment and machines for restoration of civil works and facilities under its management 4. Related to investigation and report on losses of civil work and facilities under its management 5. Related to investigation and report on causes and site protection
Rolling stock team	<p><u>【 Rolling stock department 】</u> <u>Person in charge: The Manager of rolling stock management</u></p> <ol style="list-style-type: none"> 1. Related to guarantee of restoration equipment and machines and support staff outside of the company 2. Related to investigation of causes 3. Related to assistance and advice regarding the site 	<p><u>【 Rolling stock department 】</u> <u>Person in charge: The Manager of rolling stock department</u></p> <ol style="list-style-type: none"> 1. Related to rescuing, guiding passengers to evacuate 2. Related to protection and restoration of rolling stock equipment and facilities under its management 3. Related to preparation of equipment and machines for restoration of rolling stock and facilities under its management 4. Related to investigation and report on losses of rolling stock and facilities under its management 5. Related to investigation and report on causes and site protection

Station equipment – track team	<p><u>【Station equipment - Track Department】 Person in charge: The Manager of Station equipment - Track Department</u></p> <p>1. Related to guarantee of restoration equipment and machines and support staff outside of the company</p> <p>2. Related to investigation of causes</p> <p>3. Related to assistance and advice regarding the site</p>	<p><u>【 Station equipment department】 Person in charge: The Manager of Station equipment department</u></p> <p><u>【Track department】 Person in charge: The Manager of Track department</u></p> <p>1. Related to rescuing, guiding passengers to evacuate</p> <p>2. Related to protection and restoration of station equipment, track and facilities under its management</p> <p>3. Related to preparation of equipment and machines for restoration of station equipment, track and facilities under its management</p> <p>4. Related to investigation and report on losses of station equipment, track and facilities under its management</p> <p>5. Related to investigation and report on causes and site protection</p>
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Electricity Team	<p><u>【 Electricity, Signaling Telecommunication Department】 Person in charge: The Manager of Electricity, Signaling Telecommunication Department</u></p> <ol style="list-style-type: none"> 1. Related to guarantee of restoration equipment and machines and support staff outside of the company 2. Related to investigation of causes 3. Related to assistance and advice regarding the site 	<p><u>【 Electricity 】 : Person in charge: The Manager of Electricity Department</u></p> <p><u>【 Signaling telecommunication】 Person in charge: The Manager of Electricity Department</u></p> <ol style="list-style-type: none"> 1. Related to rescuing, guiding passengers to evacuate 2. Related to guarantee communication and power supply 3. Related to protection and restoration of electrical equipment, and signal telecommunication equipment 4. Related to preparation of equipment and machines for restoration of electrical equipment, and signal telecommunication equipment 5. Related to investigation and report on losses of electrical equipment, and signal telecommunication equipment 6. Related to investigation and report on causes and site protection
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General affair, victim response team	<p><u>【General Affair department】</u></p> <p><u>Person in charge: The Manager of General affair Department</u></p> <p>1. Related to assistance of staff in HQ necessary for rescuing passengers</p> <p>2. Related to grasp situation of died or injured passengers and confirmation of location to where they are taken</p> <p>3. Related to the visit and condolences to the victims</p> <p>4. Related to requirements from the victims</p> <p>5. Related to confirmation and report of safety situation of the staffs</p> <p>6. Related to preparation of accommodations for restoration activities</p>	—
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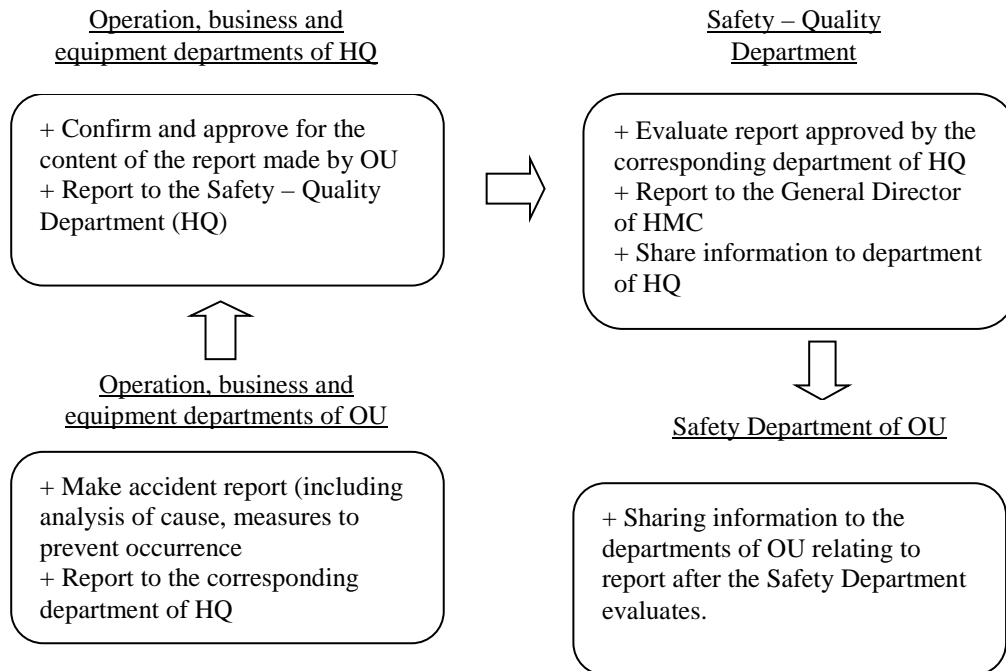
Attachment 2: Organization chart of urban railway accident, incident communication system



If necessary:

- (1) Manager of Safety Department (OU) communicates with other departments of OU without indicating in the above chart.
- (2) Manager of Safety - Quality Department (HQ) communicates with other departments of HQ without indicating in the above chart

Attachment 3: Handling report after restoration of accident - incident





ハノイ市人民委員会



国際協力機構

ACTIVITY 6.1.6

ハノイメトロ運転取扱規程

ハノイ市都市鉄道規制機関強化及び運営組織設立支援プロジェクト

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ハノイ、2015 年 11 月

目 次

第Ⅰ編：総則	15
第 1 条：適用範囲	15
第 2 条：適用対象	15
第 3 条：法的根拠及び関連資料	15
第 4 条：用語	15
第Ⅱ編：係員	19
第 5 条：列車等の運行に直接関係する係員	19
第 6 条：運転に直接携わる係員に対する条件	19
第 7 条：運転の安全確保	20
第 8 条 係員の教育と訓練	20
第 9 条：検査及び報告	20
第 10 条：係員に対する監督	21
第 11 条：列車等を運転する者	21
第 12 条：乗務員	21
第 13 条：常置信号機の取扱者	21
第 14 条：転てつ器の取扱者	21
第 15 条：入換合図者	22
第Ⅲ編：運転	22
第 1 章 列車の組成	22
第 16 条：列車の車両の最大数	22
第 17 条：連結の確認	22
第 18 条：本線で運転を許可される列車／車両	22
第 19 条：消火器の備付け	22
第 20 条：列車の最後部の車両	23
第 2 章 列車運行	23
A. 総則	23

第 21 条：駅の境界	23
第 22 条：本線路の運転	23
第 23 条：列車の右側運転	23
第 24 条：列車の運転位置	23
第 25 条：列車制御装置による運転	24
第 26 条：知らせ灯の確認	24
B. 列車運行計画の策定	24
第 27 条：列車ダイヤ策定に関する一般原則	24
第 28 条：運転曲線の作成	25
第 29 条：列車番号の設定	26
第 30 条：各駅間の走行時間及び駅停車時間の設定	26
第 31 条：列車の運転時刻	26
第 32 条：システムの基準時計	26
C. ブレーキの取扱い	27
第 33 条：列車のブレーキ	27
第 34 条：車掌の非常ブレーキ処置	27
第 35 条：非常ブレーキの区間	27
第 36 条：運転士のブレーキ試験	27
第 37 条：ブレーキが故障の場合	27
第 38 条：列車の制動軸数	28
D. 運転速度	28
第 39 条：運転速度	28
第 40 条：各条件における列車の運転速度	28
第 41 条：制動軸数が不足した場合の運転速度	28
第 42 条：曲線又は分岐器、下がり勾配における制限速度	29
第 43 条：列車、線路等が故障したときの運転速度	29
第 44 条：手信号による運転速度	29
第 45 条：徐行信号による運転速度	29
第 46 条：構内運転の運転速度	29
第 47 条：入換合図による運転の運転速度	29

第 48 条：転てつ器が故障している場合の運転速度	30
第 49 条：速度制限標の速度	30
E. OCC 長の業務	30
第 50 条：OCC 長の業務	30
第 51 条：運転の指令指示系統	30
第 52 条：非常運転スイッチの使用	31
第 53 条：故障列車の本線路からの退避	31
第 54 条：運転士及び車掌に対する指令	31
第 55 条：駅長を経由しての OCC 長の指令	32
F. 列車監視	32
第 56 条：列車監視	32
G. ワンマン運転	33
第 57 条：ワンマン運転	33
第 58 条：ワンマン運転禁止	33
H. ATO 運転	33
第 59 条：ATO 運転	33
第 60 条：ATO による運転時の非常ブレーキ	33
第 3 章 線路閉鎖	34
第 61 条：線路閉鎖の実施	34
第 62 条：線路閉鎖を行える時間	34
第 63 条：線路閉鎖の申請及び承認	34
第 64 条：線路閉鎖を行う区間	34
第 65 条：線路閉鎖の周知	35
第 66 条：線路閉鎖区間へ列車を進入させない処置	35
第 67 条：保守用車	35
第 68 条：線路閉鎖を知らせる看板の掲出	35
第 69 条：線路閉鎖記録簿の作成	36
第 70 条：線路閉鎖手続きの完了	36
第 71 条：線路閉鎖工事着手の承認手続き	36
第 72 条：線路閉鎖工事の終了報告	36

第 73 条：線路閉鎖の解除	36
第 74 条：線路閉鎖区間へ列車を進入させない処置の解除	36
第 75 条：線路閉鎖を知らせる看板の撤去	37
第Ⅳ編：列車間の安全確保	37
第 1 章 総則	37
第 76 条：列車の運転方法	37
第 2 章 速度制御式	37
第 77 条：速度制御式	37
第 78 条：速度制御式の条件	38
第 79 条：車内信号機に絶対停止信号又は停止信号が表示された場合	39
第 3 章 バックアップ・システムによる運転	39
第 80 条：バックアップ・システムによる運転	39
第 81 条：バックアップ・システムによる運転の取扱い	39
第 4 章 閉そく区間を定めて安全確保を行う運転	40
第 82 条：閉そく区間を定めて行う運転	40
第 83 条：閉そく区間を定めて行う運転方法	40
第 84 条：閉そく区間を定めて行う運転方法の取扱い	40
第 85 条：閉そく区間を定めて行う運転時の記録簿	41
第 5 章 非常運転	41
第 86 条：非常運転	41
第 87 条：非常運転の施行	41
第 88 条：非常運転による運転	41
第 89 条：非常運転の場合の運転士の取扱い	42
第 6 章 伝令法	42
第 90 条：伝令法の施行	42
第 91 条：伝令法による運転	42
第 92 条：伝令法記録簿	43
第 93 条：伝令法を実施する条件	43

第Ⅴ編 その他の運転方法	43
第 1 章 退行運転	43
第 94 条：列車の退行運転	43
第 95 条：乗務員の取扱い	44
第 96 条：OCC 長の取扱い	44
第 2 章 推進運転	44
第 97 条：列車の推進運転	44
第 98 条：推進運転合図による運転	45
第 99 条：乗務員の取扱い	45
第 3 章 車両の入換え	45
A. 通則	45
第 100 条：車両の入換え	45
B. 構内運転	45
第 101 条：構内運転の意味	45
第 102 条：構内運転をする車両のブレーキ	46
第 103 条：構内運転をするときの運転位置	46
第 104 条：構内運転をするときの列車制御装置の取扱い	46
第 105 条：構内運転区間の列車制御装置が使用できないとき	46
C. 入換合図による運転	46
第 106 条：入換合図による運転の意味	47
第 107 条：入換合図による運転をするときの列車制御装置の取扱い	47
第 108 条：入換合図による運転と合図	47
第 109 条：入換合図による運転開始前の取扱い	47
第 110 条：入換合図による運転をするときの関係信号機の取扱い	48
第 111 条：入換えの禁止	48
第 112 条：列車の入換え	48
D. 進路の構成	48
第 113 条：進路の構成	48
第 114 条：中央制御及び現地制御	43
E. 転てつ器の取扱い	49

第 115 条：転てつ器の定位	49
第 116 条：転てつ器の定位復元	49
第 117 条：故障転てつ器を鎖錠した場合の取扱い	49
第 118 条：鎖錠できない転てつ器の確認	50
F. 車両の留置	50
第 119 条：車両の留置位置	50
第 120 条：車両の留置	50
第 121 条：車輪止	50
第VI編 信号	51
第 1 章 総則	51
第 122 条：鉄道信号と運転の関係	51
第 123 条：鉄道信号の種類	51
第 124 条：表示の方式	51
第 125 条：進行を指示する信号と運転速度の関係	52
第 126 条：注意信号の表示	52
第 127 条：手信号による進行信号の表示	52
第 128 条：列車等を徐行させる場合に用いる信号の表示がある場合	52
第 129 条：速度制限標識のある場合	53
第 130 条：絶対停止信号及び停止信号の表示と運転取扱いの関係	53
第 131 条：車内信号機または地上信号機以外の停止信号の表示	53
第 132 条：信号の兼用禁止	54
第 133 条：信号機の表示不良や故障の場合	54
第 134 条：車内信号機の使用停止	54
第 135 条：地上信号機の使用停止	55
第 136 条：運転士及び車掌の信号確認	55
第 2 章 地上信号機	55
A. 総則	55
第 137 条：地上信号機の意味	55
第 138 条：地上信号機の種類	55

第 139 条：地上信号機の表示	56
B. 信号機の取扱い	56
第 140 条：信号機の定位	56
第 141 条：手動進路制御で車内信号機に進行信号を表示する時機	56
第 142 条：入換信号機に進行を指示する表示の条件	56
第 143 条：入換信号機に進行を指示するを表示する時機	56
第 144 条：通過する列車を臨時に停止させる場合	56
第 145 条：連動装置故障の場合の取扱い	57
第 146 条：進路表示機故障の場合の取扱い	57
第 147 条：入換信号機が故障の場合	57
第 3 章 車内信号機	57
第 148 条：車内信号機の信号表示の方式	57
第 149 条：列車制御装置による自動速度制御	58
第 4 章 臨時信号機	58
第 150 条：臨時信号機の意味	58
第 151 条：臨時信号機の種類及び取扱い	58
第 152 条：臨時信号機の表示の方式	59
第 153 条：列車制御装置により臨時信号を表示する場合の速度制御	59
第 154 条：臨時信号機の使用の期間、区域及び速度の指定	59
第 155 条：徐行信号機の速度表示	59
第 5 章 手信号	59
A. 通則	60
第 156 条：手信号の意味	60
第 157 条：手信号の名称及び確認距離	60
第 158 条：手信号の表示の方式	60
第 159 条：手信号による停止信号の表示	60
第 160 条：手信号による進行信号の表示	61
第 161 条：手信号を装置等で代用する場合	61
第 162 条：手信号による徐行信号の表示	61
第 6 章 特殊信号	61

第 163 条：特殊信号の意味	61
第 164 条：特殊信号の種類及び表示の方式	62
第 165 条：特殊信号の停止信号により停止した列車等の処置	62
第 166 条：発煙筒の仕様	62
第 167 条：発煙筒の保管	63
第 7 章 合図	63
A. 出発合図	63
第 168 条：出発合図の意味	63
第 169 条：出発合図の方式	63
第 170 条：出発合図を行う場合	64
第 171 条：出発合図を取消す場合の取扱い	64
第 172 条：運転の途中から再出発する場合	64
B. 出発指示合図	64
第 173 条：出発指示合図の意味	65
第 174 条：出発指示合図の方式	65
第 175 条：出発指示合図の取消し	65
C. 乗務員用車内電話による通告	66
第 176 条：乗務員用車内電話による通告の意味	66
第 177 条：乗務員用車内電話による通告の用語	66
D. 気笛合図	67
第 178 条：気笛合図の意味	67
第 179 条：気笛合図の方式	67
E. 車内ブザー合図	68
第 180 条：車内ブザー合図の意味	68
第 181 条：車内ブザー合図の方式	68
F. 推進運転合図	68
第 182 条：推進運転合図の意味	68
第 183 条：推進運転合図の方式	68
G. 入換合図	69
第 184 条：入換合図の意味	69

第 185 条 : 入換合図の方式	69
H. 移動禁止合図	70
第 186 条 : 移動禁止合図の意味	70
第 187 条 : 移動禁止合図の取扱い	70
第 188 条 : 移動禁止合図の方式	71
I. 停止位置指示合図	71
第 189 条 : 停止位置指示合図の意味	71
第 190 条 : 停止位置指示合図の方式	71
第 8 章 標識	71
A. 列車標識	72
第 191 条 : 列車標識	72
第 192 条 : 列車標識の表示の方式	72
第 193 条 : 列車標識の整備	72
第 194 条 : 列車標識不備の場合の取扱い	72
第 195 条 : 列車標識不備の報告を受けた OCC 長の取扱い	72
第 196 条 : 途中停止した場合の後部標識の確認	73
B. 入換動力車標識	73
第 197 条 : 入換動力車標識	73
第 198 条 : 入換動力車標識の表示の方式	73
C. 軌道回路標識	73
第 199 条 : 軌道回路標識の設置	73
第 200 条 : 軌道回路標識の表示の方式	74
D. 場内標識	74
第 201 条 : 場内標識の設置	74
第 202 条 : 場内標識の表示の方式	74
E. 出発標識	74
第 203 条 : 出発標識の設置	74
第 204 条 : 出発標識の表示方式	75
F. 列車停止標識	75
第 205 条 : 列車停止標識の設置	75

第 206 条：列車停止標識の表示の方式	75
第 207 条：列車停止標識の取扱い	75
G. 車両停止標識	76
第 208 条：車両停止標識の設置	76
第 209 条：車両停止標識の表示の方式	76
第 210 条：車両停止標識の制限	76
H. 車止標識	76
第 211 条：車止標識の設置	76
第 212 条：車止標識の表示方式	76
I. 出発反応標識	77
第 213 条：出発反応標識の設置	77
第 214 条：出発反応標識の表示の方式	77
第 215 条：出発反応標識の確認と取扱い	77
J. 架線終端標識	77
第 216 条：架線終端標識の設置	77
第 217 条：架線終端標識の表示の方式	78
K. 転てつ器標識	78
第 218 条：転てつ器標識の設置	78
第 219 条：転てつ器標識の表示の方式	78
L. 諸標	79
第 220 条：駅区域標の設置	79
第 221 条：駅区域標の表示の方式	79
第 222 条：車両接触限界標識の設置	79
第 223 条：車両接触限界標識の表示の方式	79
第 224 条：速度制限標識の設置	79
第 225 条：速度制限標識の表示方式	80
第 226 条：一旦停止標識の設置	80
第 227 条：一旦停止標識の表示の方式	80
第 228 条：力行標識及び惰行標識の設置	80
第 229 条：力行標識及び惰行標識の表示の方式	81

第 230 条：制動標識及び制動緩解標識の設置	81
第 231 条：制動標識及び制動緩解標識の表示の方式	81
第 232 条：検車区運転限界標識の設置	81
第 233 条：検車区運転限界標識の表示の方式	82
第 234 条：停止位置標識の設置	82
第 235 条：停止位置標識の表示の方式	82
第 236 条：速度表示機の設置	82
第 237 条：速度表示機の表示の方式	82
第 238 条：列車制御装置始端切換標識及び列車制御装置終端切換標識の設置	83
第 239 条：列車制御装置始端切換標識及び列車制御装置終端切換標識の表示の方式	83
第 240 条：徐行区間通過標識の設置	83
第 241 条：徐行区間通過標識の表示の方式	83
第 242 条：電車線区分標識の設置	83
第 243 条：電車線区分標識の表示の方式	84
第 244 条：軌道回路境界標識の設置	84
第 245 条：軌道回路境界目標の表示方式	84
第Ⅶ編 事故の処置	84
第 1 章 総則	84
第 246 条：応急復旧の体制	84
第 247 条：事故発生時の処置	84
第 248 条：事故発生時の指令系統	85
第 249 条：駅において事故発生の場合	85
第 250 条：駅間の途中で事故発生の場合	85
第 251 条：長時間にわたる事故の場合の列車の取扱い	86
第 2 章 列車等の事故	86
第 252 条：乗務員の異常報告	86
第 253 条：事故の報告手段	86
第 254 条：死傷事故が発生した場合	86
第 255 条：救援列車を運転する場合の取扱い	87

第 256 条：列車等が分離したときの処置	87
第 257 条：車両が暴走したときの処置	87
第 258 条：転動防止の手配	87
第 259 条：運転士が運転室を離れる場合	88
第 260 条：運転中に異常を認めた場合	88
第 261 条：工事列車の承認	88
第 262 条：列車が停止位置を過走した場合の取扱い	88
第 263 条：駅間の途中で列車が運転不能になった場合の乗客の取扱い	88
第 264 条：電車線の停電を行う場合の処置	89
第 265 条：事故復旧後に再び電車線の送電を開始する場合	89
第 266 条：出水または停電のため駅間の途中で長時間停止した場合の乗務員の処置	89
第 267 条：事故や故障が発生した車両や施設の検査	89
第 268 条：列車火災または施設火災が発生した場合の処置	89
第 3 章 列車防護	90
第 269 条：列車防護の意味	90
第 270 条：列車防護の実施が必要な条件	90
第 271 条：列車防護の種類及び方法	91
第 272 条：列車防護用発煙筒の携帯	91
第 273 条：乗務員の列車防護	91
第 274 条：車掌の列車防護または注意喚起	91
第 275 条：救援列車を迎える列車防護	92
第 276 条：駅長が列車防護をする場合の乗務員の取扱い	92
第 277 条：列車防護を認めた運転士の取扱い	92
第 278 条：列車防護の解除	92
第Ⅷ編 異常気象等	93
第 1 章 通則	93
第 279 条：気象状況時の取扱い	93
第 280 条：警備体制	93
第 281 条：運転規制	93

第 2 章 強風	93
第 282 条：強風の場合	93
第 283 条：駅長及び検車区長の取扱い	93
第 284 条：運転士の取扱い	94
第 3 章 浸水	94
第 285 条：浸水時の列車等の取扱い	94
第 286 条：大雨の場合の取扱い	95
第 287 条：大雨の運転規制	95
第 4 章 濃霧	96
第 288 条：濃霧の場合の取扱い	96
第 5 章 地震	97
第 289 条：地震発生の場合取扱い	97
第 290 条：工務及び電気関係区長の取扱い	98
第 291 条：運転規制の取扱い	98
第Ⅸ編 その他の規則	98
第 292 条．各部の責任	99
第 293 条：規則の改正及び廃止の手続き	99

第 I 編：総則

第 1 条：適用範囲

このルールは、列車運転の安全を確保する対策として、運転関係の作業手順を規定し、ハノイ市における都市鉄道の活動に関する組織・個人の果たすべき義務を規定するものである。

第 2 条：適用対象

1. このルールの対象者は、ハノイ市における都市鉄道各路線を運営する組織・個人である。
2. 前項に定める組織・個人は、このルールを守る責任を負う。

第 3 条：法的根拠及び関連資料

1. 法的根拠

- 鉄道法、
- 省令第 05/2015/TT-BGTVT 号「都市鉄道の運転に直接携わる係員の職制に係る規則」、
- 省令第 21/2015/TT-BGTVT 号「鉄道輸送において特別な性質のある仕事をする労働者に対する休憩時間に係る規則」。
- 省令第…/2015/TT-BGTVT 号「都市鉄道における事故・輸送障害の処理に係る規則」、

2. 関連資料

- 2A 号線 Cat Linh-Ha Dong、2 号線 Nam Thang Long-Tran Hung Dao、3 号線 Nhon-Ga Ha Noi の基礎設計、
- 2A 号線 Cat Linh-Ha Dong、3 号線 Nhon-Ga Ha Noi の技術設計、
- 2A 号線 Cat Linh-Ha Dong の教育計画 Ver.16、
- 鉄道事業に関する国家技術規準（QCVN 08:2015/BGTVT） 、
- 鉄道の列車運転及び車両入換に関する国家技術規準（QCVN 07:2011/BGTVT） 、
- 鉄道信号に関する国家技術規準（QCVN 06:2011/BGTVT） 。

第 4 条：用語

このルールにおいて使用する用語の意味は、次のとおりとする。

1. 駅に関する用語

用語	意味
駅	停車場及び停留場を含めた総称をいう。
停車場	転てつ器を設けてある駅をいう。
停留場	転てつ器を設けていない駅をいう。
駅区域標識	必要により駅内外の境界を示す標識をいう。

2. 線路に関する用語

用語	意味
本線路	列車の運転を行うために常に使われている線路。
主本線	停車場構内で、同じ方向に走行する本線路が2つ以上ある場合で、そのうち最も主要な本線路。
副本線	停車場構内で、本線路以外の線路。
側線	本線路以外の線路。車両を止めておいたりする場合に使用する。
通路線	停車場構内で、車両基地への出入りに使用する側線。
安全側線	2つ以上の列車等が同時に進入または進出する時、過走して衝突などを防止するために設けられた側線。
線路閉鎖	工事や試運転などで、指定した区間の線路を通行止めにする取扱い。
線路閉鎖工事	線路閉鎖が必要な工事等をいう。
車両接触限界	線路が分岐または交差している場所で、各線路上にある車両が他の線路を走行する車両の邪魔にならない限界を意味する。「車両接触限界の内方」とは、車両が互いに影響しない側を意味する。

3. 列車 or 車両に関する用語

用語	意味
列車	駅間の本線路を運転するために仕立てた車両をいう。
工事列車	開業前の各種試験列車及び乗務員の養成運転又は事故及び災害の発生に伴い材料その他のものを輸送するために運転する列車をいう。
救援列車	故障した列車等を救援するために運転する列車等をいう。
留置車両	車両基地以外の駅構内に、一時駐車する車両をいう。終列車後、駅と駅の間の本線路に留め置く車両を含む。
貫通ブレーキ	運転室から全ての車両のブレーキを一斉に制御可能であり、連結した車両が分離したときは自動的に非常ブレーキが作動する機能を持つ装置をいう。

連結軸数	列車として連結した車両全体に対して、その車軸の数を合計したものをいう。
制動軸数	列車として連結した車両全体に対して、ブレーキが作動する車軸の軸数だけを合計したものをいう。
総括制御法	1 箇所の運転席で複数の車両の動力を一括して制御する方法をいう。
制御器の鎖錠	運転席の制御器のハンドルを「Off 位置」として、鍵をかけることをいう。
保守用車	設備のメンテナンス作業で使用する、大型の保守用機械をいう。

4. 係員に関する用語

用語	意味
運転士	鉄道運転士の運転免許を有する乗務区の監督者及び運転士の総称をいう。
駅長	駅において列車等の運転取扱いを行う監督者の総称をいう。
乗務員	運転士及び車掌を含めた総称をいう。
駅係員（信号取扱者）	駅長が信号取扱者に指定した駅係員をいう。
検車区係員（運転士）	検車区長が運転取扱者に指定した係員をいう。
検車区係員 （信号取扱者）	検車区長が信号取扱者に指定した検車区係員をいう。
伝令者	伝令法により列車を駅から出発させるとき、他の列車を運転しないことを保証するために運転士と同乗する者をいう。

5. 列車間の安全確保に関する用語

用語	意味
速度制御式	列車間の間隔を確保するため常用する運転方法で、列車制御装置により自動的に列車間の安全を確保できるシステムをいう。
バックアップ・システムによる運転	システムの故障等で速度制御式による運転ができない場合で、これをバックアップするシステムが正常に作動し、自動的に列車間の安全が確保できる場合の運転方法をいう。
閉そく区間を定めて行う運転	システムの故障等で速度制御式またはバックアップ・システムによる正常な運転ができない場合で、1 閉そく区間を1つの列車に専有させて安全を確保する運転方法をいう。

伝令法	救援列車又は工事列車を運転する場合で、列車等のある区間に更に他の列車を運転するとき、その列車の進路を保証するため施行する運転方法をいう。
閉そく	一定の区間に同時に 2 つ以上の列車を進入させないために、その区間を一列車の運転に専用させることをいう。
A T O	運転士が出発ボタンを操作することにより、次の駅までの列車運転を自動的に行う装置をいう。
入換合図による誘導	列車等を運転士が単独で運転させることができないときに、入換合図によりこれを導くことをいう。

6. 信号に関する用語

用語	意味
保安装置	信号装置、連動装置、転てつ装置、自動列車制御装置をいう。
車内信号機	車内信号機に列車の許容速度を表示するものをいう。
中央制御	OCC において、列車等の進路を自動または手動操作により制御を行うことをいう。
現地制御	停車場における列車等の進路を、その停車場で自動または手動操作により制御を行うことをいう。

7. 区域に関する用語

用語	意味
信号に対する進路	信号の指示に従って、列車等が進行することのできる区域をいう。
列車等の進路	列車等を運転する場合、その列車等の安全を保証している区域をいう。
信号機の内方・外方	信号機を中心として、信号機が防護している方向を内方、信号を表示している方向を外方という。
駅の内方&外方	駅を中心として駅内を内方、駅外を外方という。
駅間の途中	駅構内を除いた、駅と駅の間をいう。
運転の途中	駅の所定停止位置から運転を開始して、次の駅の所定停止位置に停止するまでの間をいう。

8. 運転方法に関する用語

用語	意味
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ワンマン運転	運転士が単独で列車に乗務し運転することをいう。
推進運転	最前部車両の運転台以外の場所で列車等を運転することをいう。
退行運転	最初に運転した方向と反対方向に列車を進行させることをいう。
注意運転	運転士が何らかの理由により、特に注意して運転しなければならないときの運転方法をいう。
運転規制	異常気象などにより、通常の運転を継続することが困難若しくは危険である場合、列車の速度を制限または運転を中止することをいう。

9. この規則における略号

略号	用語	意味
HQ	Headquarters	本社
OU	Operation Unit	列車運行を行う各ユニット
OCC	Operation Control Center	指令所
ATO	Automatic Train Operation (System)	自動列車運転装置
ATP	Automatic Train Protection	自動列車保護装置
CBTC	Communications-based train control	無線通信による列車制御システム
ATS	Automatic Train Supervision	運行管理システム
Tuyến	Urban railway	都市鉄道

第Ⅱ編：係員

第5条：列車等の運行に直接関係する係員

1. 列車等の運行に直接関係する作業を行う係員は、次のとおりとする。
 - a. 列車を運転する者（本線で、又は保守のために A から B まで運転する等）
 - b. 列車ダイヤより変更があった時指令作業を行う者（輸送指令係員）
 - c. 列車防護、非常時のブレーキの取扱作業を行う者（車掌）
 - d. 鉄道信号制御取扱を行う者又は列車の進路制御や転轍器取扱を行う者（駅長、検車区長）
2. 各 OU は、自分の路線の設備に基づいて上記の業務を行う職位を規定する。

第6条． 運転に直接携わる係員に対する条件

- 1 5条の1項に定められる運転に直接携わる係員は、作業を実施する際には省令第05/2015/TT-BGTVT号「都市鉄道の運転に直接携わる係員の職制に係る規則」の4条に定められた条件を満たさなければならない。
- 2 運転に直接携わる係員は、作業を実施する際には、以下の責任を持つ。
 - a. 自分の職位、技術レベルの基準、会社又はOUで定められている手順・規範に基づき作業を実施する。
 - b. 上司及びOCC長の指示命令・指示に従わなければならない。ただし、指示を受ける暇のない緊急の場合で、係員が列車安全確保のために処置を行う場合は、この限りではない。
 - c. 制服を着用し、職名の名札等で職位がわかるようにする。
 - d. 各OU長は、自分の責任する路線の設備と仕様に基づいて、運転関係の業務を行う係員の責任、義務及び業務上関係を規定しなければならない。

第7条：運転の安全確保

1. 運転に関する全ての係員は、列車及び乗客の安全を確保する責任を持つ。
2. 各OUは、業務を行う上の内規を策定し、運転関係の業務を行う係員の内規順守を監査する義務がある。

第8条 係員の教育と訓練

1. 全ての係員は、組織が開講する講座若しくは組織が委託した機関が開講する講座を受講しなければならない。
2. 講座修了及び定期的な試験のときに、必要な技術と知識を満たさない場合、運転に関する業務を行うことができない。

第9条：検査及び報告

1. 係員は、定められた期間内に身体と精神の検査を受ける義務がある。監督者は、係員がその条件を満たさない場合、運転業務に就かせてはならない。
2. 乗務員は、出勤時に心身状態を申告すると共に、アルコール検査を受ける義務がある。また、掲示板に載せている注意事項を乗務前に確認し、関係書類に署名しなければならない。
3. 係員は、勤務が終了した後、仕事の実施状況を報告する義務がある。
4. 係員は、勤務の途中でも、常に新たな注意事項にも気を配らなければならない。

第 10 条：係員に対する監督

1. 監督若しくは教育を実施する人たちは、管轄を持つユニットの承認を受けなければならない。
2. 監督者は、次に掲げる時機に点呼若しくは巡回を実施し、必要事項について報告を求めると共に指示を与え、適切な監督を行わなければならない。
3. 係員は、前項に規定する点呼や巡回のときに、作業の概要や心身の状態、運転状況等について監督者に報告しなければならない。

第 11 条：列車等を運転する者

列車等は、次に該当する者でなければ運転してはならない。

1. 運転士は、関係官庁が発行したライセンスを持たなければならない。
2. 運転士以外は、列車等を運転できない。なお、運転士見習は指導者の指導中であればライセンスが無くても良い。
3. 車両基地内のみで運転を行う運転士は、車両基地内用のライセンスを持たなければならない。また、車両基地の外まで運転してはならない。

第 12 条：乗務員

1. 列車には、運転士と車掌が乗務しなければならない。
2. 乗務員は列車等を運転中、職場を離れてはならない。
3. ワンマン運転については、運転士が車掌を兼任する。
4. 乗務員は、作業を実施するときに必要な道具を持参しなければならない。各 OU 長は、第 3 条に定めた内規の中に、これらについて定めなければならない。

第 13 条：常置信号機取扱者

常置信号機は、以下の者が取り扱うものとする。

1. OCC 長、駅長、検車区長
2. 常置信号機の保守を行う者。但し、列車等の運転中は扱ってはならない。

第 14 条：転てつ器の取扱者

転てつ器は、以下の者が取り扱うものとする。

1. OCC 長、駅長、検車区長
2. 転てつ器の保守を行う者。但し、列車等の運転中は扱ってはならない。

第 15 条：入換合図者

入換合図者は、駅長、運転士、車掌、検車区長とする。

第Ⅲ編：運転

第1章 列車の組成

第 16 条：列車の車両の最大両数

列車の最大両数は事故の場合を除き、牽引能力とプラットホームの長さを超えない列車長でなければならない。

第 17 条：連結の確認

1. 車両基地の係員は列車を組成した場合は、各車両間の連結器が完全に連結されていることを確認しなければならない。
2. ただし、故障等で列車同士を連結した場合は、運転士も確認しなければならない。

第 18 条：本線で運転を許可される列車／車両

1. 原則的には、本線で運転を許可されるのは、列車だけである。ただし、下記の場合はこの限りではない。
 - a. 構造物・設備保守用車（OCC の許可を得なければならない）
 - b. 救援列車
2. どんな場合でも、本線で運転する列車は絶対に安全を確保し、OCC の指令員又は駅における運転に携わる係員の指示に従わなければならない。

第 19 条：消火器の備付け

列車には各車両に消火器を備え付け、その位置を表示しなければならない。

第 20 条：列車の最前部と最後部の車両

列車の最前部と最後部の車両には、運転室として必要な設備を整えなければならない。

1. ブレーキ圧力計
2. 非常ブレーキスイッチ
3. 警報システム
4. 列車無線システム
5. その他、必要な設備

第 2 章 列車運行

A. 総則

第 21 条：駅の境界

1. 駅の境界の適用範囲は、駅の境界を示す標識で表示される。
2. 全ての駅で、駅の境界を示す標識を設置しなければならない。
3. 駅構内は駅長の責任に属するが、運行管理装置で制御している時は OCC 長の責任である。

第 22 条：本線路の運転

1. OCC は本線の全ての運転を監視する
2. 車両は列車として組成しなければ本線を走行できない。特別な場合は OCC 長の許可と指令を受けなければならない。

第 23 条：列車の右側運転

列車の運転は、右側通行とする。ただし、次に挙げる場合は、この限りではない。

1. 停車場構内を運転する場合。
2. 信号設備や列車制御装置によって、安全が確保できる場合。
3. 事故や故障の場合で、OCC 長の許可と指令を受けたとき。
4. 施設や車両の試験等を行う場合で、OCC 長の許可と指令を受けたとき。

第 24 条：列車の運転位置

運転位置は先頭でなければならない。ただし、故障や事故等で OCC 長の指令がある場合は、最後尾の車両で運転できる。

第 25 条：列車制御装置（ATP）

列車等の運転は、各列車間の安全間隔確保装置（列車保護装置-ATP）が正常に作動する状態でなければ実施しない。この装置が故障したことを発見したら、直ちに列車を停止させた後、OCC 長に報告して指示に従わなければならない。

第 26 条：列車のドアの閉め状態確認（知らせ灯の確認）

運転士は、ドアが完全に閉まったことを示す知らせ灯を確認しなければ、列車を発車させてはならない。ただし、故障の場合に必要な処置を行い、安全が確保されている場合は、これに該当しない。

B. 列車運行計画の策定

第 27 条：列車ダイヤ策定に関する一般原則

1. 列車ダイヤは、列車の移動を表すものであり、運転時間及び運転距離の関係で表示される。
2. 列車ダイヤは、下記に掲げる事項を満たさなければならない。
 - a. 列車運行実施時、絶対に安全を確保すること。
 - b. 旅客輸送の要求を満たすこと。
 - c. 運転密度、運転速度が路線のインフラ及び設備の能力に応じること。
 - d. 乗務可能な乗務員数で、計画された全ての列車が運行可能であること
 - e. 鉄道インフラの工事・修理・保守のために幾つかの区間で列車を運転しない時間帯を空けること。
 - f. 簡単かつ順調に指揮し、列車の定時到着率が高いのを保障すること。
 - g. 各駅間での走行時間及び行程が適切であることを保障すること。
 - h. 始発駅や終端駅、または渡り線における折返し時間は、安全な折返しの作業に要する時間や、乗務員の位置交代時間を反映すること。

- i. 車両を駐車する場合は、路線内の車両基地の収容能力、（車両を駐車する駅の勾配等の）線路条件に基づき、適正に設定すること。
- 3. 列車運行に関係する全ての職場は、安全かつ計画通りに運転することを確保するために、列車ダイヤに基づき自らの職場の保守・技術作業実施計画を作成するものとする。

第 28 条：運転曲線

- 1. 運転曲線は、運転速度及び運転時間と運転距離の関係を表す。
- 2. 列車の各駅間の走行時間は、運転曲線によって定めることを原則とする。運転曲線に基づき、OU 長は必要な標識（速度制限標識、ブレーキ使用標識、加速標識、減速標識など）を明らかに定めなければならない。
- 3. 運転曲線を作成する場合の基本条件は、次に掲げるものを原則とする。
 - 3.1 列車の条件
 - a. その路線で車両性能が最も低い条件で作成するか、車両性能毎に作成する。
 - b. 車両の出力、加速する性能、ブレーキの性能を考慮する。また、ブレーキは車両性能上必要な空走時間を加味する。
 - c. 架線の電圧は、電圧が降下して加速する性能が低下することを考慮して、規定よりも多少低い電圧で車両性能を定める。
 - d. 車両の車輪の直径は、新品の最大直径と、最大に摩耗して交換時期である最少直径の中間値で車両性能を定める。
 - e. 速度は、設備上定められた許容最高速度を厳守する。また、運転曲線作成時は、その区間の最高速度に対して多少の余裕を加味した速度を用いる。
 - 3.2 列車の重量の条件
 - a. 車両の重量と荷重を合計し、列車編成当たりの重量を定める。
 - b. 荷重は乗客が定員乗車していると仮定し、1 人当たりの荷重はベトナム人の標準的な体重を用いる。
 - 3.3 線路の条件
 - a. 列車が走行する距離は、実際に走行する距離を用いる。
 - b. 勾配や曲線を通過する際の抵抗を適正に加味する。
- 4. 鉄道のインフラや施設に関する条件に変更があった場合、運転曲線を適切に修正しなければ

ならない。

第 29 条：列車番号の設定

1. 次の各項について容易に識別が可能なように、各列車には列車番号を付けることを原則とする。
 - a. 列車毎の運行番号
 - b. 運転方向
 - c. 列車の種類（旅客列車、回送列車等）
 - d. 都市鉄道路線の略語
2. 全く同じ列車番号の列車を、同じ時間帯に同時に設定してはならない。やむを得ず同時に設定しなければならない場合は、両者が容易に識別できるよう工夫しなければならない。

第 30 条：各駅間の走行時間及び駅停車時間の設定

1. 駅停車時間は、駅の乗降人員を考慮した乗降時間に余裕時間を付加し、5 秒刻みに設定することを原則とする。
2. 駅停車時間は、ラッシュ時間帯、日中、閑散時、といったように、必要に応じてそれぞれの時間帯の乗降時間を適用し、設定することを原則とする。

第 31 条：列車の運転時刻

1. 列車は、定められた運転時刻により運転することを原則とする。
2. OCC 長及び乗務員は、列車の運行が乱れた場合、所定の運行に復するように努めなければならない。
3. 列車運転に関する全てのユニットは、ダイヤに基づいて自分の作業計画を作成して実施する。

第 32 条：システムの基準時計

1. システムの基準時計は、OCC、各駅、デポー及び列車運転に関係のある技術作業各箇所に置かれる。これらの時計は、時間統一化システムと連結されて、中央時計の基準時間と統一させる。
2. 運転に係る作業を実施する係員は、作業を実施する前に時計をシステムの基準時計に合わせて調整しなければならない。

C. ブレーキの取扱い

第 33 条：列車のブレーキ

1. 運転士は、減速する場合には常用ブレーキを使用する。異常の場合には非常ブレーキを使用する。
2. 非常ブレーキにより停止した場合は、OCC 長に報告し、その後の指示を受ける。

第 34 条：車掌の非常ブレーキ処置

1. 車掌は、急きょ列車を停止させる必要が生じた場合は、直ちに非常ブレーキスイッチ等により、非常ブレーキ処置をとらなければならない。この場合、速やかに運転士にその事由を通告しなければならない。
2. 非常ブレーキにより停止した場合は、OCC 長に報告し、その後の指示を受ける。

第 35 条：非常ブレーキの区間

OU 長は、それぞれの路線の設備に応じて、非常ブレーキを使って列車を完全に停止させる区間について規定しなければならない。

第 36 条：運転士のブレーキ試験

1. 運転士は、次の場合にブレーキの機能確認を行う。
 - a. 車両を出庫させるとき
 - b. 列車の組成を変えたとき
 - c. 運転位置を変えたとき
2. 列車を改造又は新しく購入される時、ブレーキシステムの機能確認のために試験を行わなければならない。

第 37 条：ブレーキが故障の場合

1. 運転士はブレーキが故障していることを発見した場合、直ちに列車を停止させること。停止後、OCC 長に報告し、指示を受けなければならない。
2. 報告を受けた OCC 長は、第 37 条及び第 38 条に基づき、運転速度を指令する。

(注：ブレーキ故障のいくつかの例)

- ブレーキをかけたが効果が無い。
- 非常ブレーキスイッチが作動しない。
- ブレーキ空気圧の供給不足。
- 全ての車両にブレーキが作用しない。

第 38 条：列車の制動軸数

1. 制動軸数の割合は、連結軸数に対して 100%でなければならない。
2. 列車の制動力は、軌道の勾配及び列車の速度を満たすために十分な能力がなければならない
3. 速度を抑えても安全に走行できない可能性がある場合は、救援列車と併合し、車両基地又は最寄り側線に収容する手配をとらなければならない。

D. 運転速度

第 39 条：運転速度

各路線の最高運転速度は、下記の通りに定められる。

1. 運転室にある速度表に確定される最高速度を超えて運転してはならない。
2. 信号設備システムで指定される速度を超えて運転してはならない。

第 40 条：各条件における列車の運転速度

1. 各 OU は、第 41 条～第 49 条に定められる場合に対して運転速度を詳細に規定しなければならない。
2. 2 つの異なる制限の信号を見た場合の運転速度は、制限の大きい方の速度（より低い制限速度）に従わなければならない

第 41 条：制動軸数が不足した場合の運転速度

1. ブレーキの機能が保障されないことを認めたら、運転士は制限速度運転のモードに切替しなければならない。

例：東京メトロでは、車内信号機に表示される速度より速度を 20～30%程度低下させている。

2. 制動軸数が 50%未満の場合は、その列車をデポーに戻すために他の列車と併合しなければならない。

第 42 条：曲線又は分岐器、下がり勾配における制限速度

曲線又は分岐器の場合は、その路線の運転マニュアルに定められる運転速度に従わなければならない。

第 43 条：列車、線路等が故障したときの運転速度

1. 列車、路線等が故障したとき、運転士は以下のいずれかの運転方法に変えるとともに、15km/h 以下の速度で運転することを保障しなければならない。
 - a. 推進運転
 - b. 退行運転
 - c. 伝令法
 - d. 非常運転
2. 列車、線路が故障したときの運転方式は、OCC 長が決める。

第 44 条：手信号による運転速度

1. 故障等が生じて信号機を使用できない場合、運転士は手信号に従い、15km/h 以下の速度で運転すること。
2. 正常の運行に復する場合、OCC 長の確認及び許可をもらわなければならない。

第 45 条：徐行信号による運転速度

列車の運転中、運転士は沿線に設けられる徐行信号に従わなければならない。

(注：信号の意味は、第 49 条の速度制限とは異なる)

第 46 条：構内運転の運転速度

構内運転の運転速度は、それぞれの路線の規定に従わなければならない。

例えば、東京メトロの場合、最高速度は 40km/h である。

第 47 条：入換合図による運転の運転速度

列車の入換の場合は、運転士は入換案内係員の合図による運転速度に従わなければならない。

第 48 条：転てつ器が故障している場合の運転速度

転てつ器が故障している場合（転てつ器がロックしない、又は信号機と連動していない場合）、運転士は OCC の指示に従わなければならない、各路線に対して定めておいた制限速度で運転しなければならない。

第 49 条：速度制限標の速度

列車等が速度制限区間を運転するときは、列車の最後部がその区間を完全に通過するまで制限速度以下で走らなければならない。

E. OCC 長の業務

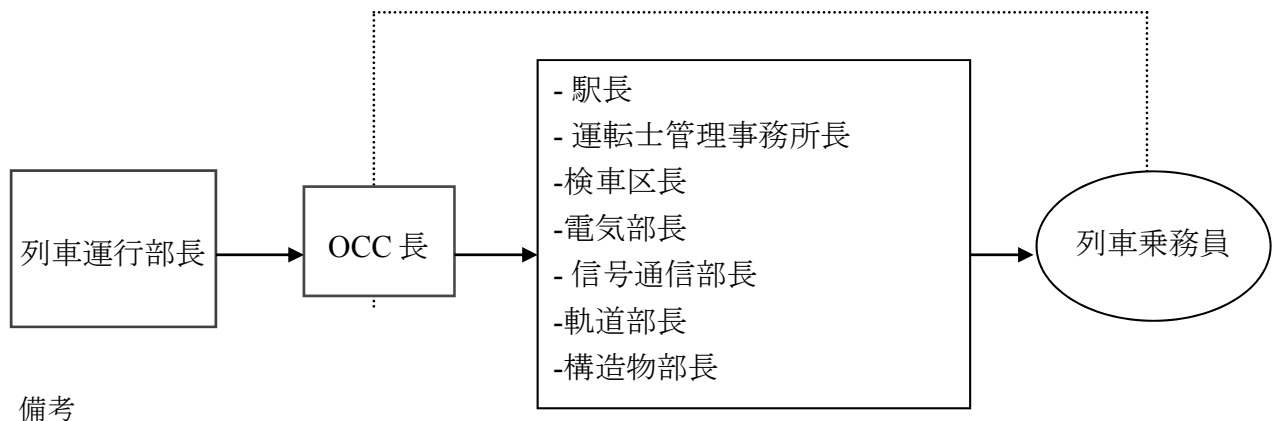
第 50 条：OCC 長の業務

OCC 長は、列車運行が安全かつ効果的に実施できるよう、全ての列車の運転を監視するとともに、次の業務を行うものとする。

1. 異常及び事故が発生したときの対策を講じる業務
2. 列車間の安全確保に関する業務
3. 進路制御に関する業務
4. 閉そくに関する業務
5. 駅設備及び沿線設備の故障を監視して、関係機関に通報する
6. 電力管理システムに関する業務
7. 線路閉鎖に関する業務
8. 保守用車の取扱いに関する業務
9. その他必要な事項

第 51 条：運転の指令指示系統

運転に関する指令は、次の系統による。



備考

-直線は、順番による命令を表す。

-点線について、OCCは、運転指令に関する指示を出すために列車無線を通して直接にTrain Crew Officeに連絡できる。（実際に、ほとんどは、安全かつ正確、定時運転を確保するために点線のように指示を出している。）

第 52 条：非常運転スイッチの使用

1. 非常運転スイッチの使用及び復位は、OCC 長の許可を得なければならない。
2. 下記のような場合に OCC は運転士に非常スイッチの使用の許可を与えることができる。
 - a. 非常運転方式を実施するとき
 - b. 列車無線による指令方式のとき
 - c. 伝令法：よく使われるのは、前に故障している列車があり、故障している列車をデポーに推進するために車両/列車を組成する必要があるとき、又は軌道の一部分が故障して要修理又は保守用車を使用する必要があるとき。
 - d. 退行運転による運転のとき。
 - e. 推進運転による運転：運転士は組成した車両に座って、前にある故障している列車の運転士に連絡して推進運転を行う。
 - f. 手信号による運転
 - g. 所定位置過走の場合：距離が長い場合。実施方法は、退行運転と同様。
 - h. 車両入換（留置線への移動、駅構内又はデポー構内、本線での移動）合図実施：手合図を使って車両入換を実施。

第 53 条：故障列車の本線路からの退避

OCC 長は、車両故障が発生し、他の列車に影響を与える場合、その車両を早めに本線路から退避させるように指令する。

第 54 条：運転士及び車掌に対する OCC 指令

各 OU 長は、OCC 長が列車無線装置等を使用して運転士や車掌に指令する項目を、予め定めておかなければならない。

その内容は、次に該当するものとする。

1. 列車制御装置や車両及び設備の故障により、運転方法を変更するとき。
2. 列車の運転速度を規制するとき。
3. 運転士や車掌が知らないことによって、列車運転の安全性に重大な影響があるとき。
4. その他必要な事項を知らせるとき

第 55 条：駅長を経由しての OCC 長の指令

前条の指令を行う場合や列車無線が故障した場合、OCC 長は必要により駅長を経由して乗務員に指令することができる。この場合、駅長は通過列車であっても、これを停止させて指令を伝えなければならない。

F. 列車監視

第 56 条：列車監視

1. 各 OU の規程には、列車の安全確認や監視の義務について、都市鉄道の運転に直接携わる係員の職制を規定する省令第 05/2015/TT-BGTVT 号による職種毎に明確に定めなければならない。
 - a. 運転士
 - b. 運転指令係員
 - c. 列車における安全補助係員
 - d. 駅における運転に携わる係員
2. 列車監視の内容は、以下通りである。
 - a. 列車がプラットフォームに進入して所定位置に停止することを確認。
 - b. 列車が駅に停止している間に異常がない事を（表示画面を通して）確認。

- c. 信号機が列車を駅から進出させる色になったかどうかを確認。
- d. ドアに挟まれる旅客がいないかどうかを確認。

G. ワンマン運転

第 57 条：ワンマン運転

- 1. ワンマン運転の設備がある列車は、ワンマン運転をしなければならない。
- 2. ワンマン運転の場合、運転士は列車における安全補助係員の職務も兼任する。

第 58 条：ワンマン運転禁止

ワンマン運転禁止は、下記の場合である。（ワンマン運転に必要な設備が搭載される路線の場合）

- 1. 発報信号が使用できない場合
- 2. ドアの故障で、完全に閉まらない状態で運転を続ける場合
- 3. ドアが完全に閉まったことを運転士に示す知らせ灯が点かない場合
- 4. 推進運転で運転する場合
- 5. 全部の車両同時にブレーキをかけることが出来ない場合

H. ATO 運転

第 59 条：ATO 運転

- 1. ATO 運転の設備がある列車は、ATO 運転をしなければならない。
- 2. 運転士は、ATO 運転中異常を感知した場合、直ちに列車を停止し OCC 長に報告し、指令を受けなければならない。
- 3. ATO 運転を行う場合は、制動軸数の割合は、連結軸数に対して 100%でなければならない。
この条件を満たさない場合は手動運転を行わなければならない。
- 4. ATO 運転の設備がある路線の OU 長は、ATO 運転を禁止する条件と、禁止した場合の取扱いについて予め定めておかなければならない。

第 60 条：ATO による運転時の非常ブレーキ

ATO による運転の場合でも、非常に列車を停止しなければならない事象が発生した場合、運転士は手動で非常ブレーキをかけなければならない。

第 3 章 線路閉鎖

第 61 条：線路閉鎖の実施

下記の場合には、線路閉鎖の取扱をしなければならない。

1. 構造物・設備の保守用車を使用するとき
2. 防水ゲートを閉めるとき（試験も含む）
3. 列車/車両の試運転のとき
4. 列車が接近したとき、すぐに退避できないような作業を行うとき
5. 軌道内で速やかに撤去できる簡単な仮設設備を使用する工事
6. 事故・輸送障害対応に時間がかかるとき

第 62 条．線路閉鎖を行える時間

1. 線路閉鎖は、列車の出発時から運転終了までの時間帯に行ってはならない。
2. 事故・輸送障害後復旧をしなければならない場合、線路閉鎖を行えるが OCC 長の指示に従わなければならない。

第 63 条．線路閉鎖の申請及び承認

1. OCC 長は、線路閉鎖を承認する責任を有する。
2. 線路閉鎖の申請及び承認は、以下通りに規定されている。
 - a. 線路閉鎖を実施する 10 日前までに、保守実施の担当者は線路閉鎖実施に関する要求書を作成して OCC 長に申請する。
 - b. OCC 長は申請内容に問題が無ければ、運転通報の発行番号を申請者に与える。
 - c. 列車の運行が終了した夜間に作業を行う場合は、夜間作業の管理システムに作業の登録を行い、OCC 長の承認を受ければ良い。
3. 事故・輸送障害の復旧に時間がかかる場合、OCC 長は命令・指示で線路閉鎖を実施する。

4. OU 長は、線路閉鎖の取扱の場合に別に規定することと組織、個人の責任を明確に定められなければならない。

第 64 条：線路閉鎖を行う区間

線路閉鎖を行う区間は、下記のように定められている。

1. 本線路においては、駅と駅の間を線路閉鎖区間の単位とする。
2. 側線及び通路線は、その線路も区間とする。
3. 前記 1、2 の定めにかかわらず、全ての列車運行を停止した後で線路閉鎖を実施する場合は、OCC 長が指定した区間とする。

第 65 条：線路閉鎖の周知

1. 申請者が実施の 2 日前までに、運転通報で関係部門に周知しなければならない。その際、運転通報に記載しなければならない内容は、下記のとおり。
 - a. OCC 長が与えた運転通報の発行番号
 - b. 工事の種別及び理由
 - c. 実施する日時
 - d. 線路閉鎖を行う区間
 - e. 実際に工事を行う区間
 - f. この工事の責任者氏名
 - g. 線路閉鎖を知らせる看板を掲出するか否か
2. 運転通報で周知をしない場合は、申請を承認した後で OCC 長が、関係部門に対して指令発信し、線路閉鎖の実施を周知しなければならない。

第 66 条：線路閉鎖区間へ列車を進入させない処置

1. OCC 長は次のいずれかの方法により、線路閉鎖区間に列車が進入しない処置を取らなければならない。
 - a. 線路閉鎖区間の外側にある信号機を「停止」にする。
 - b. 列車の運転終了後に停電させ、列車の運転が出来ないようにする。
2. OCC 長から線路閉鎖の支持を受けた時から線路閉鎖解除の指示をもらった時まで、駅長は該当する閉鎖区間に列車を進入させてはいけない。

第 67 条：保守用車の取扱

1. 保守用車は、閉鎖を行った区間だけで走行できる。
2. 各 OU は、保守用車が閉鎖を行った区間だけで使用されることとその取扱を定める。

第 68 条：線路閉鎖を知らせる看板の掲出

1. 線路閉鎖を実施する際、閉鎖を行っている区間を周知するために OCC と駅で知らせる看板を掲出しなければならない。
2. 線路閉鎖を知らせる看板が掲出された場合は運転士が列車運転を開始してはならない。この場合には、運転士が OCC に報告して指示を受けるものとする。

第 69 条：線路閉鎖記録簿の作成

1. OCC 長は、閉鎖記録簿に必要事項を記入し、線路閉鎖の手続きを行わなければならない
2. 線路閉鎖記録簿は、実施日より 3 年で保存される。

第 70 条：線路閉鎖手続きの完了

この規則で定められた必要な全ての手続き及び処置を行い、線路閉鎖記録簿への記入が完了した時点をもって、手続き完了とする。

第 71 条：線路閉鎖工事着手の承認手続き

線路閉鎖工事を行う関係者は、OCC 長に線路閉鎖手続きの完了と、工事に着手しても良いか否かの確認を行わなければ、工事を始めてはいけない。

第 72 条：線路閉鎖工事の終了報告

工事責任者は、工事を終了し、列車の運行に支障がないことを確認した場合は、その旨を OCC 長に報告しなければならない。

第 73 条：線路閉鎖の解除

OCC 長は、工事責任者から工事の終了の報告を受けたら、線路閉鎖記録簿に必要な事項を記入し、線路閉鎖を解除する。また、解除後に関係部門にその旨の連絡を行う。

第 74 条：線路閉鎖区間へ列車を進入させない処置の解除

1. OCC 長は、線路閉鎖を解除した後に、閉鎖区間へ列車を進入させない処置を解除しなければならない。
2. 駅長が進入防止の処置を行った場合は、駅長が進入防止処置の解除を行い、解除後に OCC 長に報告する。

第 75 条：線路閉鎖を知らせる看板の撤去

1. OCC 長は、線路閉鎖解除の後に、関係の駅長に線路閉鎖を知らせる看板の撤去を指示しなければならない。
2. 駅長は看板を撤去したら、その旨を OCC 長に報告しなければならない

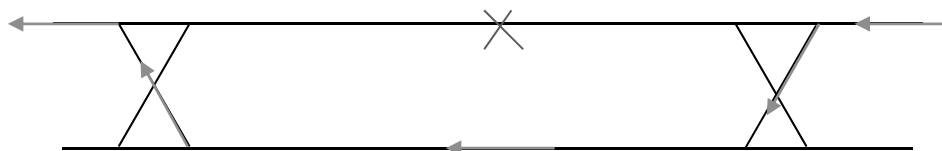
第Ⅳ編：列車間の安全確保

第 1 章 総則

第 76 条：列車の運転方法

列車は、列車制御装置により複線運転するものとする。ただし、故障の場合は OCC 長の指令により運転方法変更することができる。

- a. 1 線が不通となった場合で、列車制御装置により単線運転が可能な場合の運転方法。



- b. 列車制御装置故障の場合で、バックアップ・システムが正常に機能している場合は、その運転方法。
- c. 列車制御装置故障の場合で、バックアップ・システムも使用不能の場合で、OCC で列車の在線状態が確認できる場合は、OCC 長が閉そく区間を定めて行う運転方法。
- d. 前第 a から c による事ができないときは非常運転。
 1. 伝令方：列車がある区間で他の列車に運転を許可する場合は伝令法に従う。
 2. 運転方法を変えるのは OCC 長の指示に従わなければならない。この場合は安全性をより確保できる運転方法を優先する。

3. OU 長は、それぞれの運転方法に対して詳細な処理を定め、各組織・個人の責任を定めなければならない。

第 2 章 速度制御式

第 77 条：速度制御式

1. 速度制御式は、列車制御装置により自動的に列車間の安全を確保できるシステムでなければならない。
2. 列車間の距離は、システム機器の自動防護機能（ATP 等）によって維持されなければならない。

第 78 条：速度制御式の条件

速度制御式を行う場合で、列車の衝突等の可能性がある条件の下では、自動的に停止信号を表示する。また、絶対停止信号の場合は非常ブレーキ、停止信号の場合は常用ブレーキが自動的に作動しなければならない。

1. 軌道回路を用いた信号保安装置の場合は、次の各条件に該当する場合に、自動的に絶対停止信号又は停止信号を表示する。
 - 1.1 絶対停止信号の条件
 - a 列車の在線する軌道回路に列車又は車両があるとき。
 - b 列車の在線する軌道回路に関係ある転てつ器が、正しい方向に開通していないとき。
 - c 他の線路にある列車又は車両が、分岐箇所又は交差箇所車両接触限界を支障しているとき。
 - d 軌道回路に故障が生じたとき。
 - e 絶対停止信号を表示する区間の外方の軌道回路が短いときは、その軌道回路を含む区間。
 - f その他、設備の仕様上、絶対停止信号を表示する必要が生じたとき。
 - 1.2 停止信号の条件
 - a 絶対停止信号を表示する軌道回路の外方の軌道回路
 - b 停止信号を表示する軌道回路の外方の軌道回路が短いときは、その軌道回路を含む区間。
 - c その他、設備の仕様上、停止信号を表示する必要が生じたとき。

2. 無線式列車制御装置の場合は、次の各条件に該当する場合に、自動的に絶対停止信号又は停止信号を表示する。

- a 列車速度が停止限界ブレーキパターンを速度を上回ったとき。
- b 列車の進路にある関係転てつ器が正当方向に開通していないとき。
- c 他の線路にある列車又は車両が、分岐箇所又は交差箇所車両接触限界を侵しているとき。
- d 無線装置に故障が生じたとき。（通信が遮断された場合を含む。）
- e 列車位置が不明となったとき。
- f その他、設備の仕様上、絶対停止信号又は停止信号を表示する必要があるが生じたとき。

第 79 条：停止信号が表示された場合

車内信号機に絶対停止信号又は停止信号が表示された場合の取り扱い

1. 運転士は、次の各号のいずれかに該当する場合は、列車が停止した後、OCC 長に報告し、その指示を受けなければならない。
 - a. 絶対停止信号が表示されたとき。
 - b. 停止信号が表示され、1 分以上経過したとき。
2. OCC 長は、運転士から前項に規定する報告を受けたときは、必要により運転方式変更を指令することができる

第 3 章 バックアップ・システムによる運転

第 80 条：バックアップ・システムによる運転

システムの故障等で速度制御式による運転ができない場合で、これをバックアップするシステムが正常に作動し、ATP で自動的に列車間の安全が確保できる場合は、これを用いて運転することができる。

第 81 条：バックアップ・システムによる運転の取扱い

各 OU 長は、バックアップ・システムによる運転を行う場合の詳細な取扱いについて、予め定めおかなければならない。

- (1) バックアップ・システムによる運転が実施可能と判断するための基準
- (2) 運転方法変更の手續及び指令者
- (3) 運転区間の境界及び実施する区間
- (4) 運転速度
- (5) 実施及び所定の運転方式に戻すタイミング
- (6) 運転方法を変更した区間を運転する列車に対する通告及び乗務員の確認内容や方法
- (7) 運転方法を変更した区間の駅の取扱い
- (8) これらの運転取扱い（1号～7号）のマニュアル及び手順のチェック用紙

第4章 閉そく区間を定めて安全確保を行う運転

第82条：閉そく区間を定めて行う運転

閉そく区間を定めて行う運転とは、速度制御式またはバックアップ・システムによる正常な運転ができないとき、1閉そく区間を1つの列車に専有させて安全を確保する運転方法をいう。

第83条：閉そく区間を定めて行う運転方法

列車間の安全を確保するシステムが故障した場合で、閉そく区間を定めて行う運転方法は、次のように取り扱う。

1. 閉そく区間を定めて行う運転方法は、列車制御装置の車上装置故障の場合で、列車無線が使えなければ行ってはならない。
2. 閉そく区間の境界は、以下のとおりとし、閉そく区間はOCC長が先行列車の位置を確認し指令する。
 - a 停車場の場合は、最内方の出発信号機相当の地点。
 - b 停留場の場合は、出発信号機相当の地点
3. 閉そく区間を定めて行う運転方法は、駅間の途中から運転方法を変更してはならない。この場合、次駅までは非常運転とする。
4. 1閉そく区間には同時に2以上列車を運転してはならない。

第84条：閉そく区間を定めて行う運転方法の取扱い

各 OU 長は、閉そくによる安全確保を行う場合の、詳細な取扱いについて、予め定めておかねばならない。

1. 閉そくによる安全確保を行う運転が実施可能と判断するための基準
2. 運転方法変更の手續及び指令者
3. 運転区間の境界及び実施する区間
4. 運転速度
5. 実施及び所定の運転方式に戻すタイミング
6. 運転方法を変更した区間を運転する列車に対する通告及び乗務員の確認内容や方法
7. 運転方法を変更した区間の駅の取扱い
8. これらの運転取扱いのマニュアル及び手順のチェック用紙

第 85 条：閉そく区間を定めて行う運転時の記録簿

OCC 長は、閉そく区間を定めて行う運転方法の取扱いを実施する場合に取扱いの不良が生じないようにするための記録簿を作成しなければならない。その記録簿には、下記の内容の記載がある。

1. 指令番号
2. 指令の対象となる列車の番号
3. 運転士に指令を発信する OCC 係員の名前
4. 指令を受信した乗務員の名前
5. 前を走る列車の位置
6. 閉そく区間を定めて運転する区間（駅）

第 5 章 非常運転

第 86 条：非常運転

非常運転とは、速度制御式、バックアップ・システムによる運転又は閉そく区間を定めて行う運転方法がいずれも使用出来ないとき、運転士の注意力だけで運転する運転方法をいう。

第 87 条：非常運転の施行

OCC 長は、次のいずれかに該当する場合は、運転方法を非常運転に変更することを指令できる。

1. 列車制御装置の故障、バックアップ・システム又はこれに代わる閉そく区間を定めて行う運転もできないとき。
2. 故障した列車の救援等のため、前を走る列車による停止信号により一旦停止した列車が、更に先の区間まで運転するとき。

第 88 条：非常運転による運転

各 OU 長は、非常運転による運転を行う場合の詳細な取扱いについて、予め定めておかねばならない。

1. 運転方法変更の手続及び指令者
2. 所定の列車制御装置による運転に戻す場合の取扱い
3. 列車間の安全を確保するシステムのスイッチの取扱い
4. 停車場の進入及び出発時の進路確認や列車に対する指示方法等の手続き

第 89 条：非常運転の場合の運転士の取扱い

非常運転を行うとき、運転士は次の点に注意して取扱いを行わなければならない。

1. 非常運転を行う場合は、OCC 長の許可により、列車間の安全を確保するシステムのスイッチを OFF にする。
2. 非常運転により運転する列車は、見通し範囲内に停止可能な速度で運転し、見通し良好な場合でも 15 km/h 以下の速度で細心の注意を払いながら運転しなければならない。
3. 非常運転中は車内信号機の表示にかかわらず、前号の速度で運転しなければならない。
4. 前の列車に接近した場合は、50m 以上の距離を隔てて停止する。この場合、前の列車が運転を開始したときは、1 分以上経過した後、OCC 長に報告してからでなければ運転を開始してはならない。
5. 車内信号機が正常な信号を表示し、非常運転を行う理由がなくなつたと判断したときは、列車を一旦停止させ、OCC 長に報告し指令を受けなければならない。

第 6 章 伝令法

第 90 条：伝令法の施行

1. 伝令法とは、列車等がある区間に更に他の列車を運転させるときに行う運転方法をいう。

2. 以下の場合、伝令法を施行しなければならない。
 - a. 駅間の途中で、故障等により停止した列車に対し、反対方向から救援列車を運転するとき。
 - b. 応急修理のため運転した工事列車が停止している区間に、予定して更に別の工事列車を運転するとき。
3. 救援を受ける列車又は先行の工事列車は、停止した位置を絶対に移動してはならない。

第91条：伝令法による運転

各OU長は、伝令法による運転を行う場合の、詳細な取扱いについて、予め定めておかなければならない。

1. 運転方法変更の手続及び指令者
2. 伝令者の役割り

（東京メトロの場合は、「伝令者」と書いてある白い腕章をかける。伝令者は、OCC 長によって指名される。）

3. 伝令者は、職務を実施するために十分な権限及び専門を持たなければならない。OCC は、ある区間に対する伝令方式実施者を決定する。

解釈：1つの地区には、一人の伝令者しかいない。2編成の列車が連結した後、OCCは「伝令者」腕章を外す命令を出す。

第92条：伝令法記録簿

OCC長は、伝令法実施の場合に検査するための確認票のフォーマットを作成しなければならない。伝令実施者は、任務を実施する前に記録簿を提示しなければならない。

第93条：伝令法を実施する条件

1. 伝令者は、伝令を実施する区間の両側の駅の駅長と相互に打合せをしなければならない。
2. 伝令方法実施区間で列車を運転する運転士は、伝令者が乗務したことを確認した後でなければ列車を運転してはならない。
3. 伝令者は列車が伝令方法実施区間の両側の駅のいずれかに戻ったことを確認した後でなければ、後続列車をその区間に進入させてはならない。

第V編 その他の運転方法

第1章 退行運転

第94条：列車の退行運転

列車は、退行運転をしてはならない。ただし、次に掲げる場合であって OCC 長の指令を受けたときは、この限りでない。

1. 線路や架線又は車両に故障があるとき。
2. 工事列車又は救援列車を運転するとき。
3. 施設又は車両の試験等のために運転するとき。
4. 事故等で駅間に停止した列車を後方駅に戻すとき。

第95条：乗務員の取扱い

1. 各 OU 長は、退行運転を行う場合は、乗務員の次に掲げる各項目の詳細な取扱いについて、予め定めておかなければならない。
 - a. 運転位置
 - b. 列車標識の取扱い
 - c. 気笛合図
 - d. 停車場進入時の取扱い
2. 運転速度は、見通せる範囲内に停止可能な速度で運転し、見通しが良い場合でも 15km/h 以下の速度で細心の注意を払いながら運転しなければならない。

第96条：OCC 長の取扱い

1. OCC 長は列車運行表示盤などを使って、退行運転を開始する前に、その区間に列車等がないことを確認しなければならない。
2. 退行する列車を出発させる場合は、後続列車を退行運転区間の手前に停止させ、退行する列車と絶対に衝突しない位置に停止したことを確認した後でなければ、発車させてはならない。
3. 退行運転を行う場合で、列車制御装置により安全が確保可能な場合は、極力これらの設備を活用して運転しなければならない。

第2章 推進運転

第 97 条：列車の推進運転

列車は、原則として推進運転をしてはならない。ただし、次に掲げる場合であって OCC 長の指令を受けたときは、この限りでない。

1. 線路、電車線路又は車両に故障があるとき。
2. 工事列車又は救援列車を運転するとき。

第 98 条：推進運転合図による運転

推進運転合図により運転を開始するときは、関係者は出発に先立ち合図方式について、確実に打合せをしなければならない。

第 99 条：乗務員の取扱い

乗務員は、列車の推進運転をするときは、次に掲げる取扱いをしなければならない。

1. 速度は次のとおりとする。

条 件	速 度
最前部の運転室で、次の条件を全て満たしている場合。 ＊列車制御装置の信号の表示が確認できること ＊全車一斉にブレーキ操作が可能なこと	25 k m/h 以下
推進運転の状態で入換合図による運転を行う場合	15 k m/h 以下
上記以外の場合	

2. 推進運転をするときは、推進運転合図により行う。この場合乗務員用車内電話による通告を原則とし、使用できないときは、車内ブザー合図や車内放送及び合図灯等、合図者の意思が確実に伝達できる手段を講じなければならない。
3. 運転の途中で推進運転合図が確認できなくなった場合は、直ちに停止しなければならない。

第 3 章 車両の入換え

A. 通則

第 100 条：車両の入換え

車両の入換えは、入換信号機又は入換合図によって行わなければならない。

B. 構内運転

第 101 条：構内運転の意味

1. 構内運転とは、入換信号機の表示に従い車両を運転するときの運転方法をいう。
2. この運転方法が適用されるのは、次の通りである。
 - a. 停車場構内の運転
 - b. 検車区構内の運転。ただし、検車区構内の運転を支障しない車両工場の線路については、この規則を適用しない。

第 102 条：構内運転をする車両のブレーキ

1. 構内運転をする車両のブレーキは、次のとおりとする。
 - a. 運転室から全ての車両を一斉に制御できなければならない。
 - b. 制動軸数の割合は、連結軸数に対して 100%でなければならない。
2. 故障等で制動軸数が不足した場合、制動軸数が 50%以上のときは、15km/h 以下の速度で運転することができる。

第 103 条：構内運転をするときの運転位置

構内運転をするときは、最前部の運転室で運転しなければならない。

第 104 条：構内運転をするときの列車制御装置の取扱い

1. 構内運転をするときは、列車制御装置を使用するものとする。
2. 前項の規定にかかわらず、列車制御装置が設備されていない区間の構内運転をするときは、車両を列車制御装置の設備の終端部から、それに応じた取扱いをしなければならない。
3. 各 OU 長は、列車制御装置が設備されていない区間を運転する場合の詳細な取扱いについて、予め定めておかなければならない。

第 105 条：構内運転区間の列車制御装置が使用できないとき

故障その他の事由により構内運転区間の列車制御装置が使用できないときは、次に掲げる取扱いをしなければならない。

1. 地上に入換信号機が設置されている場合は、非常運転スイッチを使用し、入換信号機の表示に従い、構内運転の速度で運転することができる。
2. 地上に入換信号機が設置されていない場合若しくは入換信号機が故障の場合は、入換合図の表示に従い、入換合図の速度で運転することができる。

C. 入換合図による運転

第 106 条：入換合図による運転の意味

入換合図による運転とは、車両の移動、解放又は連結のために入換合図により行う運転方法をいう。

第 107 条：入換合図による運転をするときの列車制御装置の取扱い

1. 入換合図による運転をするときは、列車制御装置を使用しないものとする。
2. 各 OU 長は、入換合図による運転を行う場合の詳細な取扱いについて、予め定めておかなければならない。

第 108 条：入換合図による運転と合図

運転士は、入換合図による運転をするときは、入換合図を受けなければ車両を運転してはならない。

第 109 条：入換合図による運転開始前の取扱い

1. 入換合図者は、入換合図による運転を開始する前に、次に掲げる取扱いをしなければならない。
 - 1.1 入換合図者は、次に掲げる内容について事前に確認する。
 - 1.1.1 運転する線路に支障がないこと。
 - a. 運転する区間にある転てつ機が、進路に対し正当方向に開通していること。
 - b. 留置車両の有無。この場合、留置車両がある場合は、そこまでの距離。

- c. 使用する線路の長短。特に、線路の終端部付近を運転する場合は、停止位置から線路の終端部分までの距離。
- 1.2 入換合図者は、推進運転等の理由により入換合図による運転する場合であって、入換信号機が使用できるときは、進路を確認するため入換信号機を使用することができる。この場合、入換信号機を使用することができる区間は、車両停止標識の設置位置までとする。
- 2. 入換合図者は、運転士に対して、次に掲げる内容について事前に通告する。
 - 2.1 運転する区間。
 - 2.2 運転する線路に支障がないこと。
 - a. 運転する区間にある転てつ機が、進路に対し正当方向に開通していること。
 - b. 留置車両の有無。この場合、留置車両がある場合は、そこまでの距離。
 - c. 使用する線路の長短。特に、線路の終端部付近を運転する場合は、停止位置から線路の終端部分までの距離。
 - 2.3 必要により運転速度
- 3. 運転士や関係者と、次に掲げる内容について事前に打合せる。
 - a. 作業の順序
 - b. 作業の方法

第 110 条：入換合図による運転をするときの関係信号機の手配

入換合図による運転をするときは、原則として常置信号機は使用しない。このため、第 12 条に規定する常置信号機の手配者は、使用する線路に関係ある入換信号機に停止信号を表示し、進路に関係あるてこを定位としなければならない。

第 111 条：入換えの禁止

- 1. 次に掲げる場合は、原則として車両の入換えを禁止する。
 - a. 列車の進行してくる方向に対して、駅の境界の外にまで及ぶ場合。
 - b. 他の列車を駅外に停止させて行う場合。
- 2. 列車の進入する線路を開通させる等、緊急やむを得ない事由がある場合であって、OCC 長の指示を受けたときは、この限りでない。また、OCC 長は入換えを行う区間を十分考慮し、その区間の外方に進行して来る列車を停止させた後でなければ、入換えの指示を与えてはならない。

第 112 条：列車の入換え

列車の入換えをするときは、これを車両の入換えとして取り扱うものとする。

D. 進路の構成

第 113 条：進路の構成

列車等の進路の構成は、中央制御により OCC 長が行うものとする。ただし、次に掲げる場合は、現地制御で駅長が行うものとする。

1. 中央制御ができないとき、または OCC 長が必要と認めたとき。
2. 前号にかかわらず、検車区構内における車両の進路の構成は、検車区長が行うものとする。
ただし、設備の仕様上、検車区構内の進路構成を OCC から行うことが前提となっている場合は、OCC 長が行う。

第 114 条：中央制御及び現地制御

1. 中央制御から現地制御への切換え及び現地制御から中央制御への復帰は、OCC 長の指令により行うものとする。
2. OCC 長及び駅長又は検車区長は、次のことを記録しなければならない。
 - a. 現地制御の開始時刻と終了時刻
 - b. 実施事項（切替の理由等）

E. 転てつ器の取扱い

第 115 条：転てつ器の定位

転てつ器は、次に掲げる方向に開通しておくことをその定位とする。

1. 本線路と本線路とを分岐する転てつ器は、主要な本線路の方向
2. 本線路と側線とを分岐する転てつ器は、本線路の方向
3. 本線路又は側線と安全側線とを分岐する転てつ器は、安全側線の方向
4. 側線と側線とを分岐する転てつ器は、主要な側線の方向

第 116 条：転てつ器の定位復元

転てつ器は、列車等を通過させるためにこれを反位に開通した場合は、その使用が終わった後、速やかにこれを定位に復さなければならない。ただし、列車制御装置を使用するときは、この限りでない。

第 117 条：故障転てつ器を鎖錠した場合の取扱い

1. 連動装置の故障その他の事由により、列車等の進路にある転てつ器を鎖錠することができないときは、駅長は列車等が通過する前に専用の鎖錠金具（key bolt）を使用して、せん端軌条を鎖錠しなければならない。ただし、次の各項目を全て満たした場合は、鎖錠金具で鎖錠したものとみなす。
 - a. 転てつ器を個別てこ又は手回しハンドル等により転換し、転てつ器が完全に転換したことを表示灯等によって確認した場合。
 - b. 前項の処置を行った後、その転てつ電源を「切」とする等、せん端軌条が絶対に動かない処置をした場合。
2. 鎖錠金具により転てつ器を鎖錠したときは、駅長はその旨を OCC 長に報告し、OCC 長は運転士にこれを通告しなければならない。また、駅長は必要により運転士に通告しなければならない。

第 118 条：鎖錠できない転てつ器の確認

連動装置により鎖錠することのできない転てつ器については、転てつ器取扱者は、車両の通過前にこれが正当方向に開通していることを確認しなければならない。

F. 車両の留置

第 119 条：車両の留置位置

1. 車両は、車両接触限界の内方であって、かつ、ブレーキを緩めた状態でも自然に動き出さない勾配である線路に留置しなければならない。
2. 前項は、監視に当たる係員を配置して必要に応じて停止手配がとれる体制を整えるか、又は動力の遮断、手歯止の装着等の措置を行った場合は、この限りでない。

第 120 条：車両の留置

車両を留置するときは、次により取り扱うものとする。

1. 運転士は、転動を防止するためにブレーキの緊締及び制御器の鎖錠をし、必要により手歯止を使用しなければならない。
2. 入換合図者は、車両の入換作業に従事したときは、前号の規定による手歯止の使用を確認しなければならない。

第 121 条：車輪止

駅長又は検車区長は、車輪止を装置してある線路に車両を留置したときは、次により取扱うものとする。

1. 留置車両あり 閉じる。
2. 留置車両なし 開く。

車輪止め使用状況の写真を添付

第VI編 信号

第 1 章 総則

第 122 条：鉄道信号と運転の関係

運転士は、鉄道信号が表示する条件に従って運転しなければならない。

第 123 条：鉄道信号の種類

1. 鉄道信号の種類は、次のとおりとする。

- a. 信号

形、色、音等により列車等に対して、一定の区間内を運転するときの条件を表示するもの。

- b. 合図

形、色、音等により係員相互間でその相手者に対して、合図者の意思を表示するもの。

- c. 標識

形、色等により物の位置、方向、条件等を表示するもの。

- これらの形状や色は、予めこれを定めて使用しなければならない。

第 124 条：表示の方式

昼間と夜間とで表示方式が異なる鉄道信号は、次の方式により表示を行い、その条件が確実に相手者に伝わる方法をとらなければならない。

条 件	表示方式
日の出から日没まで	昼間の方式
日没から日の出まで	夜間の方式
トンネル内	
地上区間で悪天候等の理由により、信号の表示や識別し難いとき	

第 125 条：進行を指示する信号と運転速度の関係

- 列車は、信号機に進行を指示する信号が表示されたときは、これに応じた速度以下で運転しなければならない。
- 各 OU 長は、進行を指示する信号と運転速度との関係に関する詳細な取扱いについて、予め定めておかなければならない。

第 126 条：注意信号の表示

- 列車または車両は、地上信号機に注意信号が表示されたときは、次の地上信号機に停止信号または注意信号の表示があることを予期して進行しなければならない。
- 入換信号機によって運転する場合、次に入換信号機を設けていないときは、車両停止標識または車止め標識の位置までに停止することを予期して進行しなければならない。

第 127 条：手信号による進行信号の表示

列車は、手信号による進行信号を受けた場合、運転士は次のような取扱いをしなければならない。

条 件	取扱い
手信号を表示する旨の予告を受けているとき	その表示箇所を越えて進行する。

手信号を表示する旨の予告を受けていないとき	場内標識又は出発標識の位置で一旦停止して、手信号による旨の通告を受けた後、進行しなければならない。
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第 128 条：列車等を徐行させる場合に用いる信号の表示がある場合

列車等を徐行させる場合に用いる信号を受けた場合、運転士は次のような取扱いをしなければならない。

信号の種類	取扱い
徐行信号	指定の速度以下でその表示箇所を越えて進行する。
徐行予告信号	次に徐行信号の表示があることを予期して、その表示箇所を越えて進行する。
徐行解除信号	列車の最後部が、その表示箇所を越えた後に徐行を解除する。

第 129 条：速度制限標識のある場合

列車等が速度制限標識の設けてある区間に進入するときは、運転士は次のような取扱いをしなければならない。

条 件	取扱い
列車の先頭が、速度制限標識が設置されている区間に進入するとき	指定された制限速度以下で、標識が設置されている区間に進入する。
列車の最後部が、速度制限標識が設置されている区間を通過したとき	速度制限を解除する。

第 130 条：絶対停止信号及び停止信号の表示と運転取扱いの関係

1. 列車は、車内信号機または地上信号機に絶対停止信号及び停止信号が表示されたときは、次のように取り扱うことを原則とする。
 - a. 絶対停止信号の場合は、ブレーキ距離の範囲内に列車等があるか線路に支障があることを予期して、直ちに非常ブレーキにより停止しなければならない。
 - b. 停止信号の場合は、この先に絶対停止信号の区間があることを予想して、常用ブレーキにより速やかに停止しなければならない。
2. 前項の規定により停止した列車は、次の各号のいずれかに該当しなければ進行してはならない。

- a. 車内信号機または地上信号機に進行信号が表示されたとき。
 - b. 停車場構内においては、OCC 長の指令または駅長から進行の指示を受けたとき。
 - c. 前号以外の場所においては、OCC 長から非常運転の指令を受けたとき。
3. 各 OU 長は、停止信号と運転取扱いに関する詳細な取扱いについて、予め定めておかねばならない。

第 131 条：車内信号機または地上信号機以外の停止信号の表示

- 1. 列車等は、車内信号機または地上信号機以外に、手信号や特殊信号による停止信号が表示されているときは、直ちに停止しなければならない。
- 2. 前項の規定により停止した列車等は、進行を指示する信号が表示されるかまたは他の指示があるまで進行してはならない。
- 3. 各 OU 長は、車内信号機または地上信号機以外で停止信号が表示された場合の運転取扱いに関する詳細について、予め定めておかねばならない。

第 132 条：信号の兼用禁止

1 つの信号機を、2 以上の進路で兼用してはならない。ただし、信号機に付属する進路表示機等の設備により、1 つの信号機でも特定の進路に対する表示であることが明確に識別できる場合は、この限りでない。

第 133 条：信号機の表示不良や故障の場合

- 1. 信号機の表示不良や故障の場合、運転士は次のような取扱いをしなければならない。

条 件	取扱い
車内信号機または地上信号機の故障等により、信号が表示されないとき	直ちに停止し、OCC 長に報告して指示を受けなければならない。
信号機に付属する情報装置等に情報が表示されないとき	
不正確な表示のあったとき	
信号機と手信号が異なった信号を表示しているとき	列車等の運転に大きな制限を与える信号の表示に従うものとする。ただし、手信号による旨の予告を受けたときは、手信号の表示によらなければならない。

2. 各 OU 長は、信号機の表示不良や故障の場合の運転取扱いに関する詳細について、予め定めておかなければならない。

第 134 条：車内信号機の使用停止

1. 次の運転を行う場合で車内信号機の表示によらない場合は、この表示を消灯させる等の取扱いを行う。
 - a. 速度制御式を変更してバックアップ・システムによる運転
 - b. 閉そく区間を定めて安全確保を行う運転
 - c. 伝令法
2. 構内運転を行うときも、車内信号機の表示を消灯させるものとする。
3. 各 OU 長は、車内信号機の使用を停止する場合の運転取扱いに関する詳細について、予め定めておかなければならない。

第 135 条：地上信号機の使用停止

1. 地上信号機の使用を停止するときは、次のような取扱いをしなければならない。
 - a. OCC 長は、使用を停止することを運転士に通告しなければならない。
 - b. 使用を停止する地上信号機は、表示を消灯させる。
 - c. 使用を停止していることが明確にわかるよう、覆いをする等の処置を行う。
2. 各 OU 長は、地上信号機の使用を停止する場合の運転取扱いに関する詳細について、予め定めておかなければならない。

第 136 条：運転士及び車掌の信号確認

1. 運転士は、信号の表示を確認し、これに従わなければならない。
2. 車掌は、列車を出発させるときは、進路の出発反応標識の表示を確認しなければならない。
3. 推進運転をするとき、最前部に乗務する乗務員は、進路及び鉄道信号の表示または表示状態を確認し、これに従わなければならない。
4. 各 OU 長は、運転士や車掌が信号等を正確で確実に確認するための手順について、予め定めておかなければならない。また、運転士や車掌はこの手順を守り、信号の誤認を防止しなければならない。

第2章 地上信号機

A. 総則

第137条：地上信号機の意味

地上信号機とは、地上の定められた場所に設置して信号を表示するものをいう。

第138条：地上信号機の種類

地上信号機は、入換信号機と進路表示機に分けるものとする。

1. 入換信号機は、構内運転をする車両に対し信号の表示を行うものとする。
2. 進路表示機は、入換信号機を2つ以上の進路に分岐する線路に共用するときに、その信号機に付属して車両の進路を表示するものとする。

第139条：地上信号機の表示

地上信号機が設置されている路線のOU長は、地上信号機の種類や表示の方法等の詳細について、予め定めておかなければならない。

B. 信号機の取扱い

第140条：信号機の定位

信号機の表示の定位は、次のとおりとする。

1. 入換信号機の定位 停止信号の表示
2. 進路表示機の定位 当該進路表示機が付属している入換信号機が進行を指示する信号を表示しているときは表示し、停止信号を表示しているときは表示しない。

第141条：手動進路制御で車内信号機に進行信号を表示する時機

手動進路制御で車内信号機に進行信号を表示する時機は、列車の運転を開始する直前とする。

第142条：入換信号機に進行を指示する表示の条件

入換信号機に進行を指示する信号は、停止信号を表示する入換信号機の外方の入換信号機に表示する。

第 143 条：入換信号機に進行を指示するを表示する時機

入換信号機に進行を指示する信号を表示する時機は、構内運転を開始する直前とする。

第 144 条：通過する列車を臨時に停止させる場合

停車場を通過する列車を臨時に停止させる場合は、列車無線装置により列車の停止を指令する。ただし、手動で進路制御している場合は、出発進路を定位とした上で、必要により列車に対して停止手信号を表示する。

第 145 条：連動装置故障の場合の取扱い

1. 連動装置が故障のため使用することができないときは、次のような取扱いをしなければならない。

取扱者	取扱い
駅 長	OCC 長に報告してその指示を受けなければならない。
OCC 長	駅長に対し、車内信号機または地上信号機の使用を停止し、手信号による運転を行う旨の指示をしなければならない。

2. 手信号により進行信号を表示するときは、進路は、列車が進む正しい方向にしておかなければならない。
3. 各 OU 長は、連動装置故障時の取扱いの詳細について、予め定めておかなければならない。

第 146 条：進路表示機故障の場合の取扱い

進路表示機が故障のため使用することができないときは、次のような取扱いをしなければならない。

取扱者	取扱い
OCC 長または 検車区長	進路表示機が故障して使用できないことを、運転士に通告しなければならない。
運転士	前項の通告を受けた場合を除き、進路表示機が進路の表示をしないときは、その外方で一旦停止して、OCC 長または検車区長の指示を受けなければならない。

第 147 条：入換信号機が故障の場合

入換信号機が故障のため使用することができないとき、入換合図者は、次のような取扱いをしなければならない。

1. 進路上の区間にある関係転てつ器が正しい方向に開通していることを確認する。
2. 運転を行う区間に列車等の無いこと及び進路上に支障が無いことを確認する
3. 上記 1、2 の取扱いが完了後、その旨を運転士に通告し、入換合図により車両の入換えを行わなければならない。

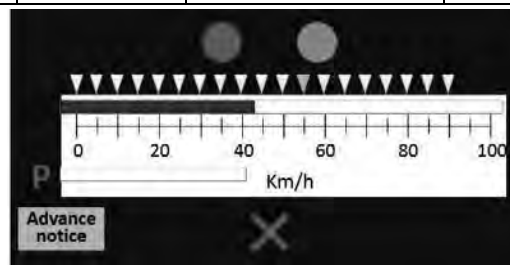
第 3 章 車内信号機

第 148 条：車内信号機の信号表示の方式

各 OU 長は、車内信号機による信号の種類及び表示の方式等の詳細について、予め定めておかなければならない。

例

信号の種類		表示	車内信号機の表示	速度 (km/h)
停止信号	02 信号	x	-	停止 (非常ブレーキ)
	01 信号	●	0	停止 (常用ブレーキ)
			P	過走防護区間の許容速度
進行を指示する信号		●	25~90 (km/h)	25~90 (km/h)



第 149 条：列車制御装置による自動速度制御

列車は、列車制御装置により、速度を自動的に制御して運転するものとする。

第 4 章 臨時信号機

第 150 条：臨時信号機の意味

臨時信号機とは、線路の故障その他の事由により、列車等が通常で速度で運転をすることができないときに、その箇所に臨時に設けて信号を表示するものをいう。

第 151 条：臨時信号機の種類及び取扱い

臨時信号機の種類は、次のとおりとする。

信号機の種類	意味	取扱い
徐行信号機	徐行運転を行う区間に進入する列車等に対して、徐行信号を表示するもの。	徐行運転を行う区間の始端に設置する
徐行予告信号機	徐行信号機と一緒に設置されるもので、この先に徐行信号機が表示されていることを予告するもの。	徐行信号機の外方に設置する。設置する場所は、徐行予告信号機の表示を確認してから徐行運転を行う区間に進入するまでに、徐行信号機に指定された速度以下に減速可能な位置でなければならない。
徐行解除信号機	徐行運転を行う区間から進出する列車等に対して、徐行区間が終了したことを表示するもの	徐行運転を行う区間の終端に設置する

第 152 条：臨時信号機の表示の方式

各 OU 長は、臨時信号機の種類別の表示の方式等の詳細について、予め定めておかなければならない。

第 153 条：列車制御装置により臨時信号を表示する場合の速度制御

列車制御装置により臨時信号機を表示する場合は、次のような速度制御をしなければならない。

1. 徐行運転を必要とする区間に進入するまでに、指定された徐行速度以下に減速可能な位置から、速度制御を開始する。
2. 徐行運転を必要とする区間から列車の最後部が進出するまで、指定された徐行速度以下に速度制御を行う。
3. 上記 1、2 に必要な運転速度情報を、車内信号機に表示する。

第 154 条：臨時信号機の使用の期間、区域及び速度の指定

臨時信号機の使用の期間、区域及び速度は、運転責任者がこれを指定しなければならない。
ただし、緊急の場合は、OCC 長の指令で行うことができる。

第 155 条：徐行信号機の速度表示

徐行信号機を設けたときは、列車等を徐行させるための制限速度を表記しなければならない。

第 5 章 手信号

A. 通則

第 156 条：手信号の意味

手信号とは、旗または合図灯により信号を表示するものをいう。手信号を表示しなければならないのは、次の場合である。

1. 信号機を使用することができないとき。
2. 信号機を設けていない場所で信号を表示する必要があるとき。

第 157 条：手信号の名称及び確認距離

1. 手信号の名称は、次のとおりとする。

手信号の名称	意 味
停止手信号	停止信号
徐行手信号	徐行信号
進行手信号	進行信号

2. 手信号に使用する旗及び合図灯は、400m 以上の距離で確認できるものでなければならない。

第 158 条：手信号の表示の方式

各 OU 長は、手信号の種類別の表示の方式等の詳細について、予め定めておかなければならない。

第 159 条：手信号による停止信号の表示

手信号による停止手信号は、次のいずれかに該当する場合に表示する。

1. 故障その他の理由により、停車場構内で列車制御装置が使用できないとき、または停車場で車内信号機が使用できないとき。この場合、駅の境界または出発標識の位置で停止手信号を表示しなければならない。
2. 列車防護を行うとき。
3. 列車等を臨時に停止させる場合であって、その停止の限界を示すとき。
4. 伝令法を施行して運転する救援列車に対して、停止させる限界を示すとき。
5. 複線区間で退行運転により反対方向に運転する列車が、停車場に進入する場合。ただし、退行運転の場合でも列車制御装置が使用可能で、通常の運転を同様の安全が確保できる

第 160 条：手信号による進行信号の表示

前条の場合において、手信号による進行信号を表示して列車等を出発させる場合は、次のような取扱いをしなければならない。

取扱者	取扱い
OCC 長または OCC 長から指示 を受けた駅長	次の各号のうち、必要な確認を行う。 （１）進路上の区間にある関係転てつ器が正しい方向に開通していることを確認する。 （２）運転を行う区間に列車等の無いこと及び進路上に支障が無いことを確認する。 （３）転てつ器故障の場合、必要な鎖錠が完了したことを確認する。 （４）OCC 長及び運転士への通告が完了したことを確認する。
運転士	手信号による旨の予告を受けた場合で、手信号による進行信号の表示があるときは、その表示箇所を越えて進行することができる。

第 161 条：手信号を装置等で代用する場合

手信号を表示する場合、合図者ではなく装置等により表示することが可能な路線の OU 長は、当該の装置の表示の方法等の詳細について、予め定めておかなければならない。

第 162 条：手信号による徐行信号の表示

1. 手信号による徐行信号は、列車等を臨時に徐行させるときに表示する。
2. 前項の場合において、徐行速度及び徐行区間を運転士に通告しなければならない。

第6章 特殊信号

第163条：特殊信号の意味

特殊信号とは次の各号に該当するような場合に、炎や音または灯により信号を表示するである。

1. 予期しない箇所で特に列車等を停止させる必要が生じたとき
2. 天候の状態その他の事由により、信号の表示を識別することができないとき

第164条：特殊信号の種類及び表示の方式

1. 各OU長は、特殊信号による停止信号の種類及び表示の方式等の詳細について、予め定めておかなければならない。
2. 原則として、特殊信号は次のいずれかに該当する方式とし、どのような場合でも確実に特殊信号を表示できる方式を備えていなければならない。

種類	表示の方式
発炎信号	発煙筒により列車等を停止させるもの
発報信号	無線等の通信装置の機能により、列車等を停止させるもの
発光信号	地上に設置された赤色灯により、列車等を停止させるもの

3. 各OU長は、その路線で使用する特殊信号について、係員が確実に取扱うことが出来るよう教育しなければならない。

第165条：特殊信号の停止信号により停止した列車等の処置

特殊信号の停止信号により停止した場合は、次のような取扱いをしなければならない。

停止時の状況	取扱い
列車等の運転中に特殊信号の停止信号により停止したとき。	OCC長に報告し、その指示を受けなければならない。
発炎信号の場合、発煙筒の燃焼が終わったとき。また、運転中に火が消えた発煙筒を発見したとき。	

駅構内で特殊信号の停止信号により停止したとき。	OCC 長に報告すると共に、駅長からその指示を受けなければならない。
車両基地構内で特殊信号の停止信号により停止したとき。	検車区長に報告すると共に、駅長からその指示を受けなければならない。

第 166 条：発煙筒の仕様

1. 発炎信号で使用される発煙筒は、原則として次の仕様を満たしていなければならない。
 - a. 昼間や夜間及びトンネル内にかかわらず、発炎信号として識別できるものでなければならない。
 - b. 地上区間では、雨や風の中でも使用可能でなければならない。
 - c. 一定時間、燃焼し続けるものでなければならない。
 - d. 「製造年月日」と「使用可能な期限」が明記されていないといけない。
2. 発炎信号を表示する場合に発煙筒以外の器具を使用する場合は、これと同様の仕様でなければならない。

第 167 条：発煙筒の保管

1. 発炎信号で使用される発煙筒を保管するときは、次のような取扱いをしなければならない。
 - a. 火気や湿気等、発煙筒の品質や機能を劣化させる場所に保管してはならない。
 - b. すぐに取り出して使用できる場所に保管する。
 - c. 特に、乗務員室内に備え付けている場合は、緊急時に速やかに使用できるよう、その保管場所を明示する。
2. 各 OU 長は、発煙筒の保管に関する次の各項目について、予め定めておかなければならない。
 - a. 保管場所及び備え付けておくべき場所
 - b. 前号の各場所に配置する必要最低本数

第 6 編 信号

第 7 章 合図

A. 出発合図

第 168 条：出発合図の意味

出発合図とは、列車を出発させるときに駅長または車掌が運転士に対して行う合図をいう。

第 169 条：出発合図の方式

各 OU 長は、出発合図の方式等の詳細について、予め定めておかなければならない。

例：

- ワンマン運転列車を除き、出発合図の方法は次の通りとする。

合図の種類	合図の方式
ブザー方式	ブザー適度音一声
合図灯方式	緑色旗または緑色灯を表示する
乗務員用車内電話による通告方式	音声「発車よし」

- 乗務員用車内電話による通告方式は、ブザー方式を使用することができないときに使用する。

第 170 条：出発合図を行う場合

- 出発合図を運転士に対して行うのは、次の場合とする。

合図者	合図の意味
車 掌 (車両が乗務している 列車に限る)	列車を出発させる時で、出発させても問題がないとき。 また、駅長が「出発指示合図」を表示する必要がある取扱いを実施する場合で、駅長から出発指示合図を受けたとき。
駅 長	駅長が「列車間の安全確保」及び「列車の進路の安全」を保証する取扱いを行う場合で、決められた全ての取扱いが完了し、列車を出発させても問題がないとき。

- 前項 2 に関わらず、その他特に必要がある場合は、出発合図を行う。

第 171 条：出発合図を取消す場合の取扱い

出発合図を取り消すときは、直ちに列車を停止させる手配を行った後、運転士にその理由を通告しなければならない。

第 172 条：運転の途中から再出発する場合

1. 列車がアクシデント等により運転の途中で停止した後で再び運転を開始するときは、乗務員用車内電話等を使用し、口頭による出発合図を受けなければならない。
2. 運転士以外の乗務員に対して、列車を停止する事由がなくなったことを知らせる必要のあるときは、乗務員用車内電話等を使用し、口頭により通告しなければならない。

B. 出発指示合図

第 173 条：出発指示合図の意味

出発指示合図とは、次の場合に行う合図をいう。

合図者	合図の意味
駅 長	車掌に対し、出発合図を行う時機を指示するとき。（車両が乗務している列車に限る）
	駅長が「列車間の安全確保」及び「列車の進路の安全」を保証する取扱いを行う場合で、決められた全ての取扱いが完了し、列車を出発させても問題がないとき。
第 82 条から第 85 条に定めた「閉そく区間を定めて安全確保を行う運転」を行う場合で、「運転方法変更の手続及び指令者」	「運転方法変更の手続及び指令者」が、決められた全ての取扱いが完了し、乗務員に対して列車の出発を指示するとき。

第 174 条：出発指示合図の方式

各 OU 長は、出発指示合図の方式等の詳細について、予め定めておかなければならない。

例：出発合図の方式は、次の通りとする。

- (1) 第 173 条で駅長が乗務員に対して行う場合は、片腕を上には伸ばし高く上げ、左右に振るか緑色灯を高く掲げる。



(2) 第 173 条で「運転方法変更の手続及び指令者」が列車無線装置で乗務員に通告する場合は、口頭で「発車よし」。

第 175 条：出発指示合図の取消し

各 OU 長は、出発指示合図の取消し方式の詳細について、予め定めておかなければならない。

例：出発合図の取消し方法は、次の通りとする。

1. 両腕を高く挙げて左右に振るか、赤色灯を高く挙げて左右に動かす。



2. 列車無線装置で乗務員に通告する場合は、口頭で「発車待て」。

C. 乗務員用車内電話による通告

第 176 条：乗務員用車内電話による通告の意味

乗務員用車内電話による通告とは、車内乗務員用車内電話を使用し、乗務員間で合図に代えて行う通告をいう。

第 177 条：乗務員用車内電話による通告の用語

各 OU 長は、乗務員用車内電話による通告の用語について、予め定めておかなければならない。

例：乗務員用車内電話による通行の用語及び意味は、次の表の通りとする。

用語の種類	意 味
知らせ灯不点のときの出発合図	「発車よし」
出発合図の取り消し	「発車待て」
列車を停止させる	「停止せよ」
緊急停止させる	「急停止せよ」
停止位置の修正	車掌「停止位置を直せ」
	運転士「停止位置を直す」
運転の途中から再出発	運転士「発車良いか？」
	車掌「発車よし」
推進運転差し支えない	推進運転よし

D. 気笛合図

第 178 条：気笛合図の意味

気笛合図とは、気笛により行う合図をいう。

第 179 条：気笛合図の方式

各 OU 長は、気笛合図の方式について、予め定めておかなければならない。

例：気笛入換合図の種類及び方式は、次の表の通りとする。

No.	合図の種類	合図の方式
1	危険を警告するとき、または非常事故が生じたとき。	— — — — —
2	注意を促す必要があるとき	———

3	列車の接近を知らせる必要があるとき	————
4	工務または電気係員を呼び寄せるとき	———— ———— ————
5	列車防護を促すとき	—— ———— ——
6	列車防護を解除するとき	———— ——
7	2箇所以上で制御する列車等が力行運転に移るとき	———— ——
8	2箇所以上で制御する列車等が途中で惰行運転に移るとき	———— —— ——
9	ブレーキの緊締を促すとき	—— —— ——
10	退行運転を開始するとき	—— —— ——

合図の方式 ———— 長緩気笛
 ———— 適度気笛
 —— 短急気笛

E. 車内ブザー合図

第 180 条：車内ブザー合図の意味

1. 車内ブザー合図とは、車内ブザーを使用し、乗務員間で行う合図をいう。
2. 車内ブザー合図は、次の場合に行う。
 - a. 車掌が乗務している場合は、運転士に出発合図を送るとき。
 - b. 乗務員用車内電話が使用できない場合に、乗務員間で合図による意思の伝達を行うとき。

第 181 条：車内ブザー合図の方式

各 OU 長は、車内ブザー合図の方式について、予め定めておかなければならない。

例：車内ブザー合図の方式は、次の表の通りとする。

分類	車内ブザー合図	合図の方式
運転士から車掌 または 後部運転士へ	発車差し支えないか	——
	停止位置を直す	.. ——
	ブザー試験	.. —— ——
	非常ブレーキスイッチを操作せよ
	合図の取り消し	—— —— ——
車掌または	発車せよ	——

後部運転士から 運転士へ	停止位置を直せ	.. —
	ブザー試験	.. — —
	急停止せよ
	合図の取り消し	— — —

表中 — 適音ブザー、・短音ブザー

F. 推進運転合図

第 182 条：推進運転合図の意味

推進運転合図とは、列車の推進運転をするときに乗務員間で行う合図をいう。

第 183 条：推進運転合図の方式

1. 各 OU 長は、推進運転合図の方式について、予め定めておかなければならない。
2. 推進運転合図の方式は、乗務員間で意思が確実に伝わる方法をとらなければならない。

例：推進運転合図は、乗務員用車内電話による通告により表示する。ただし、乗務員用車内電話が使用できないときは、車内ブザー、車内放送装置及び合図灯を使用する。

合図の種別	合図の種類	合図の方式
ブザー	推進運転良いか	.. —
	推進運転良い
合図灯	推進運転差し支えなし	緑色灯
	停止せよ	赤色灯

表中 — 適音ブザー、・短音ブザー

G. 入換合図

第 184 条：入換合図の意味

入換合図とは、入換合図による運転をするときに、合図者が運転士に対して行う合図をいう。





第 185 条：入換合図の方式

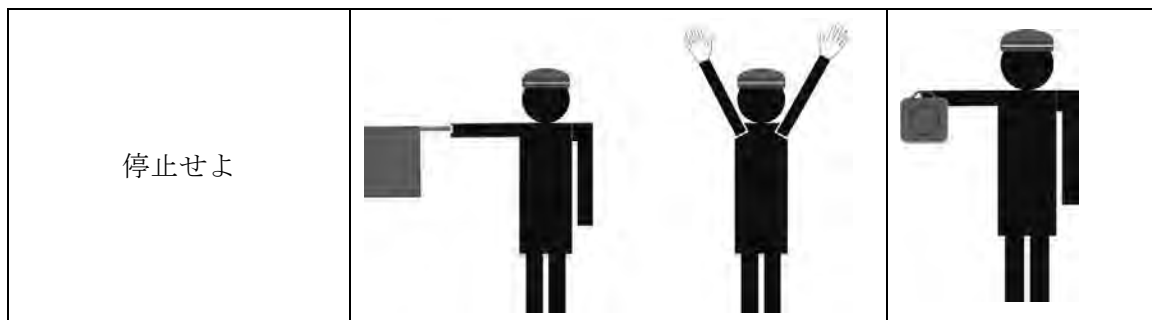
1. 各 OU 長は、入換合図の方式について、予め定めておかなければならない。

2. 入換合図は、合図者がこれを継続して表示することを原則とする。また、運転士は入換合図による運転中に合図を確認できないときは、直ちに停止の手配をしなければならない。

例：入換合図の種類及び方式は、次の表の通りとする。

合図の種類	合図の方式	
	昼間	夜間
合図者の方へ来たれ	緑色旗を左右に動かす。ただし、緑色旗が無い時は、片腕を左右に動かして代用することが出来る。	緑色灯を左右に動かす
合図者から去れ	緑色旗を上下に動かす。ただし、緑色旗が無い時は、片腕を左右に動かして代用することが出来る。	緑色灯を上下に動かす
停止せよ	赤色旗を表示する。ただし、赤色旗が無い時は、両腕を高く挙げて代用することが出来る。	赤色灯を表示する

合図の種類	合図の方式	
	昼間	夜間
合図者の方へ来たれ		
合図者から去れ		



H. 移動禁止合図

第 186 条：移動禁止合図の意味

移動禁止合図とは、次の場合に表示する合図をいう。

1. 車両の連結や切り離し作業を行う場合で、移動を禁止するとき。
2. 車両の検査を行うために必要ある場合において、移動を禁止するとき。

第 187 条：移動禁止合図の取扱い

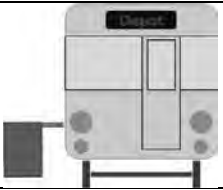
前条の場合において、作業を担当する係員は、次のような取扱いを行う。

1. 当該作業開始前に「移動を禁止する」の合図を表示しなければならない。
2. 当該作業終了時に「移動の禁止を解除する」の合図を表示しなければならない。

第 188 条：移動禁止合図の方式

各 OU 長は、移動禁止合図の種類及び方式について、予め定めておかなければならない。

例：移動禁止合図の種類及び方式は、次の表の通りとする。

合図の種類	合図の方式	画像
移動を禁止する	赤色旗を掲出する	
移動の禁止を解除する	赤色旗を撤去する	旗を撤去

I. 停止位置指示合図

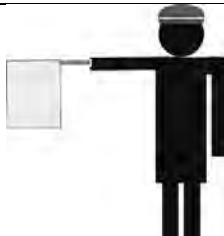

第 189 条：停止位置指示合図の意味

1. 停止位置指示合図とは、駅長または検車区長が、運転士に対して列車等を停止させる位置を示す必要のあるときに行う合図をいう。
2. 合図を表示する位置は、停止させる位置で行う。

第 190 条：停止位置指示合図の方式

各 OU 長は、停止位置指示合図の方式について、予め定めておかなければならない。

例：停止位置指示合図の方式は、次の通りとする。

合図の方式	
昼間	夜間
	
白色旗を表示する	白色灯を表示する

第 8 章 標識

A. 列車標識

第 191 条：列車標識

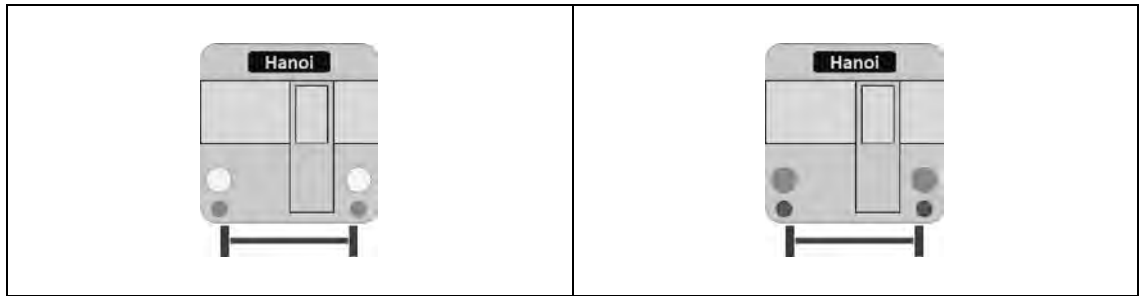
列車には、列車標識を掲げなければならない。

第 192 条：列車標識の表示の方式

各 OU 長は、列車標識の表示の方式について、予め定めておかなければならない。

例：列車標識の種類及び表示の方式は、次のとおりとする。

前部標識	後部標識
列車の最前部車両の前面に白色灯 1 個以上を表示する	列車の最後部車両の後部両側に赤色灯各 1 個（合計 2 個）を表示する



第 193 条：列車標識の整備

列車標識の整備は、乗務員が行うものとする。

第 194 条：列車標識不備の場合の取扱い

駅長は、列車標識が不備であることを確認したか、不備である旨の連絡を受けた場合は、次に掲げる取扱いをしなければならない。

1. 列車を停止させて、乗務員にこれを整備させなければならない。
2. 列車が出発し、または通過した後で列車標識が不備であることに気づいたときは、直ちに OCC 長に報告しなければならない。

第 195 条：列車標識不備の報告を受けた OCC 長の取扱い

列車標識が不備である旨の報告を受けた OCC 長は、直ちに当該列車の乗務員にその旨通告しなければならない。この場合において、後部標識が不備であるときは、後続列車の運転士にもあわせて通告する。

第 196 条：途中停止した場合の後部標識の確認

運転の途中で列車が停止したときは、車掌は、後部標識が整備されていることを確認しなければならない。

B. 入換動力車標識

第 197 条：入換動力車標識

入換えをする車両には、入換動力車標識を掲げなければならない。

第 198 条：入換動力車標識の表示の方式

各 OU 長は、入換動力車標識の表示の方式について、予め定めておかなければならない。

例：入換動力車標識の方式は、以下の通りとする。



C. 軌道回路標識

第 199 条：軌道回路標識の設置

軌道回路を持つ路線では軌道回路標識を設置し、その軌道回路に進入する列車に対して、その境界を示さなければならない。

第 200 条：軌道回路標識の表示の方式

軌道回路を持つ路線の各 OU 長は、軌道回路標識の表示の方式について、予め定めておかなければならない。

D. 場内標識

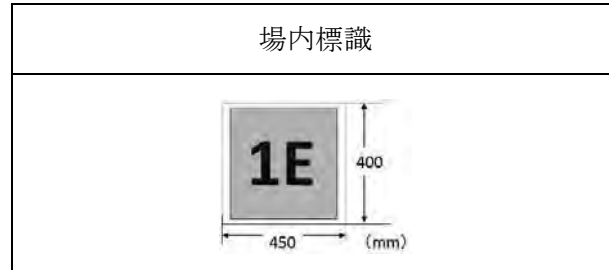
第 201 条：場内標識の設置

1. 軌道回路を持つ路線では場内標識を設置し、停車場に進入する列車に対して、駅の境界を示さなければならない。
2. 軌道回路を持たない路線では、場内標識に代わり、停車場に進入する列車に対して、駅の境界を示す標識等を設置しなければならない。

第 202 条：場内標識の表示の方式

軌道回路を持つ路線の各 OU 長は、場内標識の表示の方式について、予め定めておかなければならない。

例：場内標識の方式は、以下の通りとする。



反射板を使用 (単位：mm)

E. 出発標識

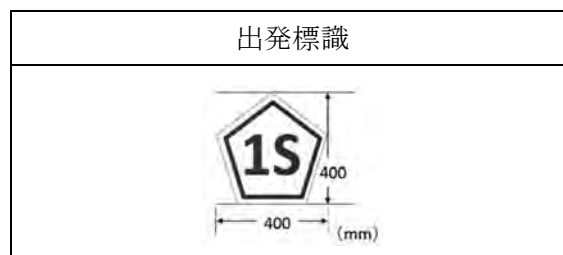
第 203 条：出発標識の設置

1. 軌道回路を持つ路線では出発標識を設置し、停車場から進出する列車に対して、駅の境界を示さなければならない。
2. 軌道回路を持たない路線では、出発標識に代わり、停車場から進出する列車に対して、手信号を表示する位置を示す標識等を設置しなければならない。

第 204 条： 出発標識の表示方式

軌道回路を持つ路線の各 OU 長は、出発標識の表示の方式について、予め定めておかなければならない。

例：出発標識の方式は、以下の通りとする。



反射板を使用 (単位：mm)

F. 列車停止標識

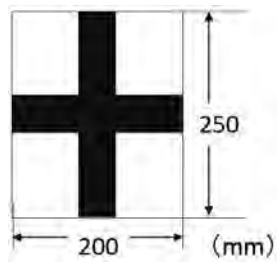
第 205 条：列車停止標識の設置

列車を停止させる限界を表示する必要があるときは、列車停止標識を設けなければならない。

第 206 条：列車停止標識の表示の方式

各 OU 長は、列車停止標識の表示の方式について、予め定めておかなければならない。

例：列車停止標識の表示の方法は、次の通りとする。



黒色十字形を画した白色四角板
または黒色十字形を画した白色
反射板

第 207 条：列車停止標識の取扱い

列車停止標識を設けてある線路に到着する列車は、列車停止標識を越えて停止してはならない。

G. 車両停止標識

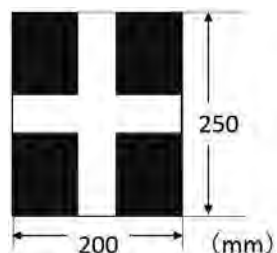
第 208 条：車両停止標識の設置

構内運転をする区間の終端で、入換信号機の設けていない線路に対して車両を停止させる限界を表示する必要がある箇所には、車両停止標識を設けなければならない。

第 209 条：車両停止標識の表示の方式

各 OU 長は、車両停止標識の表示の方式について、予め定めておかなければならない。

例：車両停止標識の表示の方法は、次の通りとする。



白色十字形を画した黒色四角板または
白色十字形を画した反射板

第 210 条：車両停止標識の制限

構内運転をする車両は、車両停止標識を越えて停止してはならない。

H. 車止標識

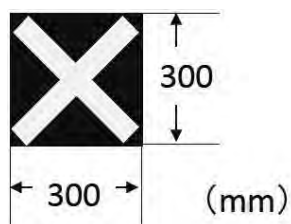
第 211 条：車止標識の設置

線路の終端を表示する必要がある線路には、車止標識を表示しなければならない。

第 212 条：車止標識の表示方式

各 OU 長は、車止標識の表示の方式について、予め定めておかなければならない。

例：車止標識の表示の方法は、次の通りとする。



黒色×字形を画した黒色四角板または×字形白色反射板

I. 出発反応標識



第 213 条：出発反応標識の設置

列車を出発させるとき、進路の開通状態を駅長または車掌に対し表示するために、出発反応標識を設ける。

第 214 条：出発反応標識の表示の方式

出発反応標識の設備がある各 OU 長は、出発反応標識の表示の方式について、予め定めておかなければならない。

例：出発反応標識の表示の方法は、次の通りとする。

表示の方式	
列車の進路が開通しているとき	列車の進路が開通していないとき
	

第 215 条：出発反応標識の確認と取扱い

出発反応標識を設置している駅では、次のような取扱いをしなければならない。

取扱者	取扱い
車掌	運転士に対して出発合図を行う前に、出発反応標識の表示を確認しなければならない。
駅長	乗務員に対して出発指示合図を行う前に、出発反応標識の表示を確認しなければならない。

J. 架線終端標識

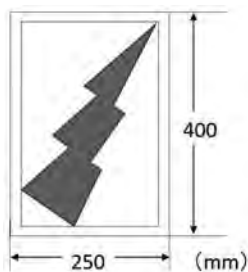
第 216 条：架線終端標識の設置

架線の終端が線路の終端よりも手前にある場合で、架線の終端を表示する必要があるときには、架線終端標識を設けなければならない。

第 217 条：架線終端標識の表示の方式

各 OU 長は、架線終端標識の表示の方式について、予め定めておかなければならない。

例：架線終端標識の表示の方法は、次の通りとする



赤色電光形を画した白色長四角板または
赤色電光形を画した白色長方形反射板

K. 転てつ器標識

第 218 条：転てつ器標識の設置

転てつ器には、必要に応じて転てつ器標識を設けなければならない。

第 219 条：転てつ器標識の表示の方式

各 OU 長は、転てつ器標識の表示の方式について、予め定めておかなければならない。





例

(1) 転てつ器が定位にあるとき

- 昼間 前方及び後方に対し、中央に白色線一条を横に画した青色円板
- 夜間 前方及び後方に対し紫色灯

(2) 転てつ器が反位にあるとき

- 昼間 前方及び後方に対し、中央に黒色線一条を矢はずに画した黄色矢はず形板
- 夜間 前方及び後方に対し、黄色灯

	表示の方式			表示の方式	
	昼間	夜間		昼間	夜間
定位			反位		

L. 諸標

第 220 条：駅区域標の設置

駅区域標は、駅内外の境界を示す必要ある駅に設ける。

第 221 条：駅区域標の表示の方式

各 OU 長は、駅区域標の表示の方式について、予め定めておかなければならない。

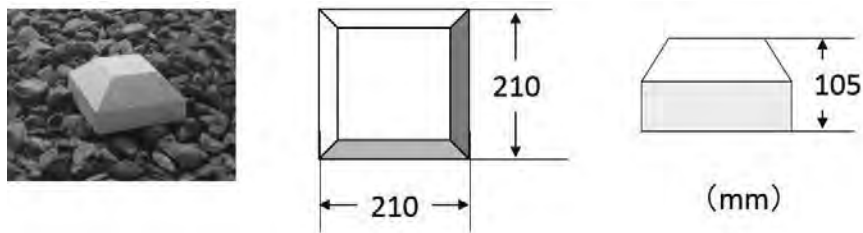
第 222 条：車両接触限界標識の設置

線路の分岐箇所又は交差箇所であって、各線路上にある車両が相互に支障しない限界に車両接触限界標を設ける。

第 223 条：車両接触限界標識の表示の方式

各 OU 長は、車両接触限界標識の表示の方式について、予め定めておかなければならない。

例：車両接触限界標識の表示の方式、色彩及び形状は、次の通りとする。



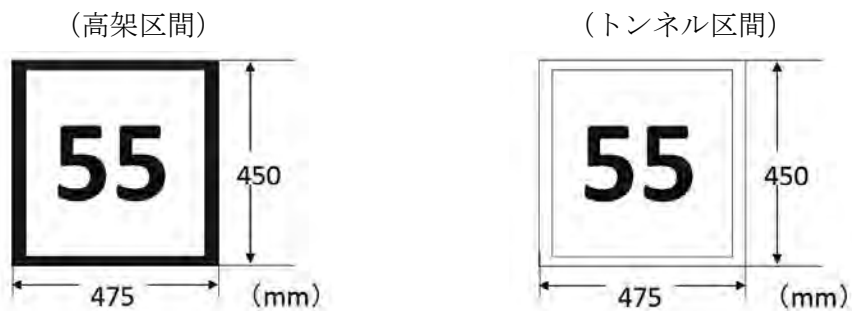
第 224 条：速度制限標識の設置

列車の速度を制限すべき区間の始端に、必要により速度制限標識を設ける。

第 225 条：速度制限標識の表示方式

各 OU 長は、速度制限標識の表示方式について、予め定めておかなければならない。

例：速度制限標識は、線路の制限速度を表示するものとし、その表示の方式、色彩及び形状は、次のとおりとする。ただし制限速度は時速 5km 単位で指定する。



備考 1 数字は、制限速度を示す。

2 反射材を使用する。

第 226 条：一旦停止標識の設置

車両が一旦停止を必要とする箇所に一旦停止標を設ける。

第 227 条：一旦停止標識の表示の方式

各 OU 長は、一旦停止標識の表示の方式について、予め定めておかなければならない。

第 228 条：力行標識及び惰行標識の設置

1. 運転士の運転操縦操の目印として、必要に応じ力行標識及び惰行標識を設置する。
2. 力行標識及び惰行標識の設置場所は、次のとおりとする。






標識	設置場所
力行標識	駅間で列車の力行運転を行う区間の始端
惰行標識	駅間で列車の惰行運転が適当であると認められる始端

3. 手動運転を行う場合で、運転曲線に沿った運転を行うときは、各標識の設置位置を目印に適切な運転操作を行う。

第 229 条：力行標識及び惰行標識の表示の方式

各 OU 長は、力行標及び惰行標の表示の方式について、予め定めておかなければならない。

例：

	力行標及び惰行標				
	第 2 段 制御区間	第 3 段 制御区間	第 4 段 制御区間	定速制御	惰行標
表示の 方式					

第 230 条：制動標識及び制動緩解標識の設置

1. 運転士の運転操縦操の目印として、必要に応じ制動標識及び制動緩解標識を設置する。
2. 制動標識及び制動緩解標識の設置場所は、次のとおりとする。

標識	設置場所
制動標識	列車の制動を開始する地点

制動緩解標識	列車の制動緩解を開始する地点
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第 231 条：制動標識及び制動緩解標識の表示の方式

各 OU 長は、制動標識及び制動緩解標識の表示の方式について、予め定めておかなければならない。

例：

	制動標及び制動緩解標	
	制動標	制動緩解標
表示の方式		

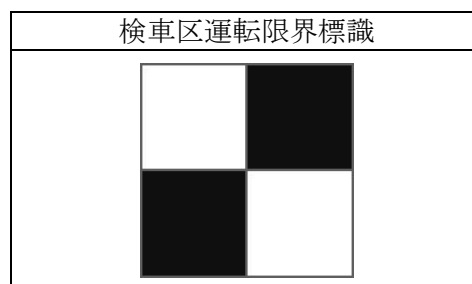
第 232 条：検車区運転限界標識の設置

検車区構内及び停車場構内において、検車区係員（運転取扱者）が運転できる限界を示す必要があるときに検車区運転限界標識を設ける。

第 233 条：検車区運転限界標識の表示の方式

各 OU 長は、検車区運転限界標識の表示の方式について、予め定めておかなければならない。

例：



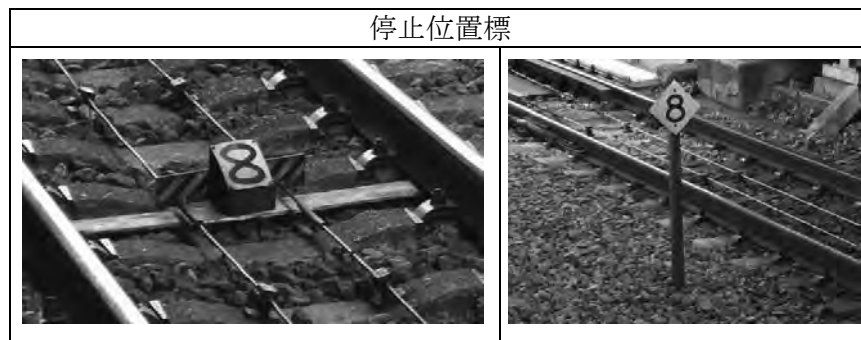
第 234 条：停止位置標識の設置

列車等の先頭部の停止位置を表示する必要がある箇所に、停止位置標識を設ける。

第 235 条：停止位置標識の表示の方式

各 OU 長は、停止位置標識の表示の方式について、予め定めておかなければならない。

例：組成車両数を同数の数字を表す四角板とする。



第 236 条：速度表示機の設置

構内運転を行う車両に対し、その線路を運転する速度を指定する必要があるときに、入換信号機と同じ場所に速度表示機を設け、運転速度を指定する。

第 237 条：速度表示機の表示の方式

各 OU 長は、速度表示機の表示の方式について、予め定めておかなければならない。

第 238 条：列車制御装置始端切換標識及び列車制御装置終端切換標識の設置

1. 列車制御装置の切換操作が必要な場合、この操作を行う地点を明示するために、列車制御装置始端切換標識及び列車制御装置終端切換標識を設置する。
2. 列車制御装置始端切換標識及び列車制御装置終端切換標識の設置場所は、次のとおりとする。

標識	設置場所
列車制御装置始端切換標識	列車制御装置が設備されている区間が開始する地点
列車制御装置終端切換標識	列車制御装置が設備されている区間が終了する地点

第 239 条：列車制御装置始端切換標識及び列車制御装置終端切換標識の表示の方式

各 OU 長は、列車制御装置始端切換標識及び列車制御装置終端切換標識の表示の方式について、予め定めておかなければならない。

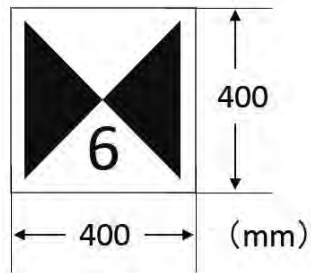
第 240 条：徐行区間通過標識の設置

列車等の最後部が徐行区間を通過したことを運転士に知らせるために、編成車両数以上の距離を隔てた線路内に徐行区間通過標識を設ける。

第 241 条：徐行区間通過標識の表示の方式

各 OU 長は、徐行区間通過標識の表示の方式について、予め定めておかなければならない。

例：徐行区間通過標識の表示の方式、色彩及び形状は、次のとおりとする。



第 242 条：電車線区分標識の設置

電車線の接続点の位置を表示する必要がある箇所には、電車線区分標識を設ける。

第 243 条：電車線区分標識の表示の方式

各 OU 長は、電車線区分標識の表示の方式について、予め定めておかなければならない。

第 244 条：軌道回路境界標識の設置

軌道回路境界標識は、ホーム区間に軌道回路境界がある駅において過走した列車を移動する場合、その取扱いの的確を期すため、必要によりこれを設ける。

第 245 条：軌道回路境界目標の表示方式

軌道回路境界目標の表示方式は、予め定めておくこと。

各 OU 長は、軌道回路境界標識の表示方式について、予め定めておかなければならない。

例：



第Ⅶ編 事故の処置

第 1 章 総則

第 246 条：応急復旧の体制

1. 事故が発生した場合における体制は、この実施基準のほか、別に定める規程による。
2. ここで言う「事故」とは、「運転事故」「電気事故」「災害」等を指す。

第 247 条：事故発生時の処置

1. 事故が発生した場合は、救助を先行させなければならない。ただし、異例の事態が発生したときは、その状況を的確に判断し、最も安全と認められる手段により、最善の処置をとらなければならない。
2. 事故の復旧作業をするときは、各関係の責任者は互いに協力して運転の早期再開と付帯事故の防止に努め、復旧見込時間及び作業の進行状況を逐次 OCC 長に報告しなければならない。
3. OCC 長は、前項 2 の報告内容を関係箇所に通告し、情報を共有しなければならない。また、事故が復旧したときは速報し、運転再開に向けた準備の開始について指令しなければならない。

第 248 条：事故発生時の指令系統

各 OU 長は、運転の指令系統とは別に事故発生時の指令系統について、予め定めておかなければならない。

第 249 条：駅において事故発生の場合

1. 駅において事故発生の場合は、次のような取扱いをしなければならない。

取扱者	取扱い
駅 長	直ちに関係係員に応急処置の指示を与え、その状況を OCC 長に報告し、必要により指示を受けなければならない。
OCC 長	OCC 長は、事故の状況により技術部門に対する救援が必要と判断した場合は、関係責任者にその状況を通告して、救援を指示しなければならない。

2. 各 OU 長は、駅において事故発生の場合の取扱いの詳細について、予め定めておかなければならない。

第 250 条：駅間の途中で事故発生の場合

1. 駅間の途中で事故発生の場合は、次のような取扱いをしなければならない。

取扱者	取扱い
乗務員	応急処置を行い、復旧に長い時間を要すると認めたときは OCC 長に報告し、必要により救援を求めなければならない。
OCC 長	乗務員から報告を受けた OCC 長は、その旨近隣の駅長に指令しなければならない。この場合において救援を要するときは、技術部門等の関係責任者にもその状況を通告して、救援を指示しなければならない。

2. 各 OU 長は、駅間の途中で事故発生の場合の取扱いの詳細について、予め定めておかなければならない。

第 251 条：長時間にわたる事故の場合の列車の取扱い

各 OU 長は、長時間にわたる事故の場合の列車の取扱いについて、予め定めておかなければならない。

第 2 章 列車等の事故

第 252 条：乗務員の異常報告

1. 列車等の運転または施設に異常を認めた乗務員は、OCC 長にその状況を報告しなければならない。ただし、駅構内においては、必要により駅長に報告するものとする。

2. 前項の報告を行った乗務員は、その列車等の乗務終了後、所属長に正確な状況を報告しなければならない。

第 253 条：事故の報告手段

1. 各 OU 長は、事故の報告手段について、予め定めておかなければならない。
2. 事故の報告手段は、使用する手段の有効性・確実性を考慮して複数の手段を定め、使用する優先順位を明確にしておかなければならない。

第 254 条：死傷事故が発生した場合

1. 乗務員は、列車等の運転中に死傷事故が発生したときや、線路に死傷者のあることを発見したときは直ちに停止しなければならない。
2. この場合、OCC 長または駅長にその状況を報告し、気笛合図等により係員の応援を求めなければならない。
3. どのような場合でも、人命救助を最優先とした処置をしなければならない。
4. 各 OU 長は、死傷事故が発生した場合の取扱いの詳細について、予め定めておかなければならない。

第 255 条：救援列車を運転する場合の取扱い

1. 故障のため運転中に停止した列車等を収容するために救援列車を運転するときは、次のような取扱いをしなければならない。

取扱者	取扱い
乗務員	<ol style="list-style-type: none"> a 救援列車が接近して来る方に対し、故障した列車から 50m 以上離れた地点で列車防護を行う。 b 故障した列車等は、救援列車が到着するまでその位置を移動してはならない。
OCC 長	<ol style="list-style-type: none"> a 基本的には後続列車を救援列車として、誘導併合する。 b 後続列車が無い場合や列車分離した車両を収容する場合、伝令法により救援列車の運転を行う。

2. 各 OU 長は、救援列車を運転する場合の取扱いの詳細について、予め定めておかなければならない。

第 256 条：列車等が分離したときの処置

1. 各 OU 長は、列車等が分離したときの処置について、予め定めておかなければならない。

2. 処置については、次の各状況についてそれぞれ定めなければならない。

- a. 貫通ブレーキが作動する車両が分離したとき。
- b. 貫通ブレーキの作動しない車両が分離したとき。

第 257 条：車両が暴走したときの処置

- 1. 各 OU 長は、車両が暴走したときの処置について、予め定めておかなければならない。
- 2. 処置については、次の各状況についてそれぞれ定めなければならない。
 - a. 暴走した車両を停止させる処置について明記しなければならない。
 - b. 停止させることができなかった場合の処置についても明記しなければならない。

第 258 条：転動防止の手配

乗務員は、運転中に故障その他の事由で停止したときは、必要により転動防止の手配をしなければならない。

第 259 条：運転士が運転室を離れる場合

列車等の停止中に、運転士が運転室を離れるときの取扱いを定めておくこと。

※ブレーキを緊締し、必要により転動防止の処置をした後制御器を鎖錠し、鎖錠鍵の携行等。

第 260 条：運転中に異常を認めた場合

運転中に異音、動揺、その他異常に気付いた乗務員は、直ちに列車等を停止させ、その事由を確かめ、その旨を OCC 長に報告し、指示を受けなければならない。

第 261 条：工事列車の承認

- 1. 故障その他により営業時間中に工事列車を運転する必要があるときは、工務及び電気の関係区長は OCC 長に報告し、承認を受けなければならない。
- 2. 報告を受けた OCC 長は、関係区所に指令しなければならない。

第 262 条：列車が停止位置を過走した場合の取扱い

- 1. 各 OU 長は、列車が駅に進入の際に、過走して停止位置を誤った場合の取扱いについて、予め定めておかなければならない。
- 2. 処置については、次の各状況についてそれぞれ定めなければならない。

- a. 列車が移動することにより、その後続列車の列車制御情報に変化があるとき
- b. 列車が移動することにより、その後続列車の列車制御情報に変化がないとき

第 263 条：駅間の途中で列車が運転不能になった場合の乗客の取扱い

1. 各 OU 長は、駅間の途中で列車が運転不能になった場合の乗客の取扱いについて、予め定めておかなければならない。
2. 次の各状況について、それぞれ詳細な取扱いを定めなければならない。

状 況	取扱い
救援の要請を受けた駅長が、やむを得ず乗客を線路内に下車させるとき	OCC 長の指示を受けなければならない
車内での火災等により、駅長の救援や OCC 長の指示を受ける時間がない緊急時	乗務員は、次の取扱いを行うことを基本とする。 a 列車防護を行い、現場に接近する他の列車の停止手配を行う。 b 必要により電車線の停電手配を行う。 c 乗客を下車させ安全な場所に誘導する。 d これらの処置を行いながら、速やかに OCC 長または駅長にその状況を報告し、救援を求めなければならない。

第 264 条：電車線の停電を行う場合の処置

1. 各 OU 長は、事故の発生により、電車線の停電を行う場合の取扱いについて、予め定めておかなければならない。
2. この場合、電車線の停電処置後、速やかにその状況を OCC 長に報告しなければならない。

第 265 条：事故復旧後に再び電車線の送電を開始する場合

1. 各 OU 長は、事故復旧後に再び電車線の送電を開始する場合の取扱いについて、予め定めておかなければならない。
2. 前項の場合、感電による付帯事故防止を図るため、送電開始前には必ず現地対策本部長と打合せを行った後でなければ、送電を開始してはならない。

第 266 条：出水または停電のため駅間の途中で長時間停止した場合の乗務員の処置

乗務員は、出水または停電のため長時間にわたり駅間に停止する場合は、自分の列車の詳細な位置を OCC 長に報告しなければならない。

第 267 条：事故や故障が発生した車両や施設の検査

事故や故障が発生した場合、保守を担当する責任者の検査や承認を受けた後でなければ、その車両や施設を列車運行に使用してはならない。

第 268 条：列車火災または施設火災が発生した場合の処置

1. 各 OU 長は、列車火災または施設火災が発生した場合の処置について、予め定めておかなければならない。
2. この場合、次のように取扱うこと基本とする。

取扱者	取扱い
乗務員	<ol style="list-style-type: none"> 1 駅間を走行中の列車に火災が発生したときは、原則として次の駅若しくは乗客を安全に避難誘導できる場所まで走行する。 2 駅間を走行中に車両が原因の火災が発生した場合は、電車線の停電手配をとらなければならない。 3 駅間に停止してしまった場合で車内に危険が無いと判断したときは、乗客が勝手に列車の外に脱出することを防止しなければならない。 4 付近の列車または駅や施設で火災が発生したときは、最寄りの駅に停車し、OCC 長の指示を受ける。 5 火災が発生している列車が停車している駅に接近した場合または駅で火災が発生している場合は、原則としてその駅は通過する。
OCC 長	<ol style="list-style-type: none"> 1 駅間を走行中の列車から火災発生連絡を受けた場合は、原則として次の駅若しくは乗客を安全に避難誘導できる場所まで走行するよう指示する。 2 列車または駅や施設での火災発生を確認したら、火災現場付近の列車は最寄りの駅に停車するよう乗務員に指示する。 3 火災が発生している駅に接近した列車がある場合は、その列車に対してその駅は通過するよう指示する。
駅長	駅構内で火災の発生を確認したら、直ちに OCC 長に報告し、適切な対応を取らなければならない。

3. 前項の他、乗客の避難や誘導、初期消火の対応、状況により電車線の停電手配等の詳細について、取扱者毎の処置を定めておかなければならない。

4. ここに定める以外の状況が発生した場合は、その状況を冷静に判断し、最も安全と思われる処置を行わなければならない。この場合、乗客の安全を最優先に考え、行動しなければならない。

第3章 列車防護

第269条：列車防護の意味

列車防護とは、列車等の停止を要する障害が発生した場合において、進行して来る列車等を停止させるために、列車等の制動距離を考慮して停止信号を表示する手段をいう。

第270条：列車防護の実施が必要な条件

1. 各 OU 長は、列車防護の実施が必要な条件について、予め定めておかななければならない。
2. この場合、次の各号の場合においては、必ず列車防護を行うよう定めなければならない。
 - a. 列車が脱線または転覆して、隣接する線路を運転する列車等の進路を支障したとき。
 - b. 故障等の理由により動けなくなった列車等が、救援列車を迎えるとき。
 - c. 工事列車が、更に他の工事列車を運転する旨の指示を受けたとき。
 - d. 前各号に掲げるもののほか、線路等の地上設備に、列車等の停止を要する故障や障害を発見したとき。
 - e. その他、各 OU 長が必要と認めた場合。

第271条：列車防護の種類及び方法

1. 各 OU 長は、列車防護の種類及び方法について、予め定めておかななければならない。
2. 列車防護の種類及び方法については、使用する手段の有効性・確実性を考慮して複数の手段を定め、使用する優先順位を明確にしておかななければならない。

第272条：列車防護用発煙筒の携帯

1. 各 OU 長は、列車防護用発煙筒を携帯する係員と、携帯すべき数について、予め定めておかななければならない。
2. 駅事務所及び信号扱所には、列車防護用の発煙筒を4個以上常備しておかななければならない。

3. 列車防護用発煙筒を携帯する係員は、発煙筒の取扱い方法及び列車防護の手順について、理解していなければならない。
4. 列車防護用発煙筒が車両に搭載されている場合は、その管理方法についても明確に定めておかなければならない。

第 273 条：乗務員の列車防護

乗務員は、次の場合に列車防護を行わなければならない。

1. 脱線や転覆等のため隣接線路を支障した場合。
2. 運転中に異常な動揺や音等により停止した列車等の乗務員が、異常を感じた場所で線路や設備の故障を発見したとき。

第 274 条：車掌の列車防護または注意喚起

1. 車掌が乗務する列車が運転の途中で停止したときは、車掌は次に掲げる取扱いを行わなければならない。
 - a. 運転士から列車防護を促す合図若しくは通告があったとき
 - b. 列車が脱線若しくは転覆したとき
 - c. 後続列車が異常接近して危険を感じたとき。この場合は、注意喚起のため最後部の前照灯を点滅させ、自分の列車が停止していることを後続列車の運転士に知らせる。
2. 前項の各号の取扱いを行った場合は、OCC 長のその旨の報告を行わなければならない。

第 275 条：救援列車を迎える列車防護

駅間で故障等により停止した列車が救援列車を迎えるときは、救援列車が接近して来る方に対し、故障した列車から 50m 以上離れた地点で発炎信号による列車防護を行う。

第 276 条：駅長が列車防護をする場合の乗務員の取扱い

乗務員が、駅において駅長に対し列車防護を要請した場合は、乗務員による列車防護を省略してもよい。

第 277 条：列車防護を認めた運転士の取扱い

1. 発煙筒や手信号により列車防護を認めた運転士は、次に掲げる取扱いを行わなければならない。

- a. 停止信号の表示箇所の外方 50m 以上隔てた距離に直ちに列車等を停止する。ただし、停止信号の表示箇所までに停止できないおそれのあるときは、速やかに停止しなければならない。
 - b. 防護者や OCC 長から通告または指示があるまでは、運転を開始してはならない。
2. 発報信号による緊急停止の信号を受けた運転士は、直ちに列車を停止させなければならない。この場合、停止後に OCC 長に報告し、指令を受けなければならない。
 3. これに該当しない列車防護の方式を行う各 OU 長は、列車防護を認めた場合の運転士の取扱いについて、予め定めておかなければならない。

第 278 条：列車防護の解除

駅間で停止した列車の乗務員が列車防護により他の列車を停止させたときは、防護者は次に掲げる取扱いを行わなければならない。

1. 停止させた列車の運転士に列車防護の理由を通告し、打合せを行う。
2. 列車防護を解除して、担当する列車に帰着する。

第Ⅷ編 異常気象等

第 1 章 通則

第 279 条：気象状況時の取扱い

1. 係員は、次のような気象状況の場合、警戒を厳重にしなければならない。
 - a. 列車等の運転に影響を及ぼす気象状況となることが予想される場合
 - b. 列車等の運転に影響を及ぼす気象状況となった場合
2. 気象状況の異常により列車等の運転に危険が生じたときは、状況を把握したうえ、乗客の安全を第一として適切な処置をとらなければならない。
3. 各 OU 長は、その路線の設備や構造に応じた気象状況時の取扱いについて、予め定めておかなければならない。

第 280 条：警備体制

気象状況の異常の場合の警備体制については、「事故や災害の対策規則」による。

第 281 条：運転規制

1. 異常気象や災害による災害発生が予測されるときは、OCC 長は運転規制を指令する。
2. 各 OU 長は、その路線の設備や構造に応じた運転規制の基準や取扱いについて、予め定めておかなければならない。

第 2 章 強風

第 282 条：強風の場合

強風の影響を受けるおそれがある各 OU 長は、その路線の設備や構造に応じた強風時の基準や取扱いについて、予め定めておかなければならない。

第 283 条：駅長及び検車区長の取扱い

1. 強風時における駅長及び検車区長は、次のような取扱いをしなければならない。

例：

取扱者	取扱い
駅長	<ol style="list-style-type: none"> 1 OCC 長から強風に関する運転規制の指令を受けたときは、列車の出発及び車両の入換えを一時見合わせなければならない。この場合、通過すべき列車であってもこれを停止させなければならない。 2 強風または突風のため列車の運転が危険であると認めたときは、列車の出発を見合わせ、直ちに OCC 長に報告しなければならない。 3 必要により構内に留置してある車両の転動防止の手配を厳重にしなければならない。
検車区長	<ol style="list-style-type: none"> 1 OCC 長から強風に関する運転規制の指令を受けたときは、列車の出発及び車両の入換えを一時見合わせなければならない。 2 強風また突風のため車両の運転が危険であると認めたときは、車両の入換えを見合わせなければならない。 3 必要により構内に留置してある車両の転動防止の手配を厳重にしなければならない。

2. 各 OU 長は、強風時における駅長及び検車区長の取扱いの詳細について、予め定めておかなければならない。

第 284 条：運転士の取扱い

1. 運転士は、列車等が強風に遭遇したときは、次に掲げる取扱いをしなければならない。

- a. 風速の激しい箇所においては、速度の急激な変化を避け、急なブレーキを作動させないように注意する。
- (1) 列車の運転が危険であると認めたときは、次のような取扱いをしなければならない。
 - (2) 駅において出発を見合わせる。
 - (3) この場合、通過駅であっても停止して対応する。
- b. 運転中やむを得ず停止するときは、曲線、橋の上等は避け、できる限り地形、建物等を考慮し、風の影響を受けにくい安全な場所を選んで停止する。
2. 強風の影響を受けるおそれがある各 OU 長は、強風時における運転士の取扱いの詳細について、予め定めておかなければならない。

第3章 浸水

第 285 条：浸水時の列車等の取扱い

1. トンネル内が浸水して運転に支障のおそれがあると認めたときは、次のような取扱いをしなければならない。

取扱者	取扱い
乗務員	速やかにその状況を OCC 長に報告し、その指示を受けなければならない。
駅 長	OCC 長の指令により乗客を駅に下車させ、列車等を浸水のおそれのない箇所に回送するよう指示しなければならない。

2. 乗務員または駅長は、前項にかかわらず OCC 長と打合せや指示を受けることができないときは、駅に乗客を下車させる等臨機の処置をした後、速やかにその旨を OCC 長に報告しなければならない。
3. OCC 長は、出水または浸水の報告があったときは、関係箇所との連絡を密にし、その区間の状況を把握し、次に掲げる運転規制を指令する。
- a. 軌条が冠水したとき。 運転休止
 - b. 軌条の大部分が浸水したとき。 最徐行
 - c. 軌条の一部が浸水したとき。 注意運転
4. 前項の規定にかかわらず、第三軌条線区については、必要により早めの規制を行う。

第 286 条：大雨の場合の取扱い

1. 大雨の影響を受けるおそれがある各 OU 長は、大雨の場合における取扱いについて、予め定めておかなければならない。
2. OCC 長は、雨量計が設置されている箇所においては、その数値に注意を払うと共に、規制値に達した場合は運転規制を行わなければならない。

第 287 条：大雨の運転規制

OCC 長は、雨量計の数値に応じ、以下の運転規制を指令する。

例：

雨 量	運転規制の内容
1 時間あたり 30mm 以上 または連続雨量が 200mm 達したとき	運転速度を 60km/h 以下に規制する
1 時間あたり 30mm 以上 40mm 未満 または 連続雨量が 300mm 達したとき	運転速度を 40km/h 以下に規制する
1 時間あたり 40mm 以上 または 連続雨量が 300mm 達したとき	状況により運転休止

第 4 章 濃霧

第 288 条：濃霧の場合の取扱い

1. 濃霧が発生して運転に支障のおそれがあると認めたときは、次のような取扱いをしなければならない。

例：

取扱者	取扱い
OCC 長	<ol style="list-style-type: none"> 1 200m の距離を隔てて鉄道信号の表示を確認することが困難となったときは、注意運転を指令しなければならない。 2 進路の見通し距離が 50m 以下となったときは、列車運転の一時休止を指令しなければならない。

乗務員	<ol style="list-style-type: none"> 1 運転士は列車等を運転中に濃霧に遭遇し、進路の見通し距離が 200m 以下となったときは一旦停止し、その状況を OCC 長に報告しなければならない。 2 鉄道信号の表示を確認することが困難となったときは、一旦停止し、その状況を OCC 長に報告しなければならない。 3 前方の見通しが困難のときは、注意運転をしなければならない。また、列車の接近を知らせるために、ときどき気笛合図 (Long whistle) を行わなければならない。 4 車掌は最後部の列車標識に注意を払い、特に駅間で停止して後続列車が接近した場合は、最後部の Head Light を点滅させて後続列車の運転士に対して注意喚起を行わなければならない。
駅 長	<ol style="list-style-type: none"> 1 200m の距離を隔てて鉄道信号の表示を確認することが困難となったときは、その状況を OCC 長に報告しなければならない。 2 責任者を定めて、特に列車等の運転状況を監視させなければならない。 3 進路の見通し距離が 50m 以下となったときは、直ちに OCC 長に報告し、指示を受けなければならない。

2. 前項の場合で、駅長が OCC 長の指示を受ける時間の無いときは、駅長の判断で列車の運転を一時休止することができる。これを行った場合は、速やかに OCC 長に報告しなければならない。
3. 濃霧の影響を受けるおそれがある各 OU 長は、濃霧の場合の取扱いの詳細について、予め定めておかなければならない。

第 5 章 地震

第 289 条：地震発生の場合取扱い

1. 地震が発生して運転に支障のおそれがあると認めたときは、次のような取扱いをしなければならない。

例：

取扱者	取扱い
OCC 長	<ol style="list-style-type: none"> 1 規則で定められた一定以上のレベルの強い地震が発生した場合、全列車を緊急停止させなければならない。 2 OCC 長は前号の手配を行ったのち、運転規制の実施を指令する。併せて、工務及び電気関係の区長に対し、設備の点検を指令する。

乗務員	<ol style="list-style-type: none"> 乗務員は、運転中強い地震を感知して危険と認めたときは、直ちに列車等を停止させなければならない。この場合、停止した箇所が橋りょう、築堤上であって危険のおそれがあると認めたときは、進路の安全を確かめ、列車等を移動しなければならない。 乗務員は、前号により列車等を停止させたときは、その状況を OCC 長に報告し、列車等の進退について指示を受けなければならない。 運転士は、地震により停止した後、規制による運転を開始するときは、特に注意しなければならない。
駅 長	<ol style="list-style-type: none"> 駅長は強い地震を感知し、列車の運転が危険であると認めたときや、OCC 長から指令があったときは、直ちに列車の出発を見合わせなければならない。この場合において、通過すべき列車であっても停止させる。 前号に規定する処置を行った後、直ちにその状況を OCC 長長に報告し、乗務員に通告しなければならない。

2. 各 OU 長は、地震発生の場合の取扱いについて、予め定めておかなければならない。

第 290 条：工務及び電気関係区長の取扱い

地震が発生した場合、工務及び電気関係の区長は、状況に応じて次のような取扱いをしなければならない。

例：

状況	取扱い
OCC 長から強い地震が発生した旨の通報及び設備点検の指令を受けたとき	<ol style="list-style-type: none"> その管理区域について巡回点検を行い、列車等の運転に支障が無いか確認する。 前号の結果に基づき、その状況及び運転規制が必要か否かを OCC 長に報告する。
巡回中の係員が強い地震に遭遇したとき	<ol style="list-style-type: none"> 設備の損傷の可能性があり、列車の運転が危険であると判断した場合は、直ちに列車を緊急停止させる処置をとる。 前号の処置を行った場合、停止させた列車の乗務員に、その理由を通告する。

第 291 条：運転規制の取扱い

- 各 OU 長は、地震発生時における構造物の強度や影響を十分考慮し、運転規制の取扱いについて、予め定めておかなければならない。
- OCC 長は、地震発生時の運転規制について、次のような取扱いをしなければならない。

例：

運転規制	取扱い
運転規制の実施	規則で定められた一定以上のレベルの強い地震が発生した場合、その強さに応じて運転規制の実施を指令する。
運転規制の解除	工務及び電気関係区長の点検が完了し、列車の運転に支障のない旨の報告並びに運転士からの列車の運転に支障のない旨の報告を受けたときは、運転規制の解除を指令する。

第IX編 その他の規則

第 292 条. 各部の責任

1. HQ の共通運行部の責任

この規程に改正する必要な事項がある時、総裁に助言を出す。各 OU の列車運行業務が承認された計画、規程通りに実施されていることを監査する。

2. 各 OU の責任

a. 承認された規程、計画通り列車運行を実施し、運転安全を確保する。

b. 実施過程においては困難があれば、各 OU は列車運行部長（HQ）へ報告して取り纏めてもらって解決のために総裁へ報告してもらう。

c. OU は、運転に関する詳細な処理規定（運転内規）を定める責任を有し、また係員の内規順守を監督する義務を有する。

- 運転関係業務を行う者の間の連絡
- 業務実施方法、手順
- 非常時対応方法
- この規則に従い特に注意すべき点

3. 列車運転関係業務実施各部門

a. 運転に関係する業務を実施する係員は、この規程を順守しなければならず、旅客及び列車の安全確保に責任を有する。

b. 安全かつ効果的な運転を確保するために、承認された列車運行計画に基づいて自分の部門の業務実施計画を作成する。

第 293 条：規則の改正及び廃止の手続き

このハノイメトロ運転ルールの改正及び廃止は、予め定められた手順に沿って社長が決済しなければならない。



ハノイ市民員委員会



国際協力機構

Activity 6.1.6 & 6.5.2 & 6.5.4 & 6.5.5

列車運行管理マニュアル

ハノイ市都市鉄道規制機関強化及び運営組織設立支援プロジェクト

実施者:

Nguyen Van Bang

支援専門家:

Kohei Ushida (Tokyo Metro)

ハノイ、2015年11月

目次

I. 法的根拠、関連資料	2
II. 運転の各制度及び分類	2
1. 運転各制度	2
1.1. 日常運転制度	2
1.2. 制限運転制度	3
III. 旅客流量に基づく運転頻度算出	6
IV. 列車運行用施設の要件	7
1. 施設：	7
2. 運転列車配置計画	9
V. 運転要員に関する要件	11
1. 運転直接関係係員の分類	11
2. OCC 係員及び助役の要員計画	11
3. 運転士運用計画	13
3.1 運行計画実施のための列車運転士の数の算出	14
3.2 運転士に対する勤務シフト組み立て方法	15
4. 運転士の教育・養成計画	23
4.1. 補足講習	24
4.2. 運転技術の調査・試験	24
4.3. 内部教育	25
5. 運転士の管理	26
5.1. 点呼	26
5.2. 巡回 / 監督	27
5.3. 勤務管理	28
5.4. 運転士の能力管理	28
VI. 列車運行計画策定	31
1. 運行計画策定の時系列	31
2. 列車運行図表（ダイヤ）	33
2.1 ダイヤの読み方・描き方	33
2.2. 列車運転番号	35
3. 列車運転曲線	37
3.1. 運転曲線作成方法	38
3.2. 運転曲線の読み方・描き方	40
3.3. 列車運転曲線を作成するためのデータ	41
3.4. 列車運転曲線をチェックするときの注意点	43
4. 乱れた列車運行を復元する方法（計画）	44
4.1. 遅れが深刻ではない場合	45
4.2. 遅れが大きくなってしまった場合（深刻）	46
VII. 実施組織	49
VIII. 運行計画評価	50

列車運行管理マニュアル

I. 法的根拠、関連資料

1. 法的根拠

- 鉄道法;
- 「都市鉄道の列車運転に直接携わる係員の職制に係る規則」省令第 05/2015/TT-BGTVT 号;
- 「鉄道輸送における特別な仕事をする労働者に対する休憩時間に係る規則」省令第 21/2015/TT-BGTVT 号;

2. 関連資料

- 2A 号線 Cat Linh-Ha Dong、2 号線 Nam Thang Long-Tran Hung Dao、3 号線 Nhonーハノイ駅の基礎設計;
- 2A 号線 Cat Linh-Ha Dong、3 号線 Nhonーハノイ駅の技術設計;
- 2A 号線 Cat Linh-Ha Dong の教育計画 Ver.16。

II. 運転の各制度及び分類

1. 運転各制度

1.1. 日常運転制度

日常の列車運転計画は、下記の要件を保障するために、詳しく計算され、ラッシュ時間帯、閑散時間帯及び日中の具体的な時間帯に沿って分類しなければならない。

- 旅客提供サービス品質、
- 要員利用効果、
- 車両・設備使用効果

また、週末、祝日又は国家規模のある重大な祭日に対して詳細計画を立てなければならない。普通は、週末、祝日における旅客流量は平日と異なる。

表 1：各時間帯による運行計画（参考のため）

時間帯		分類
〇〇から	〇〇まで	
5h	6:30h	閑散時間帯
6:30h	9h	ラッシュ時間帯

9h	16h	日中
16h	18h30	ラッシュ時間帯
18h30	20h	日中
20h	23h	閑散時間帯

1.2. 制限運転制度

1.2.1. 輸送障害の原因及びトラブル時の運転制度管理

a. 事故・輸送障害の原因

下記の表は、都市鉄道における一般的なトラブルを挙げる。

表 2：都市鉄道輸送障害の原因

No.	分類	輸送障害の原因
1	軌道	レール故障/ 路盤沈下 / 転てつ機故障
2	牽引電気及び電力	給電システムトラブル / 短絡/ 電圧超過
3	信号及び運転制度	ATP 車上装置故障 / ATP 地上装置故障/ 運転途中の信号トラブル/ 連動装置トラブル
4	列車	電力及びモーター推力/ 台車及び駆動機構 / ブレーキシステム / ドアシステム / 車体、他設備 / 火災
5	運転及び補助システム	SCADA システムトラブル / ATS システムトラブル / Radio システムトラブル/ 通話・遠隔制御システムトラブル
6	乗客	気絶/ 自殺 / 軌道に落ちる / 安全運転に危険を与える行為

b. 緊急事態における対応

OCC は、輸送障害発生時の管理、対応に非常に重要な役割を果たす。OCC は、運転士、駅係員に対して直接に指示を出し、輸送障害に対応するために各機関・ユニットに連絡（輸送障害後の余波、線路に運転している

各列車の安全を保障する) するとともに、関連部門と協力して一番早く輸送障害を復旧する。

下記の図は、輸送障害があったときに OCC と運営会社の他部門の間の関係を表す。

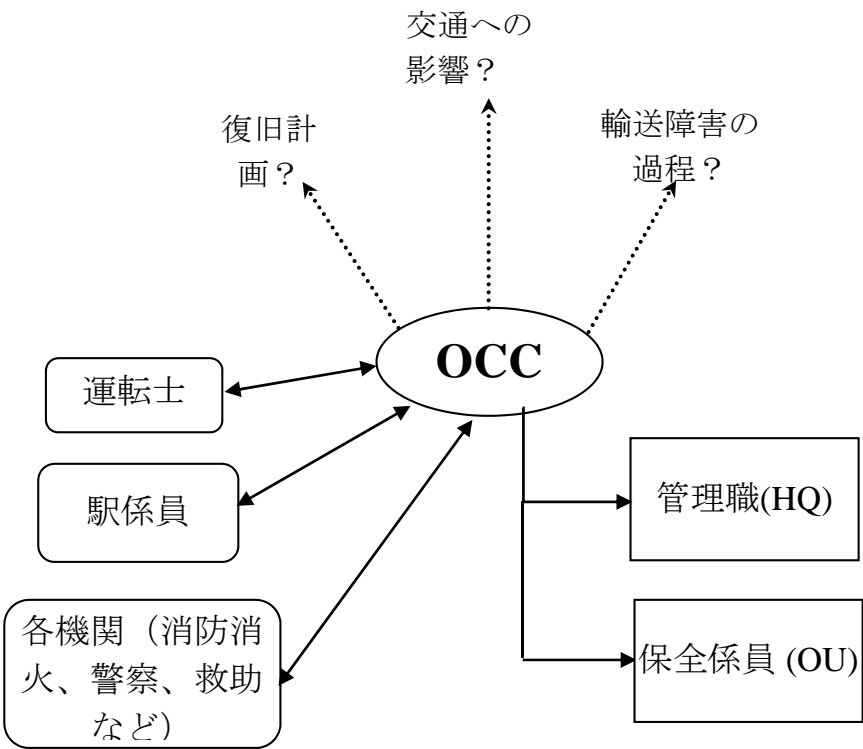


表 3：緊急事態における対応

No.	場面	措置
1	運転士が危険を発見したとき	1. 運転士は、非常ブレーキを使って直ちに列車を止める。 2. OCC へ報告して指示を受ける。
2	トンネルの中に火が発生したとき	1. 運転士は、次の駅まで列車を運転する（列車を停止してはならない。非常口が設置されるところで火が発生した場合は、この限りではない。） 2. OCC へ報告するとともに、駅係員と協力して駅にいる旅客を避難誘導する。
3	アラームが鳴り、または OCC で沿線にあるセンサー	OCC 輸送指令員は、列車無線システムを通して列車停止を通知しなければならない。

No.	場面		措置	
	を表示する。（例えば、風速計、地震測定器など）			
4	各駅における危険防止装置のアラームが鳴り、又はOCCで表示する。		輸送指令員は、列車を駅に進入させないように列車無線システムを通して列車停止を指示する。	
5	脱線（運転士は、非常ブレーキを使用することが出来なくなり、Dead-Man deviceから手を離す。）		<p>1.デッドマン装置（Dead-Man device）は運転室に搭載されるもので、自動で非常ブレーキをして OCC へ情報を発信する。（注：Dead-Man device が搭載されている路線に限る）</p> <p>2. OCC の指令員は、情報を受信した後その路線において走行している列車全てを直ちに停止させる。（脱線時に各列車の相互衝突を防ぐため）</p>	
6	乗客が軌道に落ちる		<p>1.（情報を受けた後、）運転士は非常ブレーキを使わなければならない。</p> <p>2. この輸送障害を直ちに OCC へ報告する。</p> <p>3. 輸送障害の情報を受けた後、OCC の輸送指令員は近くに走行している列車が止まるように通知する。</p> <p>4. OCC の輸送指令員は、駅係員にサポート及び関連緊急対応（救急車、消防車、警察など）を要求する。</p> <p>5. 輸送障害復旧、安全運転に関する要素の確認をした後、OCC 長は計画通りの運転を再開するように指示する。</p>	
7	列車が運転継続不可になり、乗客の安全に危険を与える可能性がある。		<p>1. 運転士は、直ちに OCC へ報告して指示を受ける。</p> <p>2.（OCC から許可をもらったら）運転室のドアで乗客を避難させる。</p> <p>3. 安全確保のために乗客を最寄駅まで誘導する。</p>	
8	強風 （注：「風速は各路線の仕様に基	例： $25\text{m/s} < V_{\text{風}} < 30\text{m/s}$	列車出発を一時的に中止する（OCC の指示による）	（実際の風速は、それぞれの路線に

No.	場面		措置	
	づき詳しく規定される。」)	例： $V_{風} > 30\text{m/s}$	OCC は、運転を休止し、各列車を安全場所まで避難させる。	対して具体的に定められる)
8	地震（震度のレベルで、列車運転に悪影響を及ぼす）		1. OCC は運転を休止し、駅間で走行している列車に徐行運転で最寄駅まで走行することを指示する。（例：25km/h 以下の速度） 2. OCC の設備指令員は、構造物・軌道保全部に連絡して、構造物及び軌道の検査を実施するよう指令する。検査作業は、25km/h 以下の速度で運転室で実施する可能。 3. 検査作業及び安全確認が終了したら、OCC は計画通りの運行に復旧する。	

III. 旅客流量に基づく運転頻度算出

輸送サービスが旅客の実際の需要をを正しく反映できるように、ラッシュ時間帯、日中、閑散時間帯に各駅における旅客流量を正確に調査する必要がある。

都市鉄道各路線の開業前の時点では、各プロジェクトの旅客流量調査のデータに基づいて必要な列車編成の数及び運転頻度を算出し、そこから車両調達計画を作成する（プロジェクトによる）。

各路線が開業になった時、営業部により（AFC-自動開札システムに設置される検数機械で）収集された実際の旅客流量に合わせて適切に調整する。

以下の表は、ハノイ市の都市鉄道各路線に対するラッシュ時間帯における列車本数を計算する方法を示している。

表 4：旅客流量に基づく運転本数の算出

分類	単位	年 公式	2016 (2A 号線)	2019 (2 号線)	2018 (3 号線)
輸送量	人／1 時間・方向	a	11.485	16.436	8.600
編成両数	両	b	4	4	4
列車定員 (100%)	人／1 列車	c	950	942	916

分類	単位	年 公式	2016 (2A 号線)	2019 (2 号線)	2018 (3 号線)
混雑率	%	d	130%	150%	120%
運転本数	列車/1時間・方向 g	$e=a/(c*d)$	10	12	8
運転間隔(ピーク)	分	$f=60/e$	6	5	7.5
サイクルタイム	分	g	56	48.75	51.6

(2A 号線、2 号線、3 号線の基礎設計及び技術設計のデータによる。)

IV. 列車運行用施設の要件

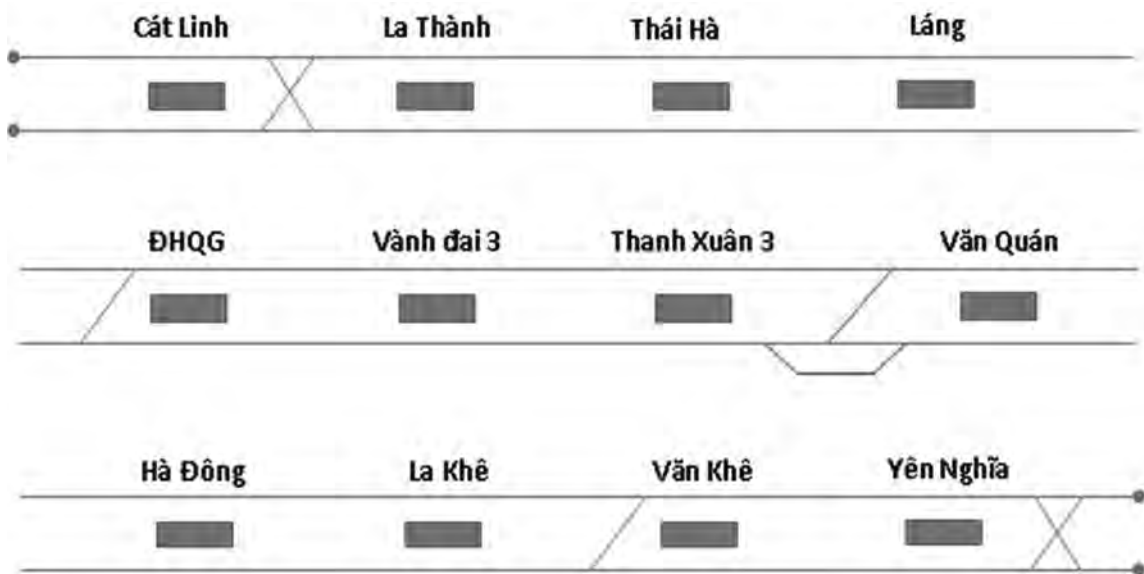
1. 施設：

安全に効果且つ円滑な運行計画を立てるために、駅配置、鉄道敷地に関する情報が必要になる。

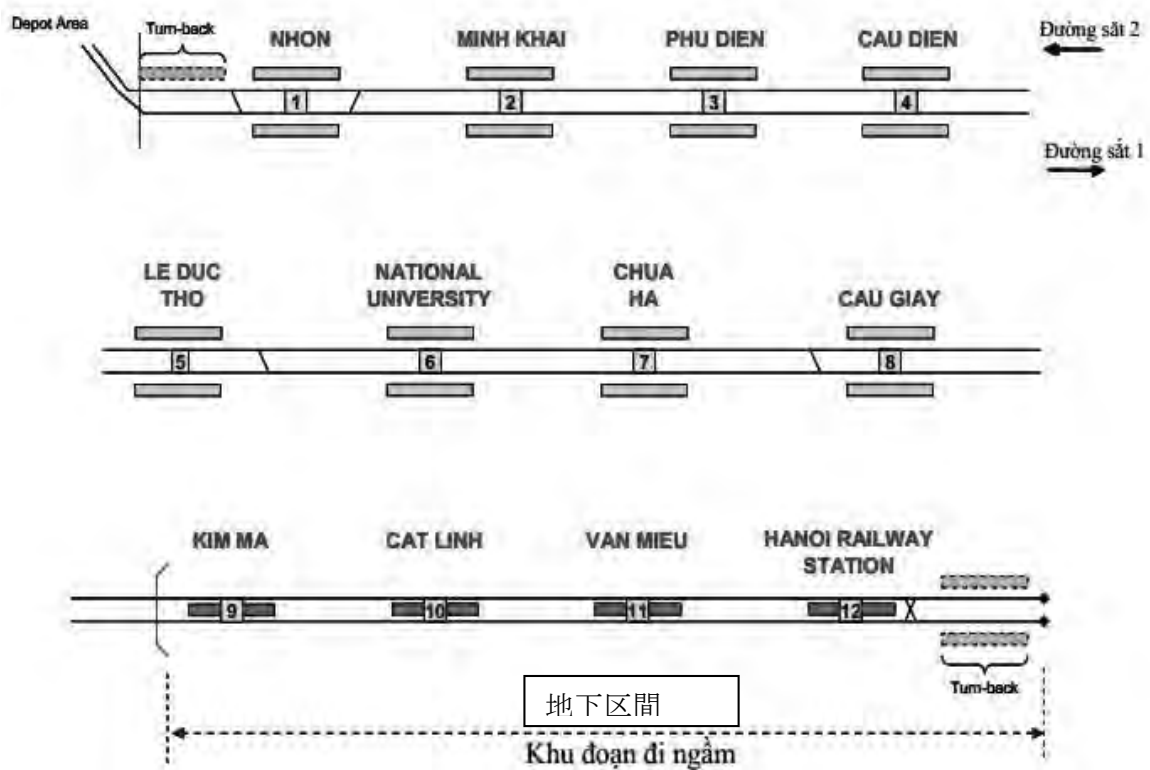
- 始点終点駅：渡り線を用い折り返し案を考える。
- 留置場所：緊急時に備え予備車両を待機する案を立てる。
- 路線における各渡り線：事故・輸送障害が発生した時に列車が折り返すため。

a. 2A 号線 (Cat Linh-Ha Dong)

No.	折り返し案	非常渡り線	留置場 (列車待避)
1	Cat Linh 駅の前	ハノイ国家大学 (Thuong Dinh) の前	Thanh Xuan3 (PhungKhoang) 駅の後ろのある側線
2	Yen Nghia 駅の後ろ	Van Khe 駅の前	

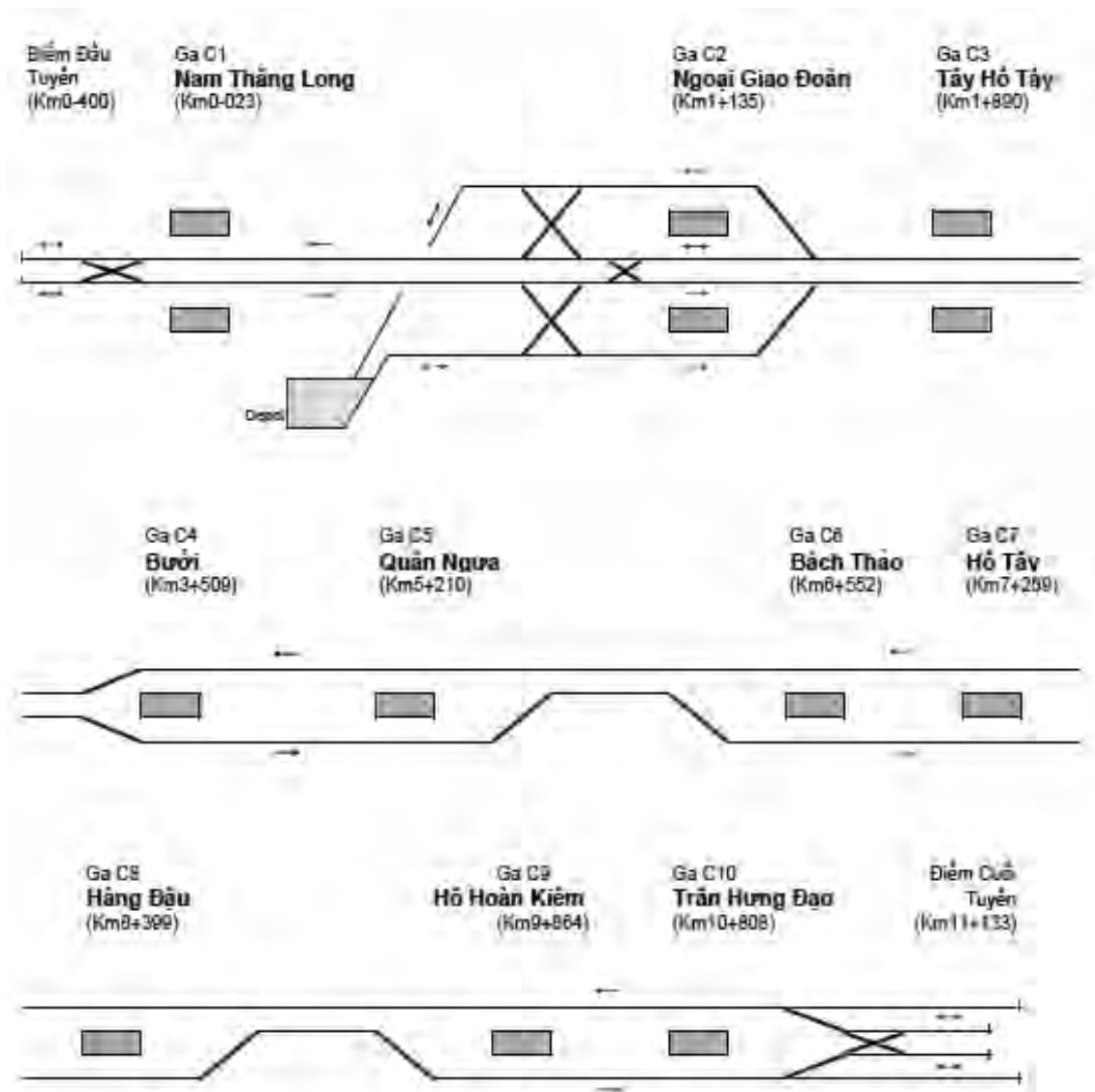


b. 3 号線 (Nhon-Ha Noi 駅)



No.	折り返しの案	非常渡り線
1	Nhon 駅の前又は後ろ	Le Duc Tho 駅の後ろ
2	「Ga Ha Noi」 駅の後ろ	Cau Giay 駅の前

c. 2 号線 (Nam Thang Long—Tran Hung Dao)



No.	折り返しの案	非常渡り線	留置場（待避）
1	Nam Thang Long 駅の前	外交団駅の前	外交団駅
2	Tran Hung Dao 駅の後ろ		

2. 運転列車配置計画

a. 各路線の運転に必要な列車/両の数

下記の表は、2A 号線、2 号線及び 3 号線（開業初期段階）の日常列車運行に使用される列車数/両数を表す（開業段階）。

表 5：各路線の運行に必要な列車数/両数

指標		単位	2016 年 (2A 号線)	2019 年 (2 号線)	2018 年 (3 号線)
列車数 / 両数	運転	列車	10	12	8
	予備	列車	3	2	2
	合計 (列車)	列車	13	13	10
	合計 (両)	両	52	56	40

b. 列車配置計画（各時間帯による）

- 各時間帯（ラッシュ時間帯、日中、閑散時間帯）における旅客流量調査結果に基づき、一日の列車/車両計画を作成する。
- 下記の表は、2A 号線、2 号線、3 号線の開業後の初期段階においてそれぞれの路線に対する 1 日の列車/車両計画（各時間帯における運転間隔に相応する）を表す。

表 6：各時間帯による列車配置計画

時間帯	2A 号線 (2016)		2 号線 (2019)		3 号線 (2018)	
	列車の数	運転間隔 (分)	列車の数	運転間隔 (分)	列車の 数	運転間隔 (分)
5:00 - 6:00	6	10	8	7.5	5	12
6:00 - 7:00	8	7.5	10	6	8	7.5
7:00 - 8:00	10	6	12	5	8	7.5
8:00 - 9:00	10	6	12	5	6	10
9:00 - 10:00	8	7.5	10	6	6	10
10:00 - 11:00	8	7.5	10	6	6	10
11:00 - 12:00	8	7.5	10	6	6	10
12:00 - 13:00	8	7.5	10	6	6	10
13:00 - 14:00	8	7.5	10	6	6	10
14:00 - 15:00	8	7.5	10	6	6	10
15:00 - 16:00	8	7.5	10	6	6	10
16:00 - 17:00	10	6	12	5	8	7.5
17:00 - 18:00	10	6	12	5	8	7.5
18:00 - 19:00	8	7.5	10	6	8	7.5
19:00 - 20:00	8	7.5	10	6	5	10
20:00 - 21:00	6	10	8	7.5	5	10
21:00 - 22:00	6	10	8	7.5	4	15
22:00 - 23:00	4	15	6	10	4	15

時間帯	2A 号線 (2016)		2 号線 (2019)		3 号線 (2018)	
	列車の数	運転間隔 (分)	列車の数	運転間隔 (分)	列車の数	運転間隔 (分)
合計（列車本数/日）	142		178		105	

（2 号線、2A 号線、3 号線の技術設計による。）

V. 運転要員に関する要件

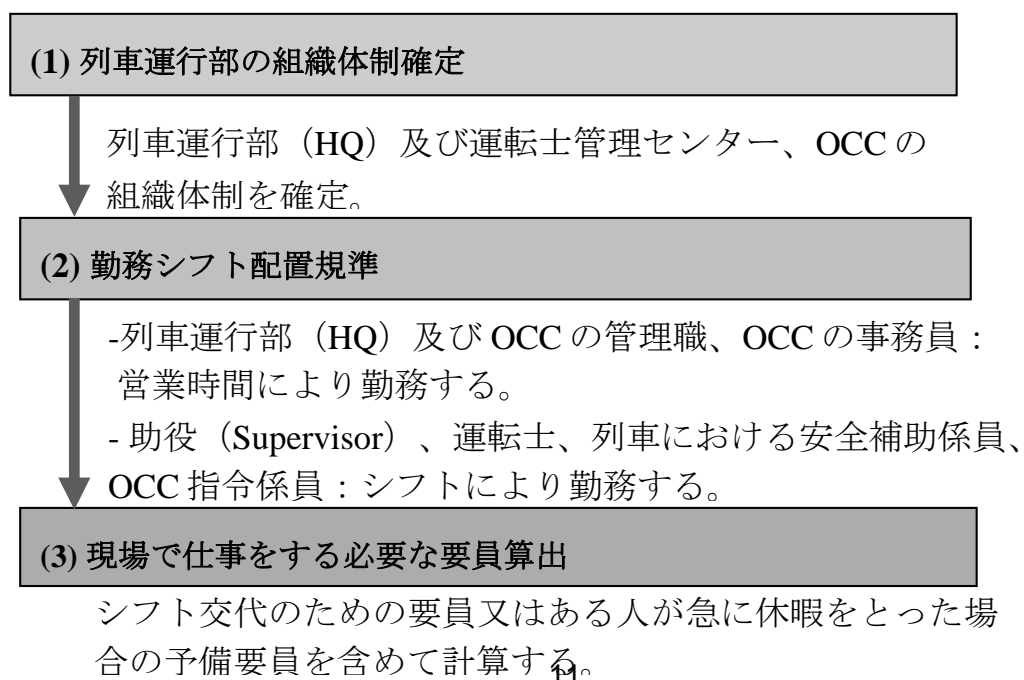
1. 運転直接関係係員の分類

- a. 乗務員：
 - + 運転士
 - + 列車における安全補助係員
 - + 助役（Supervisor）
- b. 指令係員：
 - + 指令長（輸送、電気、車両）
 - + 指令員。

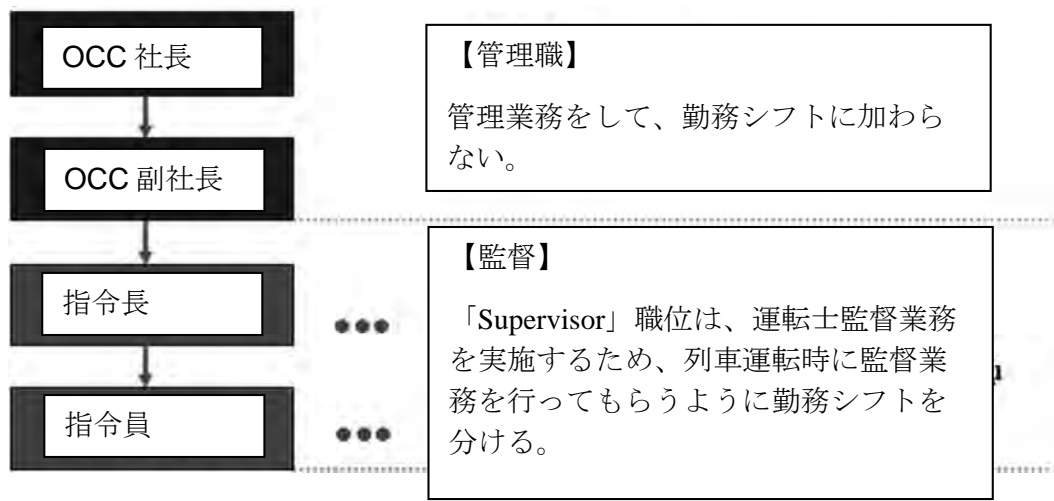
2. OCC 係員及び助役の要員計画

a. 助役及び OCC 係員の要員数算出手順

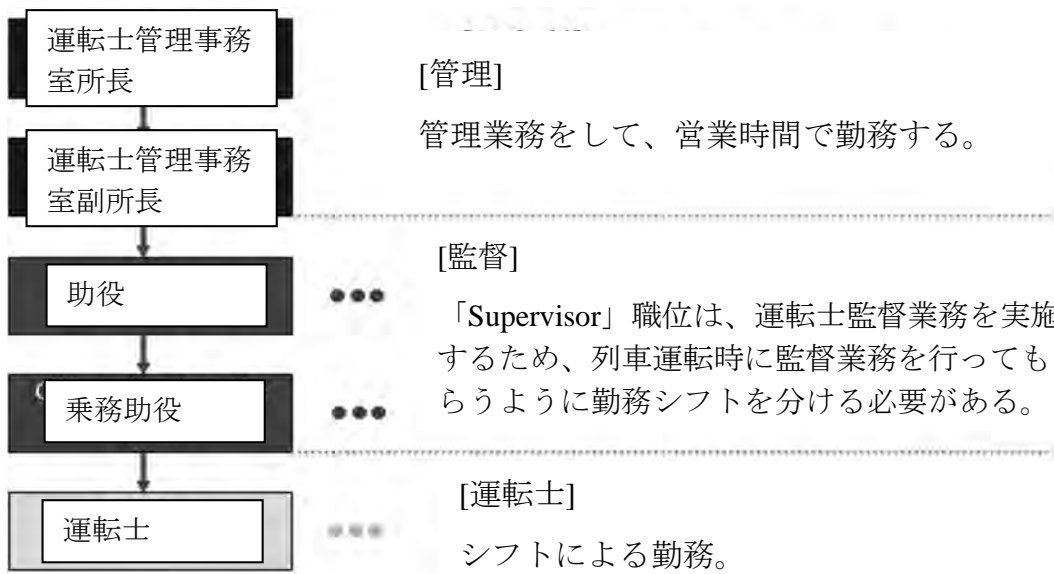
助役及び OCC 係員の要員数算出方法は、会社の組織体制及び各国の労働に関する規程によって異なる。算出手順は、下記通りである。



- OCC の組織体制:



- 運転士管理事務室 (OU) の組織体制は、下記のように確定される。(2A号線の組織体制による)



b.列車運行部 (HQ)、運転士管理センター (OU)、OCC の係員に対する勤務シフト配置規準は、以下通り。

表 7：運転係員の勤務シフト配置目安

部署	職種	勤務シフト配置規準	2A 号線
OCC	OCC 社長	1 シフト（営業時間勤務）	1
	OCC 副社長		1
	指令長	3 シフト、4 組	1
	電気指令長		1
	設備指令長（通信信号、車両）		-
	輸送指令員	3 シフト、4 組	16
	電気指令員	3 シフト、4 組	8
	設備指令員（環境監査）	3 シフト、4 組	4
列車運行部	部長	1 シフト（営業時間勤務）	1
	副部長		2
運転士管理センター (OU)	センター社長	1 シフト（営業時間勤務）	1
	センター副社長		2
	運転士技術高級係員		1
	運転技術係員		1
	運転技術補佐		1
	信号高級監督者		4
	運転監督・指令員	3 シフト、4 組	4
	信号監督者	3 シフト、4 組	8
	運転士	算出方法は、V-3 による。	

3. 運転士運用計画

-運転士の勤務シフトの組み立ては、全員の運転士に対して公平を保障しなければならないとともに、運転の安全を確保しなければならない。（シフトの休憩時間があることを保障）

-運行計画による運転士人数の算出は、下記の手順に従い実施される。

(1) 列車ダイヤに基づき「運転総時間」確定

- 列車ダイヤに基づき、「乗務総時間」が確定できる。
- 乗務業務に必要な「補助業務」も明らかに確定される。
-

(2) 1日の営業日の運転士人数確定

- 「乗務総時間」から列車ダイヤに応じて1日に当たりの乗務員人数（勤務シフトの数）を確定する
- 1シフトにおける最大乗務時間、1日・1ヶ月における最大総勤務時間、その他関連する労働条件等の関連点を確定する必要がある。

(3) 運行計画実施のための運転士の数の算出

- 列車運転が計画通りに実施されることや（事故・輸送障害による）運転混乱が発生した時の運転復旧を保障するために予備要員を算出する。

3.1 運行計画実施のための列車運転士の数の算出

次の式で、運行計画実施のための列車運転士の数を算出します。

$$\bullet \text{ 勤務シフトの総数} = \frac{\text{列車の総数} * T1}{60 * T2}$$

その中に、T1 – 周期時間;

T2 – 1日にあたり1人の運転士の最大乗務時間。

$$\bullet \text{ 運転士の数} = \text{勤務シフトの総数} * K,$$

その中に、K – 予備係数（ある運転士が休暇をとる時、又は運行計画が急に変更される時に勤務シフトを保障するため。）

2A 号線の運転士の数の算出及び運転士の勤務シフト組み立ての例

データ：

- ✓ 列車が始点駅から終点駅まで走行して（途中駅で止まる時間も含む）始点駅に戻る時間：56分。
- ✓ 1日にあたり1人の運転士の乗務予定総時間：6.5時間。

- 勤務シフトの総数 = $\frac{142 * 56}{60 * 6.5} \approx 21$ (シフト)。
- 運転士の総数 = 21 (シフト) x 1.6 (予備係数) ≈ 35 (運転士)。

(2A 号線は、中国で 37 人の運転士を教育している。)

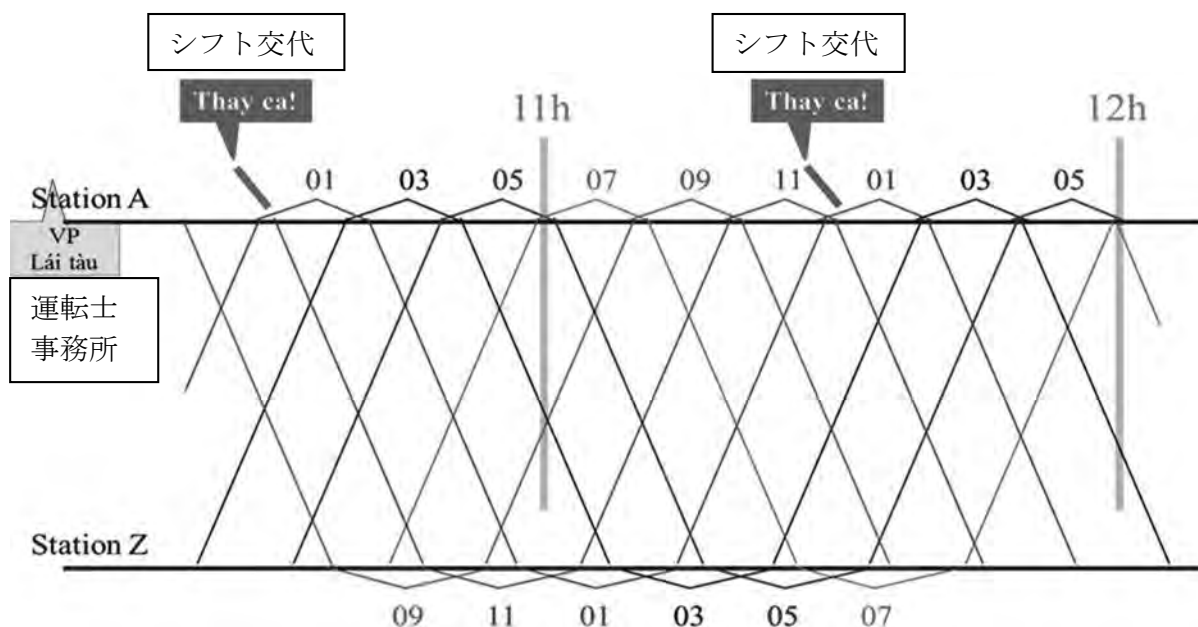
3.2 運転士に対する勤務シフト組み立て方法

a. 勤務シフトの組み立ては、下記の条件による。

- ✓ 乗務員 (シフト) の総数。
- ✓ 1 日にあたり目安の乗務時間：6 時間（労働法第 10/2012/QH13 号の規定により、8 時間を超えないこと。）
- ✓ 乗務ごとの目安最大乗務時間（最大）：3 時間。1 シフトにおける最低休憩時間：30 分（safety break）。
- ✓ 各乗務員は、平準化として週に 2 日間の休みがある

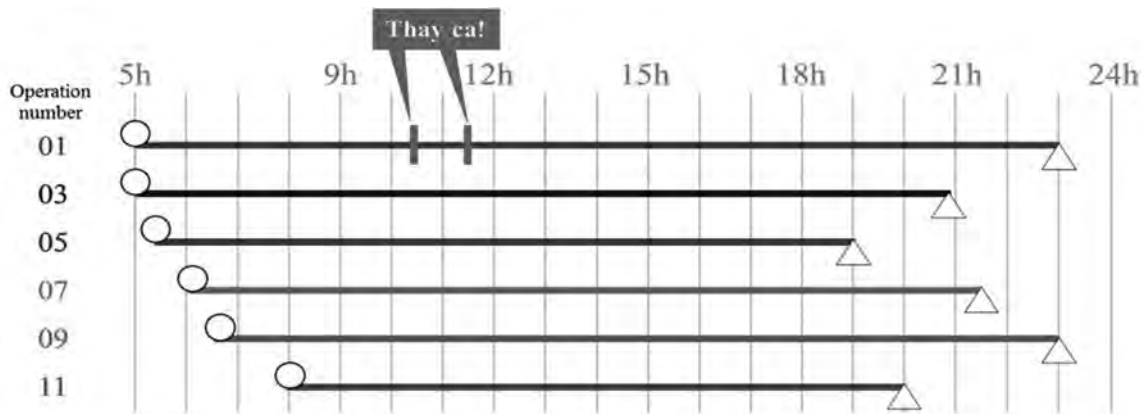
b. 勤務シフト組み立ての詳細方法は、下記の図表通りである。

- 運転士事務所が A 駅（A 駅に一番近い）に置かれるとすると、シフト交代は A 駅で行われる。
- 全ての本数に対しては、列車が A 駅に到着する時点を明記する。

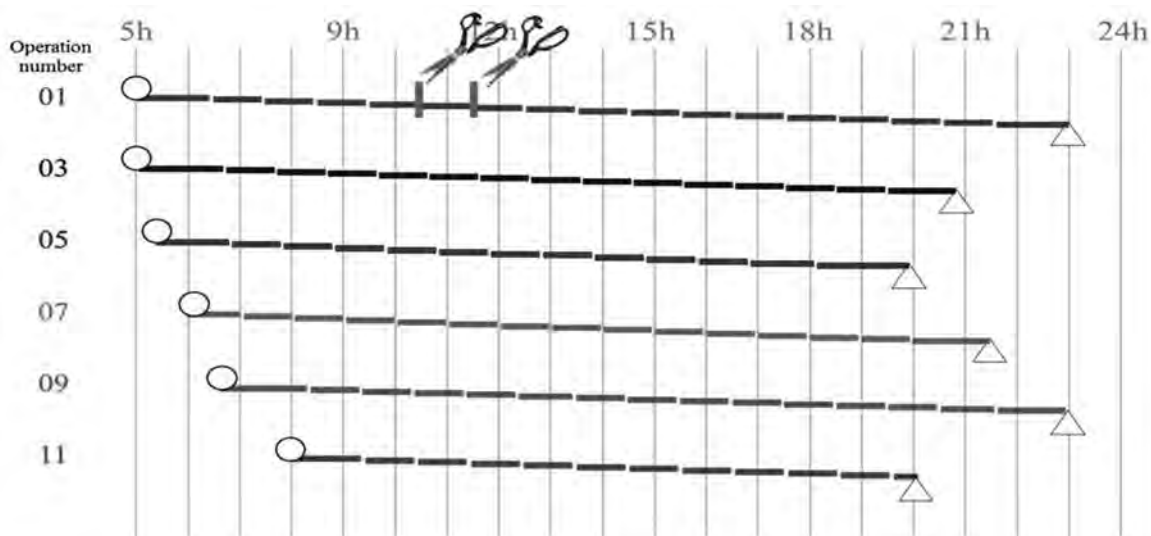


- 日常列車使用グラフ作成

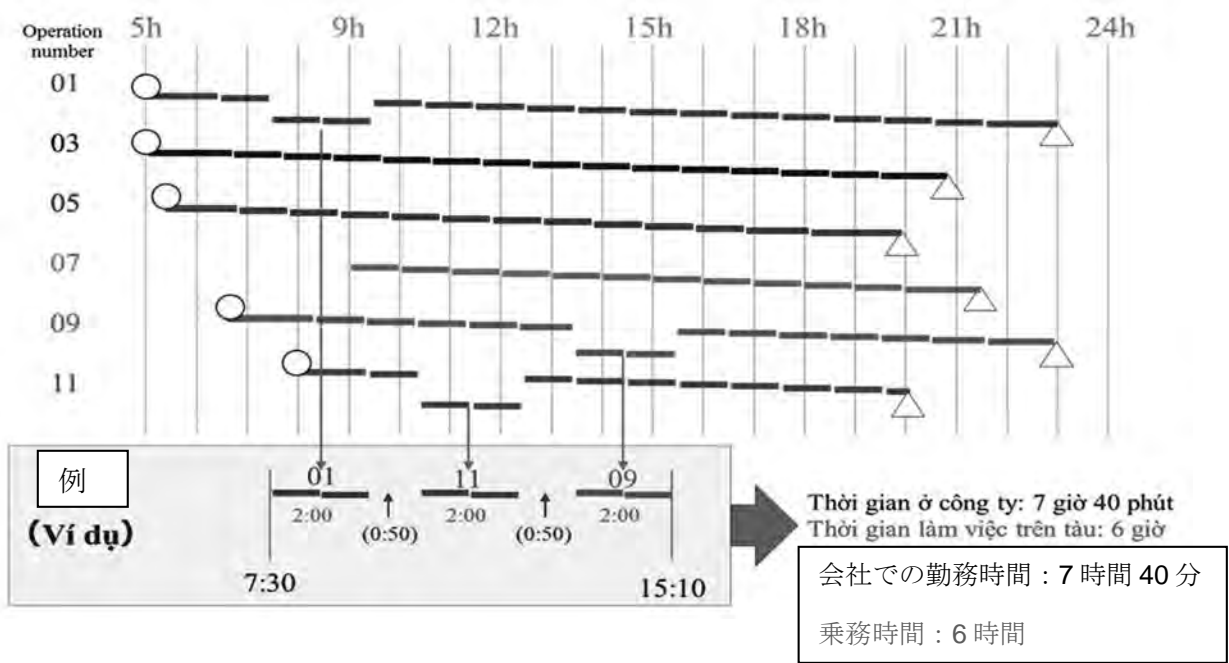
シフト交代



-全ての列車に対しては、列車が A 駅に到着する時点を明記する。



- 6.3.2a におけるシフト組み立て条件に基づき、それぞれの運転士の勤務シフトを作る。



-全員の運転士に対してシフトを配置できるまで、このような作業を続ける。

c. 全員の運転士に対する交代シフト表作成

-勤務シフトを3種類に分ける。

- ✓ 営業時間（昼間）のシフト（N）
- ✓ 早朝から始まるシフト（A）
- ✓ 夕方から深夜までの勤務シフト（P）。

-上記の計算だと、2A号線の運転士の勤務シフトは21シフトがある。下記のような条件で勤務シフトを配置してみる。

- ✓ 7つのAシフト（早朝）、7つのPシフト（夕方から深夜まで）、7つのNシフト（営業時間）。
- ✓ 夜の予備シフト（P77）、昼間の予備シフト（D）及び早朝の予備シフト（A77）。
- ✓ 毎週、運転士は2日間の休日がある。

ステップ1: 1人がどのように勤務シフトを交換できるのかシフト配置表

	Sun.	Mon.	Tue.	Wed.	Thurs.	Fri.	Sat.
Tuần 1	Hol	Hol	P1	A1	N1	P2	A2
Tuần 2	Hol	Hol	P3	A3	N2	P4	A4
Tuần 3	Hol	Hol	P5	A5	N3	P6	A6
Tuần 4	Hol	Hol	P7	A7	N4	N5	N6
Tuần 5	Hol	Hol	N7	D	D	P77	A77

を作成する。

-下記の原則でシフトを週の曜日に応じて配置する。

- ✓ 徹夜のPシフトは必ず翌朝のAシフトに継ぐ。
- ✓ PとAを同じ番号のあるペアにして勤務シフトを作る。
- ✓ (3) からシフト組み立て表を例として、P1の後ろは、確かにA1である。P1の後ろがA3だと、勤務シフトが継続できなくなる。
- ✓ 夜勤数と昼勤数が合わない場合は、連続に昼勤を務めることといった他の方法で調整する。
- ✓ 上記の条件をよく考慮すると、勤務シフト記号順番による組み立てが間違いのない。

ステップ2: 1週間における乗務時間及び乗務距離を試算する。

	Sun.	Mon.	Tue.	Wed.	Thurs.	Fri	Sat.	T.gian	Cự ly
Tuần 1	Hol	Hol	P1	A1	N1	P2	A2	30	600
Tuần 2	Hol	Hol	P3	A3	N2	P4	A4	35	500
Tuần 3	Hol	Hol	P5	A5	N3	P6	A6	30	500
Tuần 4	Hol	Hol	P7	A7	N4	N5	N6	30	500
Tuần 5	Hol	Hol	N7	D	D	P77	A77	25	400

- ✓ 「乗務時間」及び「距離」を上記の表に追加する。
- ✓ 予備シフトを連続で5週間に勤務すると、仕事が他の週より楽になる。
- ✓ 毎週の業務量を平準化するように交代で□□ 変更する。（上記の表に記載されている時間及び距離は例である。）

ステップ3：各運転士の運転時間及び距離を公平にするために入れ代わる
 実際には、絶対な公平をとれるのがとても難しいであるが、できる限りで一番バランスがとれるように研究する。

	Sun.	Mon.	Tue.	Wed.	Thurs.	Fri	Sat.	T.gian	Cự ly
Tuần 1	Hol	Hol	P1	A1	N1	P77	A77	30	500
Tuần 2	Hol	Hol	P3	A3	D	P4	A4	30	500
Tuần 3	Hol	Hol	P5	A5	N3	P6	A6	30	500
Tuần 4	Hol	Hol	P7	A7	N4	N5	N6	30	500
Tuần 5	Hol	Hol	N7	D	N2	P2	A2	30	500

ステップ4：日によるシフト組立表の作成

- ✓ ブロック1の最後欄（土日）をコピーしてブロック2の最初欄に貼り付ける。（例の写真をご参照）
- ✓ 次に、ブロック2の最後欄がブロック3の最初欄になる。このように6回繰り返して1日の勤務シフトができる。
- ✓ この時、左側の最初欄は週を指さずに、「運転士の名前」になる。

	Sun.	Mon.	Tue.	Wed.	Thurs.	Fri.	Sat.
Tuần 1	Hol	Hol	P1	A1	N1	P77	A77
Tuần 2	Hol	Hol	P3	A3	D	P4	A4
Tuần 3	Hol	Hol	P5	A5	N3	P6	A6
Tuần 4	Hol	Hol	P7	A7	N4	N5	N6
Tuần 5	Hol	Hol	N7	D	N2	P2	A2
Tuần 1	A77	Hol	Hol	P1	A1	N1	P77
Tuần 2	A4	Hol	Hol	P3	A3	D	P4
Tuần 3	A6	Hol	Hol	P5	A5	N3	P6
Tuần 4	N6	Hol	Hol	P7	A7	N4	N5
Tuần 5	A2	Hol	Hol	N7	D	N2	P2
Tuần 1	P77	A77	Hol	Hol	P1	A1	N1
Tuần 2	P4	A4	Hol	Hol	P3	A3	D
Tuần 3	P6	A6	Hol	Hol	P5	A5	N3
Tuần 4	N5	N6	Hol	Hol	P7	A7	N4
Tuần 5	P2	A2	Hol	Hol	N7	D	N2

ステップ 6：35 人の運転士に完全なシフトを作る。

ステップ 5 と同じように、1 週間の勤務日を横方向に進める。（例の写真の通り）

	June		July																														August		
	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2
	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat
1	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2
2	Hol	Hol	P3	A3	D	P4	A4																												
3	Hol	Hol	P5	A5	N3	P6	A6																												
4	Hol	Hol	P7	A7	N4	N5	N6																												
5	Hol	Hol	N7	D	N2	P2	A2																												
6	A77	Hol	Hol	P1	A1	N1	P77																												
7	A4	Hol	Hol	P3	A3	D	P4																												
8	A6	Hol	Hol	P5	A5	N3	P6																												
9	N6	Hol	Hol	P7	A7	N4	N5																												
10	A2	Hol	Hol	Hol	N7	D	N2	P2																											
11	P77	A77	Hol	Hol	P1	A1	N1																												
12	P4	A4	Hol	Hol	P3	A3	D																												
13	P6	A6	Hol	Hol	P5	A5	N3																												
14	N5	N6	Hol	Hol	P7	A7	N4																												
15	P2	A2	Hol	Hol	N7	D	N2																												
16	N1	P77	A77	Hol	Hol	P1	A1																												
17	D	P4	A4	Hol	Hol	P3	A3																												
18	N3	P6	A6	Hol	Hol	P5	A5																												
19	N4	N5	N6	Hol	Hol	P7	A7																												
20	N2	P2	A2	Hol	Hol	N7	D																												
21	A1	N1	P77	A77	Hol	Hol	P1																												
22	A3	D	P4	A4	Hol	Hol	P3																												
23	A5	N3	P6	A6	Hol	Hol	P5																												
24	A7	N4	N5	N6	Hol	Hol	P7																												
25	D	N2	P2	A2	Hol	Hol	N7																												
26	P1	A1	N1	P77	A77	Hol	Hol																												
27	P3	A3	D	P4	A4	Hol	Hol																												
28	P5	A5	N3	P6	A6	Hol	Hol																												
29	P7	A7	N4	N5	N6	Hol	Hol																												
30	N7	D	N2	P2	A2	Hol	Hol																												
31	Hol	P1	A1	N1	P77	A77	Hol																												
32	Hol	P3	A3	D	P4	A4	Hol																												
33	Hol	P5	A5	N3	P6	A6	Hol																												
34	Hol	P7	A7	N4	N5	N6	Hol																												
35	Hol	N7	D	N2	P2	A2	Hol																												

表 8 : 2A 号線の運転士の勤務シフトの組み立て

	JUN./16		JUL./2016																															AUG./16	
	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2
Lái tàu	Web	Thu	Fri	Sat	Sun	Mon	Tue	Web	Thu	Fri	Sat	Sun	Mon	Tue	Web	Thu	Fri	Sat	Sun	Mon	Tue	Web	Thu	Fri	Sat	Sun	Mon	Tue	Web	Thu	Fri	Sat	Sun	Mon	Tue
1	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2
2	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77
3	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4
4	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6
5	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6
6	A77	Hol	Hol	P1	A1	N1	P77	A4	Hol	Hol	P3	A3	D	P4	A6	Hol	Hol	P5	A5	N3	P6	N6	Hol	Hol	P7	A7	N4	N5	A2	Hol	Hol	N7	D	N2	P2
7	A4	Hol	Hol	P3	A3	D	P4	A6	Hol	Hol	P5	A5	N3	P6	N6	Hol	Hol	P7	A7	N4	N5	A2	Hol	Hol	N7	D	N2	P2	A77	Hol	Hol	P1	A1	N1	P77
8	A6	Hol	Hol	P5	A5	N3	P6	N6	Hol	Hol	P7	A7	N4	N5	A2	Hol	Hol	N7	D	N2	P2	A77	Hol	Hol	P1	A1	N1	P77	A4	Hol	Hol	P3	A3	D	P4
9	N6	Hol	Hol	P7	A7	N4	N5	A2	Hol	Hol	N7	D	N2	P2	A77	Hol	Hol	P1	A1	N1	P77	A4	Hol	Hol	P3	A3	D	P4	A6	Hol	Hol	P5	A5	N3	P6
10	A2	Hol	Hol	N7	D	N2	P2	A77	Hol	Hol	P1	A1	N1	P77	A4	Hol	Hol	P3	A3	D	P4	A6	Hol	Hol	P5	A5	N3	P6	N6	Hol	Hol	P7	A7	N4	N5
11	P77	A77	Hol	Hol	P1	A1	N1	P4	A4	Hol	Hol	P3	A3	D	P6	A6	Hol	Hol	P5	A5	N3	N5	N6	Hol	Hol	P7	A7	N4	P2	A2	Hol	Hol	N7	D	N2
12	P4	A4	Hol	Hol	P3	A3	D	P6	A6	Hol	Hol	P5	A5	N3	N5	N6	Hol	Hol	P7	A7	N4	P2	A2	Hol	Hol	N7	D	N2	P77	A77	Hol	Hol	P1	A1	N1
13	P6	A6	Hol	Hol	P5	A5	N3	N5	N6	Hol	Hol	P7	A7	N4	P2	A2	Hol	Hol	N7	D	N2	P77	A77	Hol	Hol	P1	A1	N1	P4	A4	Hol	Hol	P3	A3	D
14	N5	N6	Hol	Hol	P7	A7	N4	P2	A2	Hol	Hol	N7	D	N2	P77	A77	Hol	Hol	P1	A1	N1	P4	A4	Hol	Hol	P3	A3	D	P6	A6	Hol	Hol	P5	A5	N3
15	P2	A2	Hol	Hol	N7	D	N2	P77	A77	Hol	Hol	P1	A1	N1	P4	A4	Hol	Hol	P3	A3	D	P6	A6	Hol	Hol	P5	A5	N3	N5	N6	Hol	Hol	P7	A7	N4
16	N1	P77	A77	Hol	Hol	P1	A1	D	P4	A4	Hol	Hol	P3	A3	N3	P6	A6	Hol	Hol	P5	A5	N4	N5	N6	Hol	Hol	P7	A7	N2	P2	A2	Hol	Hol	N7	D
17	D	P4	A4	Hol	Hol	P3	A3	N3	P6	A6	Hol	Hol	P5	A5	N4	N5	N6	Hol	Hol	P7	A7	N2	P2	A2	Hol	Hol	N7	D	N1	P77	A77	Hol	Hol	P1	A1
18	N3	P6	A6	Hol	Hol	P5	A5	N4	N5	N6	Hol	Hol	P7	A7	N2	P2	A2	Hol	Hol	N7	D	N1	P77	A77	Hol	Hol	P1	A1	D	P4	A4	Hol	Hol	P3	A3
19	N4	N5	N6	Hol	Hol	P7	A7	N2	P2	A2	Hol	Hol	N7	D	N1	P77	A77	Hol	Hol	P1	A1	D	P4	A4	Hol	Hol	P3	A3	N3	P6	A6	Hol	Hol	P5	A5
20	N2	P2	A2	Hol	Hol	N7	D	N1	P77	A77	Hol	Hol	P1	A1	D	P4	A4	Hol	Hol	P3	A3	N3	P6	A6	Hol	Hol	P5	A5	N4	N5	N6	Hol	Hol	P7	A7
21	A1	N1	P77	A77	Hol	Hol	P1	A3	D	P4	A4	Hol	Hol	P3	A5	N3	P6	A6	Hol	Hol	P5	A7	N4	N5	N6	Hol	Hol	P7	D	N2	P2	A2	Hol	Hol	N7
22	A3	D	P4	A4	Hol	Hol	P3	A5	N3	P6	A6	Hol	Hol	P5	A7	N4	N5	N6	Hol	Hol	P7	D	N2	P2	A2	Hol	Hol	N7	A1	N1	P77	A77	Hol	Hol	P1
23	A5	N3	P6	A6	Hol	Hol	P5	A7	N4	N5	N6	Hol	Hol	P7	D	N2	P2	A2	Hol	Hol	N7	A1	N1	P77	A77	Hol	Hol	P1	A3	D	P4	A4	Hol	Hol	P3
24	A7	N4	N5	N6	Hol	Hol	P7	D	N2	P2	A2	Hol	Hol	N7	A1	N1	P77	A77	Hol	Hol	P1	A3	D	P4	A4	Hol	Hol	P3	A5	N3	P6	A6	Hol	Hol	P5
25	D	N2	P2	A2	Hol	Hol	N7	A1	N1	P77	A77	Hol	Hol	P1	A3	D	P4	A4	Hol	Hol	P3	A5	N3	P6	A6	Hol	Hol	P5	A7	N4	N5	N6	Hol	Hol	P7
26	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol
27	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol
28	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol
29	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol
30	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol
31	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol
32	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol
33	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol
34	Hol	P7	A7	N4	N5	N6	Hol	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol
35	Hol	N7	D	N2	P2	A2	Hol	Hol	P1	A1	N1	P77	A77	Hol	Hol	P3	A3	D	P4	A4	Hol	Hol	P5	A5	N3	P6	A6	Hol	Hol	P7	A7	N4	N5	N6	Hol

凡例：A - 早朝から始まる勤務シフト、P - 夕方から始まる勤務シフト、N - 昼間の勤務シフト、D - 昼間の予備シフト、A77 - 早朝の予備シフト、P77 - 夕方の予備シフト、Hol - 休日。

4. 運転士の教育・養成計画

免許の交付を受けた運転士に対しては、まだ技能維持及び知識強化のために常に訓練・教育する必要がある。会社の運転士の教育・養成計画は、下記の表通りに表示される。

表 9：運転士の教育・養成各講習

分類	実施時期	内容	実施場所
フォローアップ教育（養成講習）	免許を取得した後の 1 年間以内	専門知識に関する学科講習、トラブル対処訓練、故障対処訓練	研修センター
	免許を取得した後の 3 年間以内		
運転技術の調査/試験	免許を取得した後の 6 ヶ月以内	運転操縦、車両に搭載される設備の処置、定時運転、注意すべきな仕事	
	免許を取得した後の 1 年間以内		
内部教育	必要に応じて行う教育	運転規則の変更を周知し、（事故・輸送障害等の）情報を共有する。	各路線の Supervisor
	定期的な教育	専門知識に関する学科講習、トラブル対処訓練、故障対処訓練	
	転属教育	転属先で勤務するのに必要な知識、技術。	

4.1. 補足講習

免許を取得した時点より一定な期間後に、運転士の知識及び技能を検査・試験を実施しなければならない。

技能の補足教育講習を実施するのは、下記の場合に当てはまる。

- ✓ 運転士の知識・技能が不十分である場合この教育講習を受けさせなければならない。
- ✓ 運転士が技能、知識を補充するための教育を受ける必要がある。

表 10：運転士の養成講習

実施時期	内容	実施方法
免許を取得して1年後 及び免許を取得して3年後	運転士の業務	座学
	会社の現状	
	専門知識教育	
	事故対処訓練	実習
	故障対処訓練	

4.2. 運転技術の調査・試験

- 免許を取得して6ヶ月後及び1年間後、運転士は基本運転技能を評価されるために各試験を受けなければならない。これらの試験は、運転士が Supervisor の監督で実際に列車を運転する際に実施される。
- 運転士は試験で運転技能に関する要求を満たさなかった場合、（研修センターで）補足教育を受けた後でなければ、また運転させない。

表 11：運転技術の調査・試験

実施時期	内容	実施方法
免許を取得して6ヶ月後	運転操縦	
	異常時の処置	

及び免許を取得して1年後	定時運転	監督者は、乗務員が列車に乗務している間に調査する。
	注意すべき仕事	
	その他検査必要な内容	

4.3. 内部教育

規制機関の規定による教育、訓練及び検査・試験実施以外、内部教育もとても重要である。

内部教育の実施時期、内容及び方法は下記の表で表される。

表 12：内部教育

実施時期	内容	実施方法
必要に応じて行う教育	運転規則が変更になる場合に周知する	教育計画に含まないが、必要に応じて実施される。
	新規に発行された通達・省令について周知する。	
	情報共有（鉄道事故、処理ミス等）	
	特別に周知が必要な事項	
定期的な教育	専門知識教育講習	部内の教育計画に関する規定に基づき年間で実施する期間及び内容を規定する。
	事故対処訓練	
	故障対処訓練	
転属教育	転属先での必要な知識	他の路線から異動される時に実施する。

5. 運転士の管理

- 教育以外、監督者は乗務員の管理を実施しなければならない。これらの情報は管理のためにデータベースに入力される。これらのデータは、給与計算、安全管理や事故調査等に使用される。
- 運転士の管理は、下記のような事故を含む。
 - ✓ 点呼
 - ✓ 巡回 / 監督
 - ✓ 日常勤務管理
 - ✓ 運転士の能力管理

表 13：運転士の管理

分類	実施時点	内容
点呼	乗務前と乗務後	運転士の精神、身体を検査し、勤務シフト前と後ろに重要な内容を伝える。
巡回 / 監督	運転士が乗務中	運転士の実際の乗務状況を検査する。詳細内容は、会社の内部規定に定められる。
勤務管理	随時	業務分掌、勤務時間管理、運転距離管理など。詳細は社内規程により定められている。
能力管理	随時	身体機能、精神機能、知識、事故履歴など。詳細は社内規程により定められている。

5.1. 点呼

- 点呼は、運転士の勤務時間コントロールだけではなく、精神及び身体を検査することと重要な内容を伝えることも目的にする。また、点呼は定めた計画通りに列車運転を保障するために実施する。
- 点呼作業の実実施時点及び点呼の内容は、下記の通りである。

表 14：運転士の点呼

実施時期	内容
------	----

出勤時	出勤の確認、勤務の指示、注意事項の伝達、心身状態の確認。
乗務前	行路表を受けて、これから乗務を開始する旨を報告して列車を計画通りに運転することを保障する。
乗務後	乗務を終了した旨を報告する。（監督者に報告書を提出する。）
退勤時	異常有無状況を報告して次の勤務シフトを確認する。

5.2. 巡回 / 監督

- 巡回 / 運転士の監督は、監督者によって実施される。巡回/監督時に収集できた情報は、運転士管理のためのデータベースに更新され、全員の監督者に共有される。
- これらのデータは、監督者が運転士に対する管理、教育・訓練の方向を出せるように情報を収集する目的のほか、要求された時、規制機関、調査機関に提供される。

表 15 : 巡回 / 運転士の監査

実施時点	内容
添乗巡回	監督者は、運転室又は客室に乗って運転士の作業状況を検査する。
定点巡回	監督者は、あるホームで巡回、運転士の作業監査を実施する。
特別巡回	事故防止キャンペーン期間中などで、特に重点的なチェックや指導を行う場合。（添乗巡回又は定点巡回）

5.3. 勤務管理

運転士に対する「勤務管理」の内容は、会社の社内規定である。これらの情報は、管理用データベースに入力され、運転士に対する給与計算及び安全管理の基礎になる。

表 16：運転士の勤務管理

種類	内容
勤務の指定	<ul style="list-style-type: none"> - 運転士の勤務シフトは、それぞれの路線で詳細に規定される。 - 全員の運転士に対する業務量及び勤務時間、休憩時間に関する公平の保障を勤務シフト組立の原則とする。
勤務時間の管理	監督者は運転士の実際の労働時間を記録して、運転士が労働基準の上限を超えないよう管理する。
勤務距離の管理	監督者は運転士の乗務距離を記録する。これも運転士の勤務実施状況評価と毎月の手当て計算（会社の規定によりあれば）のために重要な根拠にある。
教育や訓練の管理	<ul style="list-style-type: none"> - 監督者は運転士に行った教育や訓練を管理する。 - 時間数やスキルが基準に満たない場合は、これを補う。
健康管理	<ul style="list-style-type: none"> - 運転士は、定期的に 6 ヶ月に 1 回健康診断を受けなければならない。 - 定期的な健康診断の結果に基づき、監督者はそれぞれの運転士に対して適切な決定を出す。

5.4. 運転士の能力管理

能力管理は、運転士の品質の向上及び安全管理のための社内規定である。これは、運転士のミスや事故を発生させる可能性の予測に対して非常に重要な管理方法である。「能力管理」に関する情報は、管理のための運転士のデータベースに入力される。

5.4.1 運転士機能の管理内容

列車運転を安全且つ効果に確保するために、運転士の機能管理は非常に重要である。運転士機能の管理内容は、運転士管理ソフトに入力され、下記の表通りである。

表 17：運転士の能力管理内容（参考）

分類	内容
健康管理	健康診断の結果や病歴の管理。列車運転士としての基準を満たしているかを把握する。
無呼吸症候群（SAS）	寝ている間に呼吸が途絶える病気の検査。この病気の人 は熟睡できないので、居眠り運転をしやすくなる。
教育訓練効果 確認試験結果	V.4 で実施した教育訓練の結果の管理。列車運転士としての基準を満たしているかを把握する。
巡回指導結果	V.5.2 で実施した巡回指導の結果の管理。
執務状況	V.5.2 で実施した巡回指導の結果及び日常の執務状況の管理。
事故履歴	各運転士の事故履歴の管理。

5.4.2 運転士のランキング

- 運転士は、検査内容の結果に基づきランキングされる。運転士に対する教育・訓練の計画及び内容は、運転士のランクによって変わる。
- 列車運行部（HQ）の部長は、運転士ランキング評議会会長の役割をする。分析、運転士のランク付けに使われるデータは、よく検討しなければならない。

表 18：運転士のランキング（参考）

ランク	内容
ランク 1： 指導が必要な運転士	仕事や知識、技能に関する問題がある者。
ランク 2： 補習が必要な運転士	ミスや事故を起し、補習教育の必要がある者。
ランク 3： 乗務一時的禁止	ミスや事故を起し、知識・技能、心身の機能に問題のある者。

ランク 4 : 乗務無限禁止	頻繁にミスや事故を起こし、心身の機能に大きな問題がある者。
ランク 5 : 免許回収	運転士の要件を満たさず、改善の見込みが無い者。

VI. 列車運行計画策定

1. 運行計画策定の時系列

「輸送改善計画」は、会社の5年営業計画に合わせて作成しなければならない。このため、「輸送改善計画」が最良で、お客様の需要を反映できるように十分に考慮して準備しなければならない。

また、運行計画の作成、制定、公布は、鉄道法及び関連手引き省令に従わなければならない。

下記の表における運行計画作成の時系列は、「国鉄・都市鉄道における荷重命令、速度命令、列車ダイヤの作成、制定、公布に関する規程」の省令第..../2015/TT-BGTVT号（案）の定めを更新している。

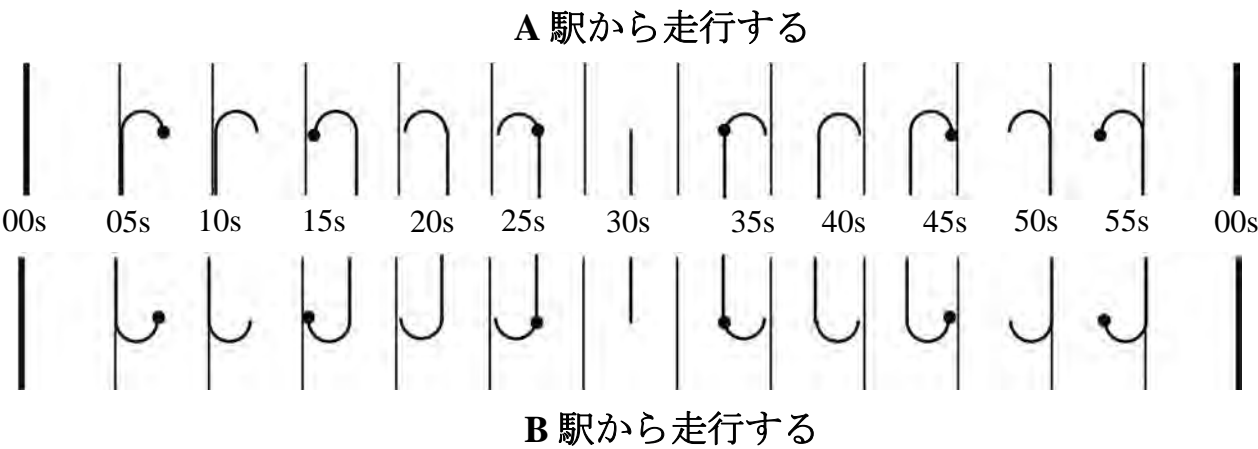
表 1 9 : 運行計画策定時系列

事項 \ 年 月	年																		
		5	4	3	2	1	12	11	10	9	8	7	6	5	4	3	2	1	実施
列車計画の検討●																		
輸送改善計画の立案		○.....●																	
運行計画の検討		○.....●																	
運行計画の各部調整		○.....●																	
運行計画の具体化				○.....●															
詳細ダイヤ作成						○.....●													

事項	年		5	4	3	2	1												
	月						12	11	10	9	8	7	6	5	4	3	2	1	実施
運行管理データ作成														○.....●		●			
乗務員勤務作成														○.....●		●			
ダイヤ印刷															○.....●		●		
規制機関へ届出																○.....●		●	
関係部説明																○.....●		●	
ダイヤ改正プレス																	○.....●		
改正準備																		○.....☀	

ノイにおける都市鉄道各路線に対してダイヤの記号を統一することは、担当者間の意思の疎通及びより良い協力のために、必要不可欠である。

- a. 縦軸（距離）：距離を示す。それぞれの駅に対して1線を引く。駅的位置を表す線の配置は、距離によって決定される。
- b. 横軸（時間）：駅間で列車が走行する時間を示す。それぞれの線は運転時間の1分に相当する。1分より短い時間だと、記号による読み方は下記のように表される。



注: ●が付いていないのは10秒単位。●が付いているのは5秒単位。

c. ダイヤにある他の記号：

表20：ダイヤにあるいくつかの記号

No.	記号	意味	備考
1	○	車庫から出てきた列車	
2	△	列車の運行の終わり (車庫/側線に入る)	
3	◎	ポイントが設置されていない駅	
4	×	車両の入換のみで使用する駅	
5	—□—	回送列車 (毎日運転)	
6	—■—	不定期回送列車 (運転日指定)	

7	ー ト	試運転列車	
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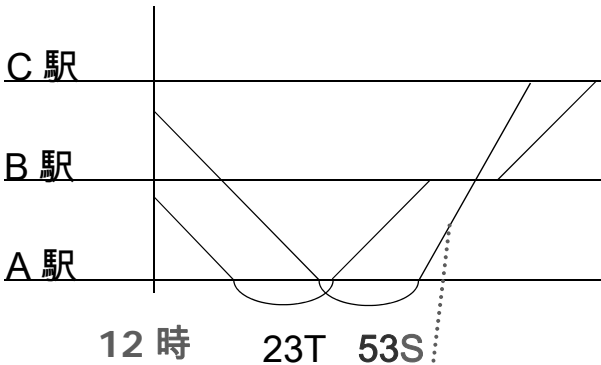
2.2. 列車運転番号

1 日に多くの運転本数があるため、列車ダイヤで表す時、識別しやすくして運転指令又は運行に関するフォーマット作成が便利になるようにそれぞれの列車に別の番号をつける必要がる。

列車運転番号は、わかりやすく識別しやすい、下記のような重要な情報が無ければならない。

- ✓ 運転方向
- ✓ 始発駅発車時刻
- ✓ 運行番号
- ✓ 車両所属

a. 日本の列車運転番号に関する規定の例：



列車運転番号：

A 12 53 S

①②③④

表 2 1 ： 日本の列車運転番号の記号の規定の例

シンボル	意味
①	運転方向
②	始発駅発車時刻

③	運行番号
④	車両所属

b. 中国（北京メトロ）の列車運転番号に関する規定：

- 列車運転番号作成の原則：十進法の 4 桁を使って列車番号を表示する。一番目の桁は運転方向を示し（「2」は上がり方向を示して、「1」は下り方向を示す。）、二番目の桁は列車の性質を示し、最後の 2 桁は運転順番を示す。

- 列車の性質及び列車番号作成規定：

表 22：中国の列車番号に関する規定

列車分類	記号	列車番号
計画に従う旅客列車	0-3	1001—1499; 2001—2499
貨物列車	4	1401—1499; 2401—2499
暫定旅客列車	5	1501—1599; 2501—2599
試運転列車	6	1601—1699; 2601—2699
救援列車	7	1701—1799; 2701—2799
デポーまで走行する回送列車	8	1801—1899; 2801—2899
工事列車	9	1901—1999; 2901—2999

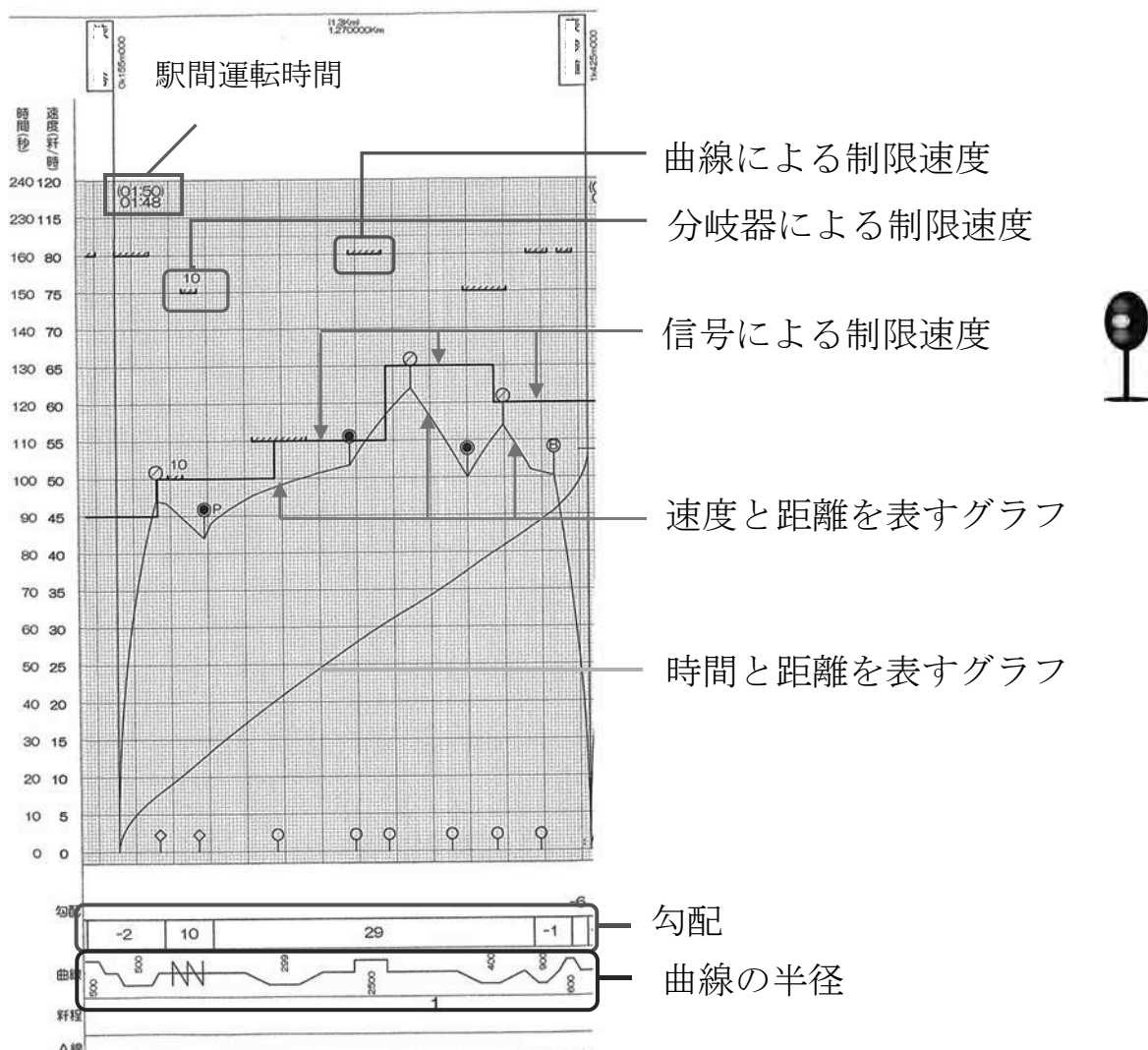
コメント：

- ✓ ハノイの都市鉄道 4 号線（決定第 1259/QĐ-TTg により）は、環状線であり、他の路線との中継ぎ及び接続の役割がある。中国の規定のような「上り・下り」の識別が不合理である。
- ✓ 運転順番の番号は、2 桁しか無い（01 ÷ 99）。一日にあたりの運転本数が 100 以上だとすると、繰り返さなければならないので列車運転指令が不便になる。

- ✓ 「試運転列車」、「回送列車」、「救援列車」、「工事列車」は、旅客列車と識別しやすいように、列車ダイヤ上はシンボルで表示されることが一般である。
- ✓ 日本の列車番号付けの規定には、列車の出発時刻を識別できる。これは、運転指令及び列車運行に関するフォーマット・報告書作成に便利になる。

3. 列車運転曲線

- 列車運転曲線とは、列車速度、運転時間と距離の関係を表すものをいう。駅間の適正な運転時間を定める基礎となる。
- 駅間の運転時間は、列車運転曲線を描いて決定する。
- 列車運転曲線には次のような情報が盛り込まれている。



3.1. 運転曲線作成方法

a. 「運転速度」と「運転距離」の関係を表す曲線（赤線）

-列車の速度を計算によって求めるには、「加速力」と「減速力」を求める。

- ✓ 加速力 **accelerating force** : モーターの力、下り坂
- ✓ 減速力 **decelerating force** : ブレーキの力、上り坂、曲線の抵抗、空気の抵抗

- これらの関係を式に表すと、次のようになる。

$$\begin{array}{c} \text{加速力} \\ \text{Accelerating force} \end{array} = \begin{array}{c} \text{モーターの} \\ \text{力 Power of} \\ \text{motor} \end{array} - \left[\begin{array}{c} \text{登り坂の抵抗} \\ \text{Resistance of} \\ \text{uphill} \end{array} + \begin{array}{c} \text{曲線抵抗} \\ \text{Curve resistance} \end{array} + \begin{array}{c} \text{空気抵抗} \\ \text{Air resistance} \end{array} \right]$$

b. 「時間」と「距離」の関係を表す曲線（青線）

-運転する速度が決まったら、走行時間を算出する。

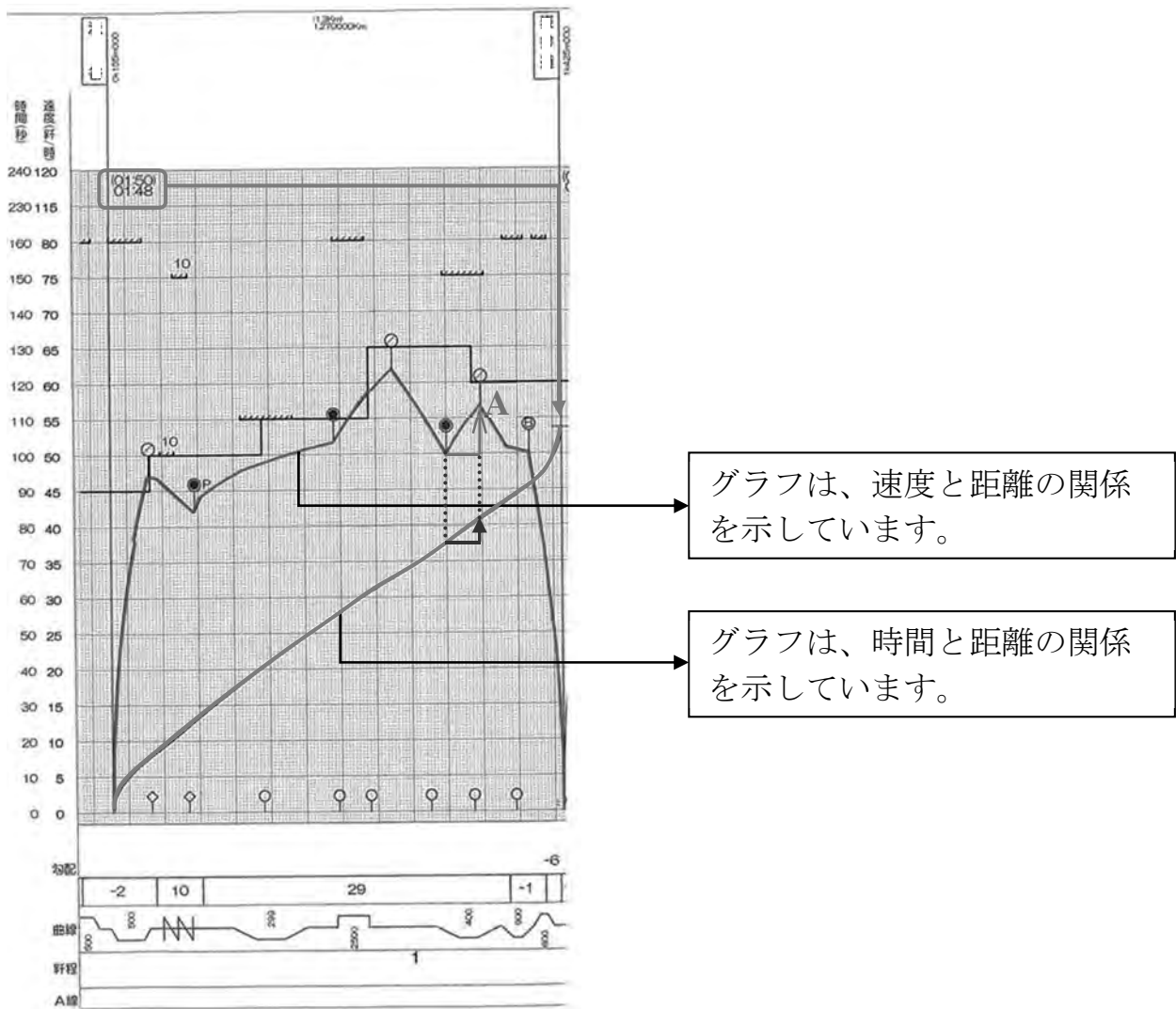
$$\text{走行時間} = \text{「距離/速度」}$$

- グラフ A の箇所では 50km/h から 57km/h に加速し、100m 進んでいる。

これを、速度変化の平均である「53.5km/h で 100m 走行した」と考える。

下記のグラフにおける A 箇所での運転時間は、次のようになる。

$$T_A = \frac{100 \text{ (m)}}{53.5 \text{ (km/h)}} \times \frac{3600 \text{ (s)}}{1000 \text{ (m)}} \approx 6.7 \text{ (秒)}$$



- このように小さく区切ることで、A 駅から B 駅までの運転時間を算出できる。この例では、A 駅から B 駅までの運転時間が 108 秒（1 分 48 秒）である。

- また、速度が変化しているときの加減速度[km/h/s]が分かれば、次の計算式で求めることも可能である。

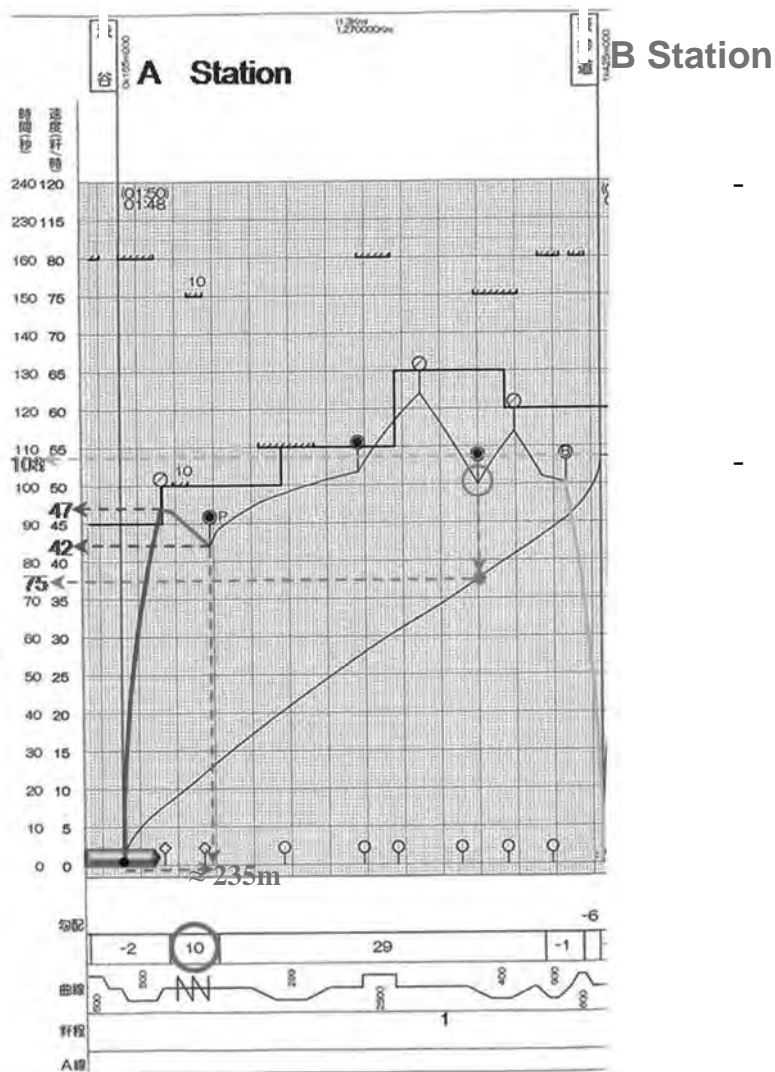
$$\text{運転時間 (s)} = \frac{\text{速度の変化量 (km/h)}}{\text{加減速度 (km/h/s)}}$$

-列車ダイヤは、運転を管理しやすいために、5 秒の速度に従い計算することを規定する。計算上の運転時間は、5 秒の単位に位取りする。この位取り部分は「時間余裕 (margin time)」と呼ばれる。実際に運転する際、運転士は作業を実施する時の一定の余裕時間となる。

3.2. 運転曲線の読み方・描き方

列車運転曲線を描画する方法を説明するために、列車運転曲線上の例を示す。

- 運転曲線は列車の中心を表している。
- 赤線がA駅発車時の加速であり、赤線最後の○は加速終了を表している。
- この時点での速度は約47km/hだ。
- 緑線は惰行 coasting だ。○の「10」は上り勾配10‰を表し、列車は約42km/h まで減速している。再度加速に移るこの地点まで、A 駅から約235m 進んでいる。



- その後、加速と惰行を繰り返す、○地点で、A Station から約75秒（一目盛1秒）経過していることが分かる。
- 最後にブレーキ減速して、B Station に停止しているのがオレンジのラインとなる。到着時の時間を見ると108秒（1分48秒）であることが分かる。

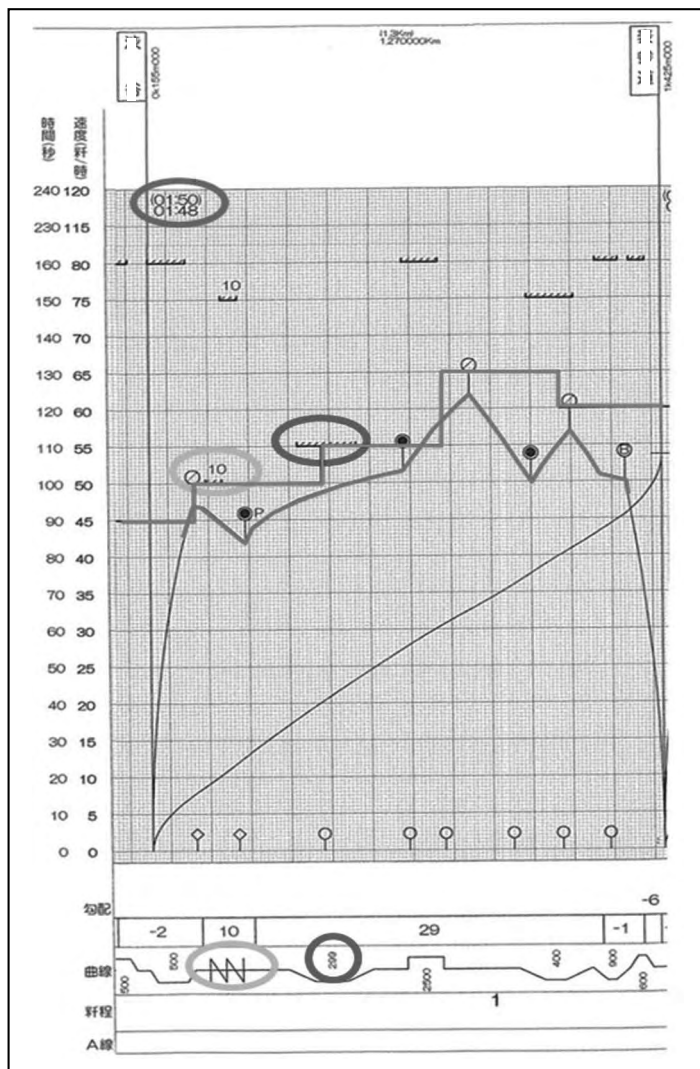
3.3. 列車運転曲線を作成するためのデータ

表 23: 列車運転曲線を作成するためのデータ（参考）

№	入力項目	説明
①	速度に応じたモーターの力 Power of the motor according to the speed	通常は、電圧のパラメータは 90% の値を、車輪径は新品と最大摩耗の中間値を理論値として用いる。 例えば、電 圧：1500V → 1350V; 750V → 675V. 車輪直径：860mm → 820mm.
②	ブレーキによる減速度 Power of Deceleration	東京メトロの列車は 3 km/h/s ～ 4 km/h/s 位
③	勾配の位置及び大きさ Position of the gradient and size of the gradient	1,000m 進んで何 m 上下するか（‰）。
④	曲線の位置及び曲線の半径 Position of the curve and size of the curve	曲線半径による抵抗の大きさとその区間の制限速度を求める。（それぞれのプロジェクトでは、既に決められる。）
⑤	ポイントの位置及びポイントの大きさ Position of the point and size of the point	曲線半径による抵抗の大きさとその区間の制限速度を求める。
⑥	信号機の位置及び信号の指示する速度 Position of signal and speed of signal	その信号機の先を何 km/h で走行できるか。 その信号機が指示できる最高の速度を入力する。
⑦	列車の長さ The length of the train	運転曲線は列車の中心を表現している。制限区間の通過には列車の長さを考慮する必要がある。
⑧	空気抵抗の大きさ	実測による。例えば、東京メトロでは $R = 1.645 + 0.0491V + 0.001221V^2$

	The magnitude of the air resistance	
⑨	列車重量と定員 Train weight and capacity	一人平均 55kg 程度で計算する。

3.4. 列車運転曲線をチェックときの注意点



№	チェック項目	不備があった時のリスク
①	曲線に対する制限速度が適正か？	速度超過による脱線、転覆のおそれ
②	ポイントに対する制限速度が適正か？	
③	信号速度が制限速度以下となっているか？	
④	運転操作に余裕があるか？	列車遅延の原因。また、遅れても回復できない。
⑤	運転時間の設定に余裕があるか？	
⑥	車両性能は正しいデータか？（加速や減速の性能）	正確な運転時間が算出できない。
⑦	線路の条件は正しいデータか？（曲線や勾配のデータ）	

表 24：運転曲線をチェックするときの注意点

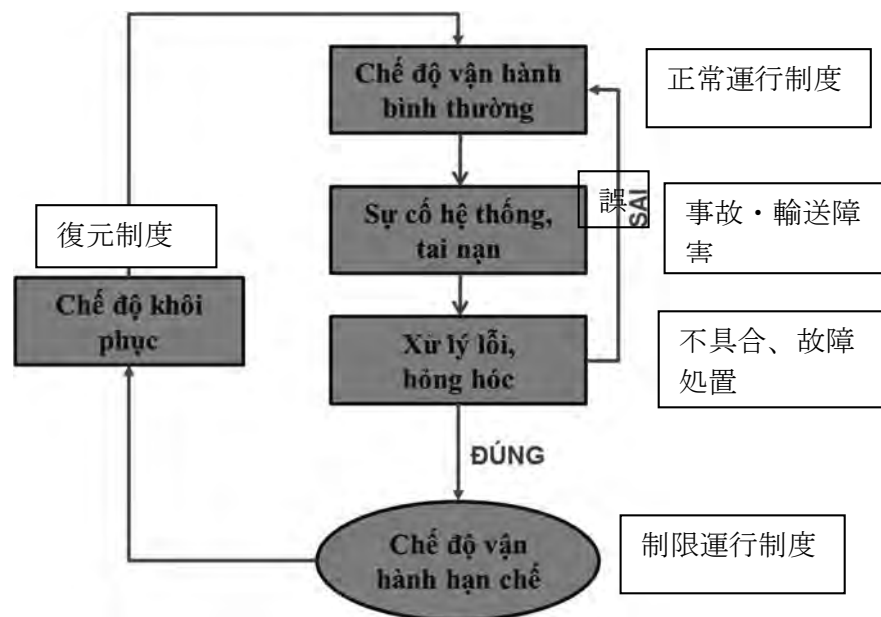
4.乱れた列車運行を復元する方法（計画）

実際には、すべての輸送システムが事故・輸送障害によって中断される可能性があるため、安全且つ効果運転を確保することと良い品質のサービスを旅客に提供するように、事故・輸送障害発生時一番早い列車運行復元計画を出さなければならない。

輸送障害対応プロセスは、下記の事項を含む。

- ✓ 輸送障害分析及び発生する可能性のある後件の確定
- ✓ 復旧措置を決定するために分析（位置、時間、その他の事態）
- ✓ 輸送障害解決実施（運転技術、渡り線、副本線などを活用する。）

上記のプロセスに沿って、下記のフローは列車の交通への影響を低減するために輸送障害対応方法の一つのモデルである。

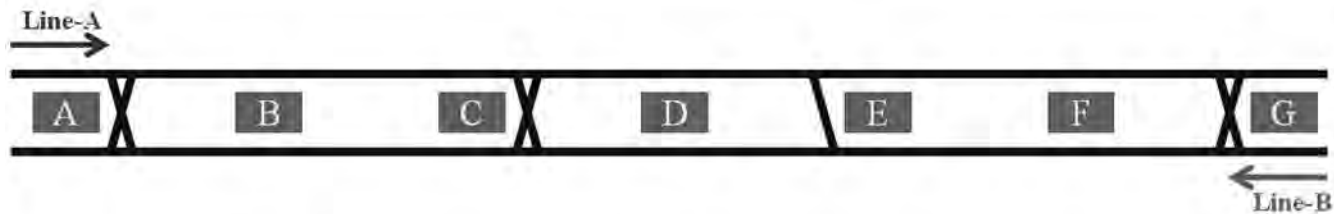


復旧計画を研究するために、次のような2種類に分ける。

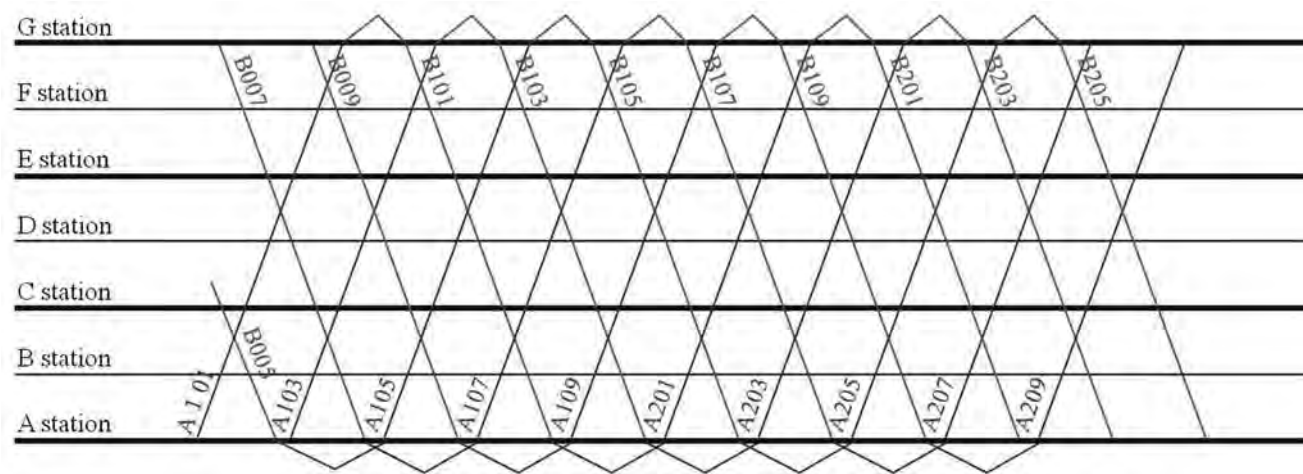
- ✓ 遅れが深刻ではない場合
- ✓ 遅れが大きくなってしまった場合（深刻）。

4.1. 遅れが深刻ではない場合

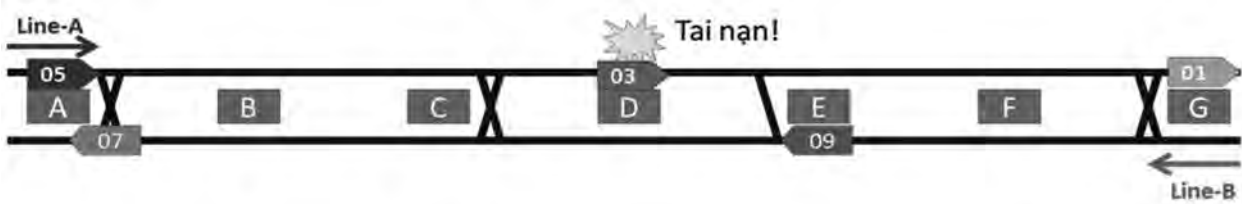
-次のような路線と仮定します。

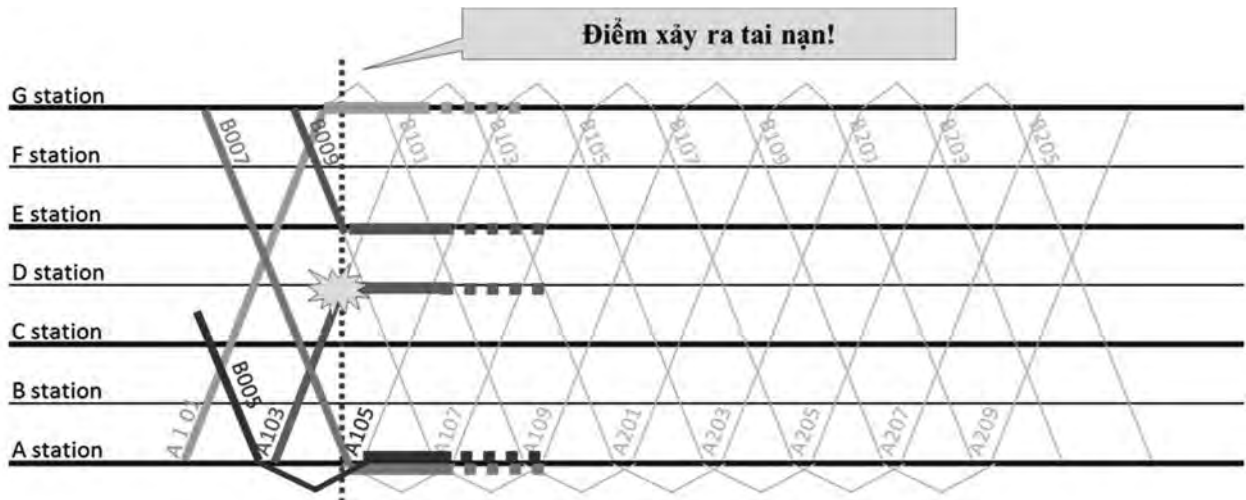


-列車ダイヤは次の通りです。

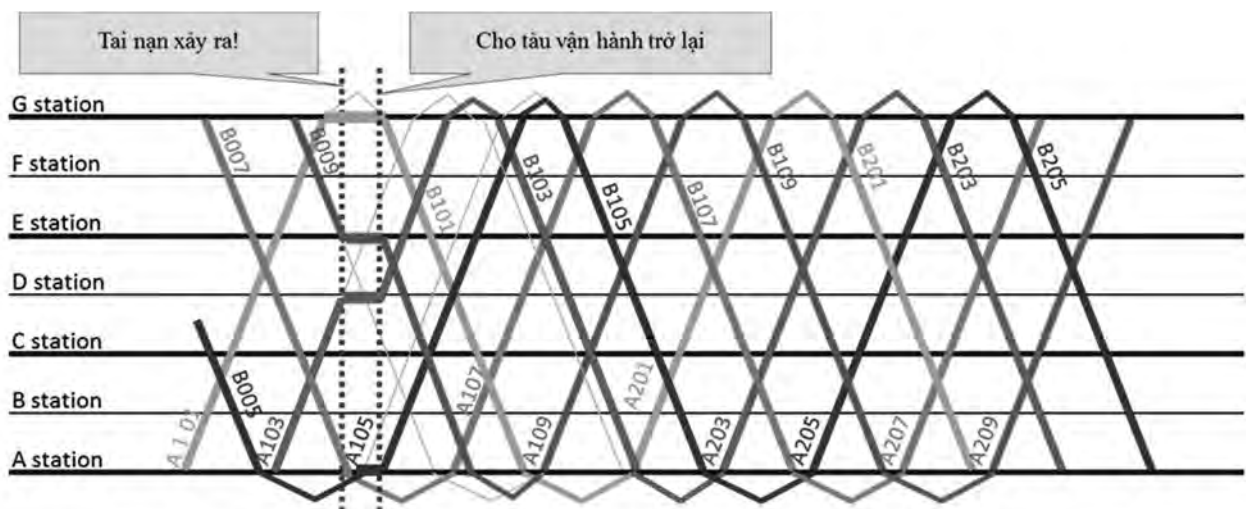
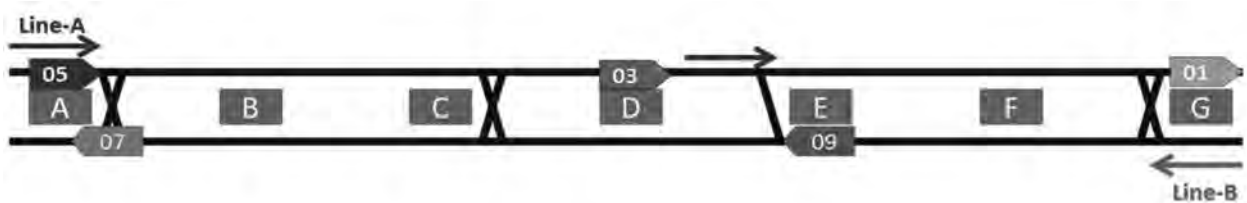


D 駅で A103 列車にアクシデントが発生し、運転が出来なくなると仮定します。





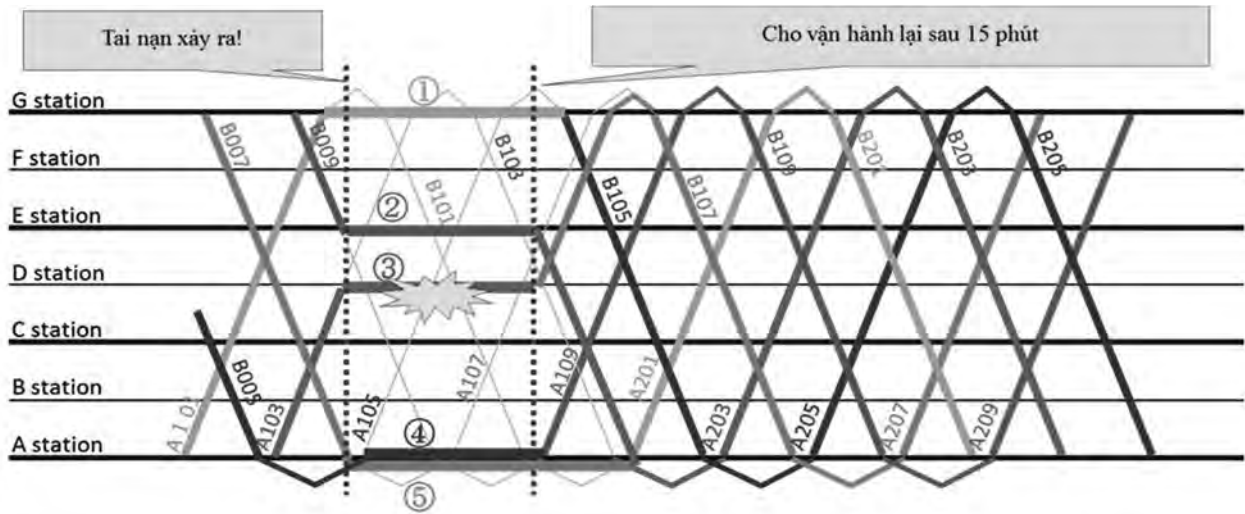
短い時間で解決できたら、元の計画通りに列車運転を再開する。（下記の図通り）



4.2. 遅れが大きくなってしまった場合（深刻）

a. 運行番号を変更する方法（運行振替-Operation transfer）

例えば、遅れが15分であれば、15分後の運行状況に応じた運行番号に変えてしまう方法です。

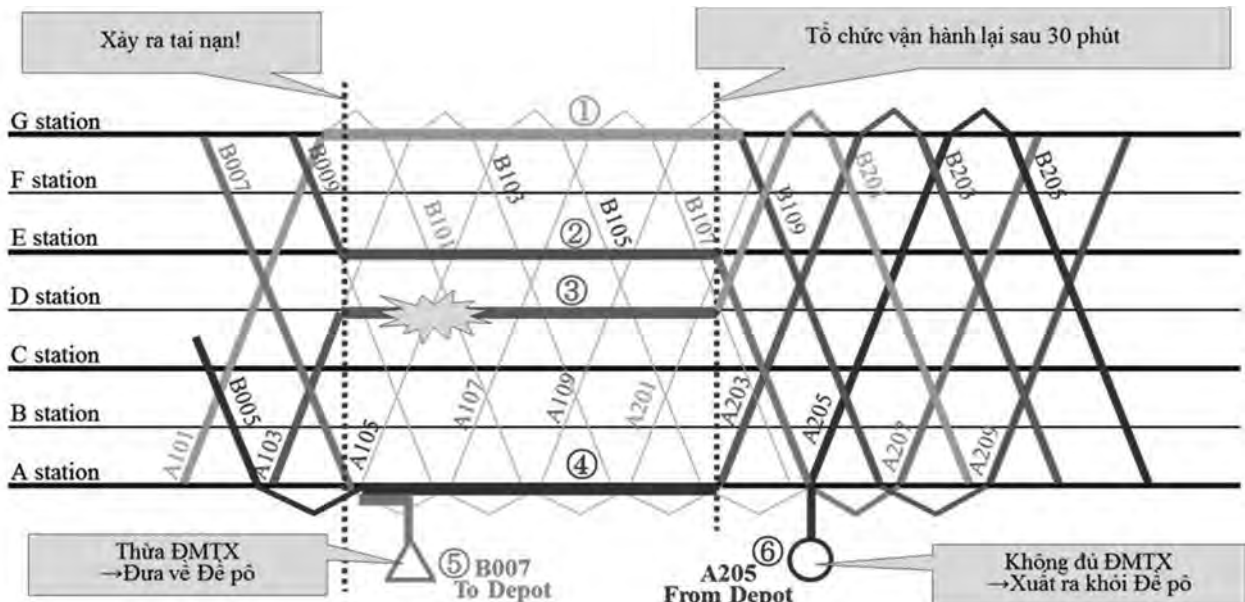


- (上記の図のように調整し) 運行番号を変更する。

A103 → B107; B105 → A109; A101 → B105; B009 → A203; B007 → A201

b. 車両基地の車両を活用する方法：

例えば、A 駅に車両基地があると仮定します。深刻なインシデントが列車運転の停止につながる。インシデントが復旧された後、元の列車ダイヤ通りに運転を指令するような計画がなければならない。



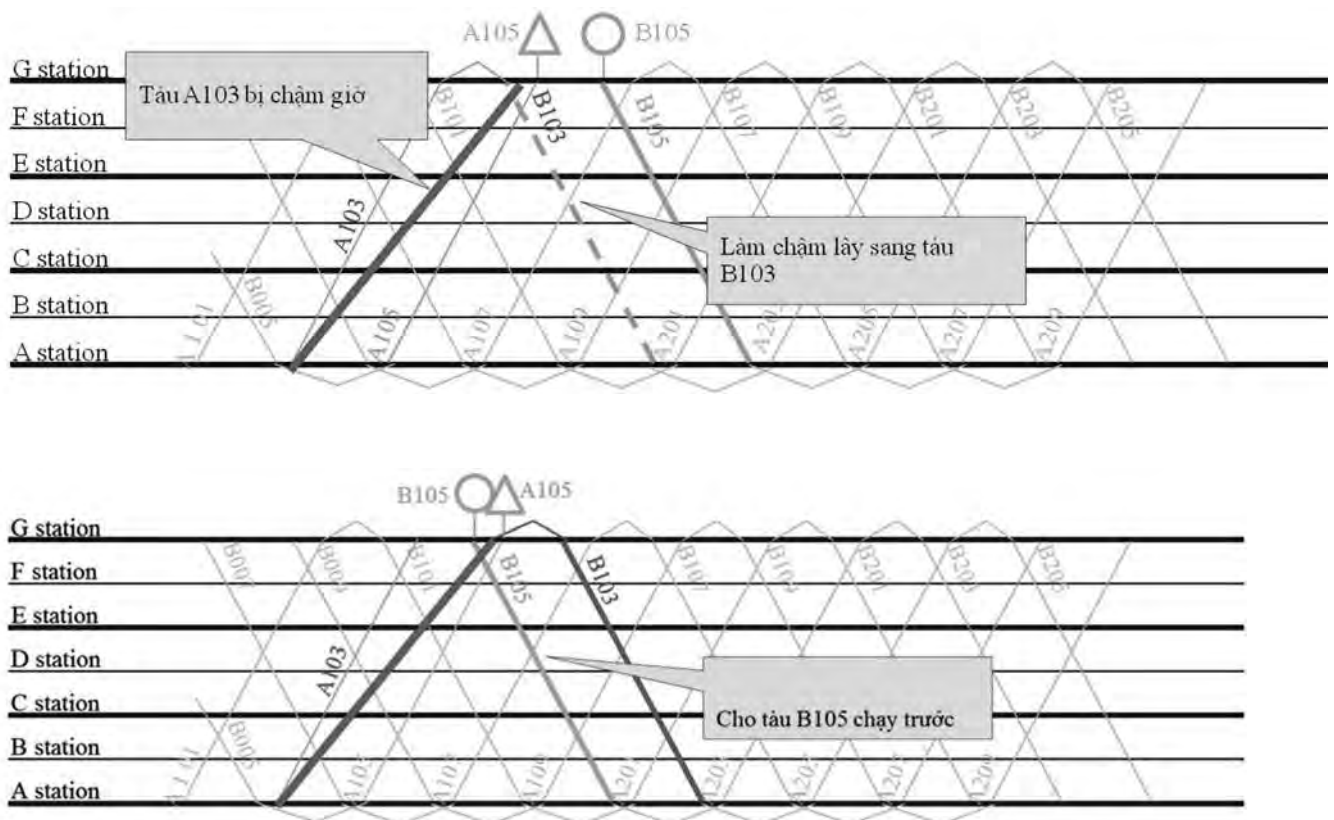
指令（上記の列車ダイヤで表している通り）：

- B007 列車をデポーに戻してその他の各列車を駅で停止させて事故復旧を待たせる。

- 事故・輸送障害復旧を終了した後、列車ダイヤに基づいて適切な調整計画を出す。上述したように、運行番号を変更するとともにデポ一の車両を活用する。

c. 列車を運行する順序を変更する方法 (Change the order of operation)

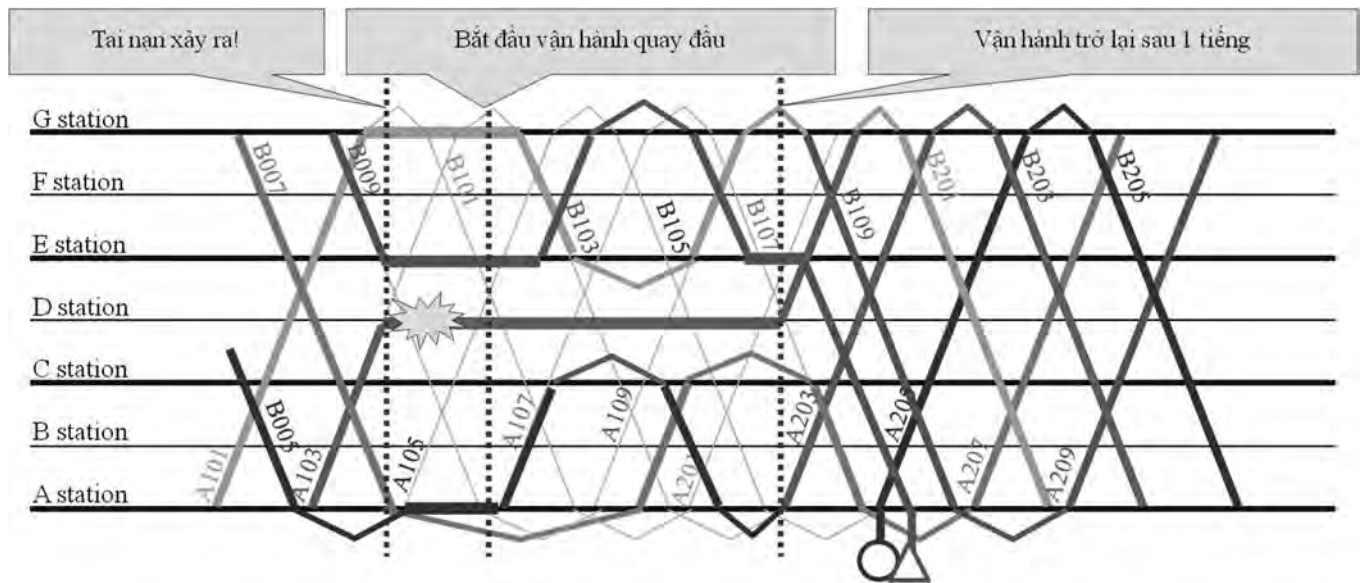
例えば、G 駅に車両基地があると仮定します。



d. 一部区間だけ運休する場合 (train turning operation)

運転再開まで長時間がかかる場合は、アクシデントが発生した部分を除いて運転を再開します。これを「Train turning operation (折り返し運転)」と言います。





VII. 実施組織

1. 列車運行管理部 – 本社

- 国の法令、会社の規程及び本マニュアルに従い、運行計画策定に関して助言を出し、実施する。
- 列車運行に関する各書式（運転士の勤務シフト組み立てフォーマット、列車運行報告書に関するフォーマット等を含む）を作成する。
- 各ユニットが承認された運行計画に従い実施することを監査する。

2. OCC

- 承認された運行計画に基づき、事故・輸送障害発生時に運行の案、運行復元措置を出す。
- 運行計画の実施を監査し、運行状況の日常報告書を作成して列車運行管理部へ提出する。

3. 運転士管理センター

- 会社によって承認された計画通りに運行計画を実行する。
- 計画をレビューして完全にするような提案を出して、実施する。

4. 列車運行に関する業務実施各部門

- 承認された運行計画に基づき、自分の部門の業務実施計画を作成して運行計画に影響しないようにしなければならない。

VIII. 運行計画評価

列車運行計画策定は、長くて複雑な過程であり、多くの内容を含む。そこで、策定された列車運行計画が技術上の安全及び効果、並びに旅客に対する利便性を確保するために、検査・評価仕組みが必要だ。

1. 技術上の列車運行計画評価：

- ✓ 運転間隔、運転速度と路線の施設、車両、設備等の整合性。
- ✓ 策定された計画通りに列車を運転することを保障するために、要員計画、列車運用計画の適合性。
- ✓ 列車運行計画と土木、設備、車両等保守計画の間の整合性。
- ✓ 「列車運行管理システム」に入力されるデータは、列車運行管理システムに入力されるデータは、実際に実行される列車ダイヤと相違ないかどうか。

2. 列車運行計画の旅客への利便性の評価

- ✓ 朝と夕方のラッシュ時間帯における列車運行計画。
- ✓ 列車運行計画と首都の住民の生活習慣の適合性（例えば、住民が遅くまで公共交通機関を利用する必要がある、または祝日・お正月・休日等の列車運行計画）。
- ✓ 運転間隔。
- ✓ 駅での停車時間。

付録 1. 都市鉄道各路線の駅

1. 2A 号線 (Cat Linh-Ha Dong) の各駅

No.	駅名	キロ程	特徴	側線（待避線）	他路線との中継ぎ
1	Cat Linh	Km 0-18,58	高架	○	3 号線
2	La Thanh	Km 0+912	高架		
3	Thai Ha	Km 1+840	高架	—	
4	Lang	Km 2+875	高架		
5	国 家 大 学 (Thuong Dinh)	Km 4+125	高架	○	2 号線
6	Vanh dai 3	Km 5+169	高架	—	
7	Thanh Xuan 3 (Phung Khoang)	Km 6+620	高架	○	
8	Ha Dong バスターミナル (Van Quan)	Km 7+745	高架	—	
9	Ha Dong	Km 8+975	高架	—	
10	La Khe	Km10+210	高架	—	
11	Ven Khe	Km11+633	高架	○	
12	Yen Nghia	Km12+660	高架	○	

2. 2 号線 (Nam Thang Long-Tran Hung Dao) の各駅

No.	駅名	キロ程	特徴	側線（待避線）	他路線との中継ぎ
C1	Nam Thang Long	Km 0-023	高架	○	
C2	Ngoai Giao Doan	Km 1+135	高架	○	
C3	Tay 湖の西	Km 1+890	高架	—	4 号線
C4	Buoi	Km 3+509	地下	○	
C5	Quan Ngua	Km 5+210	地下	—	5 号線
C6	Bach Thao	Km 6+552	地下	—	
C7	Ho Tay	Km 7+289	地下	—	

C8	Hang Dau	Km 8+399	地下	—	1 号線
C9	Hoan Kiem 湖	Km 9+864	地下	—	
C10	Tran Hung Dao	Km10+808	地下	○	3 号線

3. 3 号線 (Nhon-Ga Ha Noi) の各駅

No.	駅名	キロ程		特徴	側線（待避線）	他路線との中継ぎ
		ホーム 1	ホーム 2			
S1	Nhon	Km 10+145		高架	○	7 号線
S2	Minh Khai	Km 11+275		高架	—	
S3	Phu Dien	Km 12+448		高架	—	6 号線
S4	Cau Dien	Km 13+280		高架	—	
S5	Le Duc Tho	Km 14+405		高架	○	4 号線
S6	国家大学	Km 15+435		高架	—	
S7	Ha お寺	Km 16+680		高架	—	
S8	Cau Giay	Km 17+825		高架	○	
S9	Kim Ma	Km 19+022	Km 19+023	地下	—	5 号線
S10	Cat Linh	Km 20+022	Km 20+543	地下	—	2A 号線, BRT
S11	Van Mieu (文廟)	Km 21+396	Km 21+414	地下	—	
S12	ハノイ鉄道 駅 (Ga ĐS HN)	Km 22+100	Km 22+115	地下	○	1 号線

付録 2. 都市鉄道各路線の運行仕様

技術特性			仕様		
			2 号線	2A 号線	3 号線
1.共通情報	運転総長さ（複線-Double Track）		11.5km（地下 8.5km、高架 3km）	13.1 km（高架）	12.5km（地下 4km、高架 8,5km ）
	ゲージ		1.435mm	1.435mm	1.435mm
	最大勾配		本線は 35‰		本線は 35‰
	最小曲線半径		本線は 300m、デポへの通路線は 160m。		トンネルは 500m、高架は 200m、デポでの通路線は 90m、及び各渡り線。
	駅数		10（7：地下, 3：高架）	12（12：高架）	12（4：地下, 8：高架）
	牽引電力		1500V DC	750V DC	750V DC
	電車線		架空線式	サードレール	サードレール
2.運転方法 運転速度	運転方向		右方向	右方向	右方向
	最大設計速度		120 km/h	110km/h	110km/h
	各駅での停車時間		20 秒～50 秒	20 秒～50 秒	20 秒～50 秒
	最大運転速度	高架	90 km/h	90km/h（高架）	80 km/h
		地下	80 km/h		80 km/h
	デポで運転する速度		15km/h	15km/h	15km/h
	本線での速度		35 km/h	35 km/h	35 km/h
3.運行計画	編成両数	初期段階	4 両（Tc-M-M-Tc）	4 両（Tc-M-M-Tc）	4 両（Mc-T-M-Mc）
		後段階	6 両（Tc-M-M-T-M-Tc）		5 両（Mc-T-M-T-Mc）
	日々運転時間		5:00～23:30	5:00 ～ 23:00	5:00 ～ 23:00

	ラッシュ時間帯における運転 間隔（初期）	5 分	6 分	7.5 分
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付録 3. 旅客流量調査

1. 調査目的

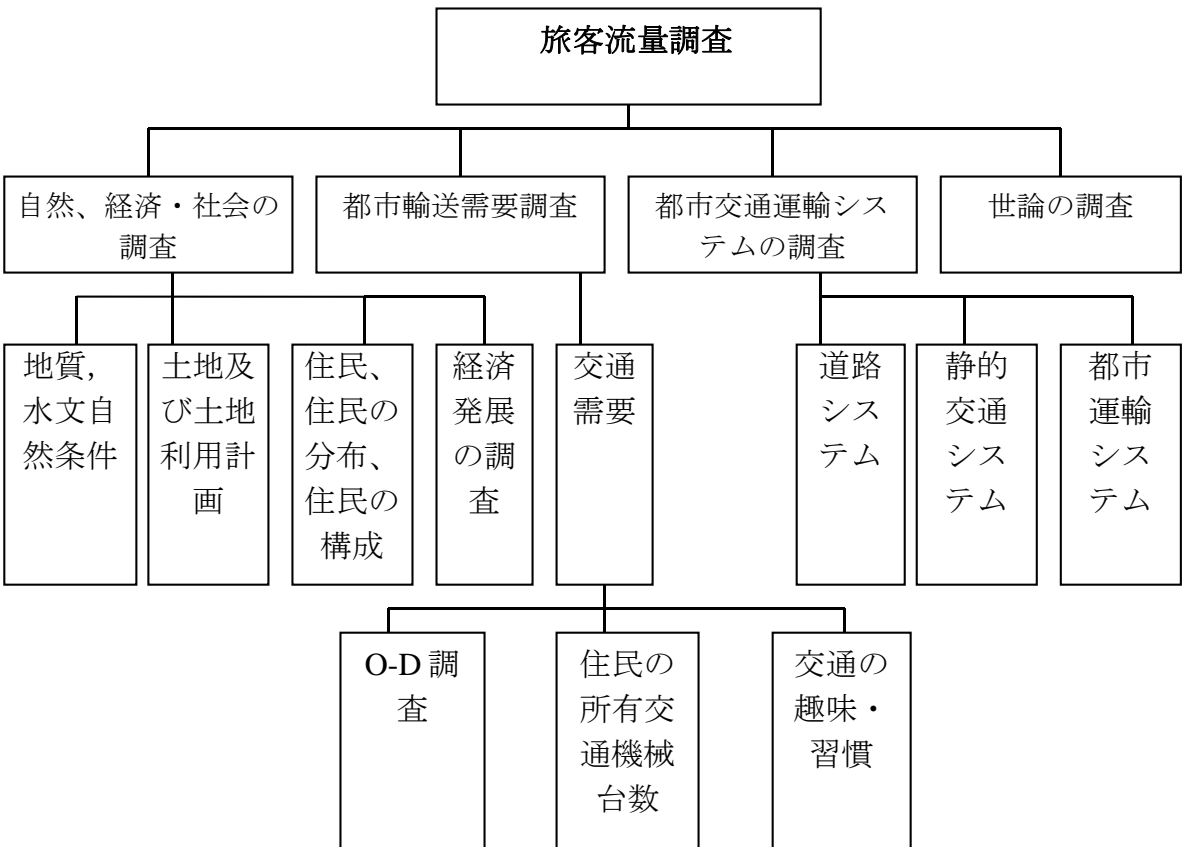
調査の目的：

- 個人及び公共交通の利用手段を反映するデータを十分に収集する一方、運輸需要を確認する。
- 会社の長期運輸計画及び中期運輸計画を作成するため、客観的に情報を収集する。
- 都市鉄道に参加、利用する旅客を拡大するために会社の規制、発展戦略を提案、構築のため必要なデータシステムを作成する。

2. 調査内容

調査内容は、以下の図通りに分類される。

（注：調査の内容は、「新線建設計画時」に行う場合と、「開業後の定期的な調査」で行う場合では異なる。場合に応じて必要な調査を実施する。）



2.1. 都市の自然・経済・社会条件調査

経済・社会の調査は区域の交通発展に関連する自然条件を見つけ、検討、評価する、また都市と他の区域との自然・社会関係及びドメインの関連を把握することを目的とする地区制を行う区域及び都市区域の自然条件は以下のデータ収集を必要となる。

+地理的な位置：区域はどんな位置にあるのか(経度、緯度)、どんな区域、エリアに当接するのか、自然面積、地理的な特徴 等

+地形：地形分布状態、山脈、平野、河川、海、高さ。地形特徴は経済区域、住民区域、交通運輸に関連する。

+地質：地質特徴、地層構成エリア、典型的な地質セクション、地質特徴は交通輸送施設の構築、及び経済・住民分配に関連する。

+天気、気候、水文：雨、台風、温度、湿度、洪水、潮の条件等、交通輸送の構造物を構築及び使用開拓過程に関連する重要な特徴である。

+区域及び周囲区域の資源状況は区域の輸送需要に関連資源開拓可能を評価するためである。

+土地及び都市土地利用の地区制：土地の構成、使用性質及び都市機能区域を地区制のための土地源。これは各交通区域及び都市運輸地区制を計算する時に都市運輸需要の配布に直接に影響を及ぼす。

+人口、人口増加率(自然、メカニックス)人口密度、人口分布及び都市人口構成。これは都市における交通需要発生に一番重要な要素である。都市交通運輸システムの地区制、予算に旅客の拡大及び発生点の配置に直接に影響を及ぼす。

+都市の社会・経済発展：総生産量値、都市における経済業界の分布。工業、農業、観光事業、サービス等、一人当たり GDP, 平均 GDP 成長率、また教育、医療等の基本的な文化社会。

2.2. 都市交通運輸システムの調査

調査内容は主に以下のものがある。

-道路システム現状（道路、鉄道等）

-静的な交通システム現状：駅、港、バスステーション、駐車所。

-都市輸送システム：旅客の輸送方法と手段（線フロー、手段、レベル、サービス質等）。

2.3. 都市輸送需要の調査

輸送需要の調査は、輸送需要に関連するデータを収集し、そしてデータを処理、分析することで、輸送人員と関連がある情報を把握し、そこで評価、レビュー及び需要に効果的な提案を提出することである。

輸送需要調査は会社の戦略策定に役に立つ。各輸送タイプシステムの配置、また輸送タイプの積み替えに適合するために規模、構成、数量を調整する。

運行部署には、交通需要調査は以下の目的がある。

- ✓ 規模、人材、必要な施設の適切な方向づけ。
- ✓ サービスレベルの設定。
- ✓ 輸送需要への対応。

2.4. 輸送需要調査内容

a. 0-D (Origin-Destination)需要の調査

0-D 調査は住民の交通調査、つまり出発点と到着点及び利用手段を調査することである。この調査の目的は道路網の交通フロー配分及び運輸手段（バイク、車、バス）のフロー配分をことである。

0-D 調査は都市交通計画の交通調査に重要である。一般にはこれは交通調査の 70-80%を占める。

b. 交通流量及び交通手段の速度の調査

道路を走る交通流量の調査は、ある時間単位である断面を通る交通手段の数を調査する。道路を走る交通手段の流量及び速度の調査は、道路通行能力を確定するための根拠になる。そこから、道路企画案を提案して通行能力を向上させて市民の往来需要を満足する。

c. 公共旅客輸送路線での調査

公共旅客輸送各路線の調査は、公共旅客輸送のそれぞれ路線において調査することをいう。調査必要なデータは、区間で乗降する旅客の数である。

この調査の目的は、各路線の活動状況を調べて公共旅客輸送各路線を最適化することである。

d. 市民の収入及び個人交通手段所有の調査

市場メカニズムでは、市民の交通手段の選択が市民の収入及び個人手段所有程度に大分依存する。収入及び個人交通手段所有程度についての調査結果は、ハノイ市における公共旅客輸送の形式及び手段の開発企画のために重要な根拠である。また、これも公共旅客輸送システムの運賃および都市公共旅客輸送開発政策を設定するために重要な根拠である。

e. 市民の往来趣味及び傾向の調査

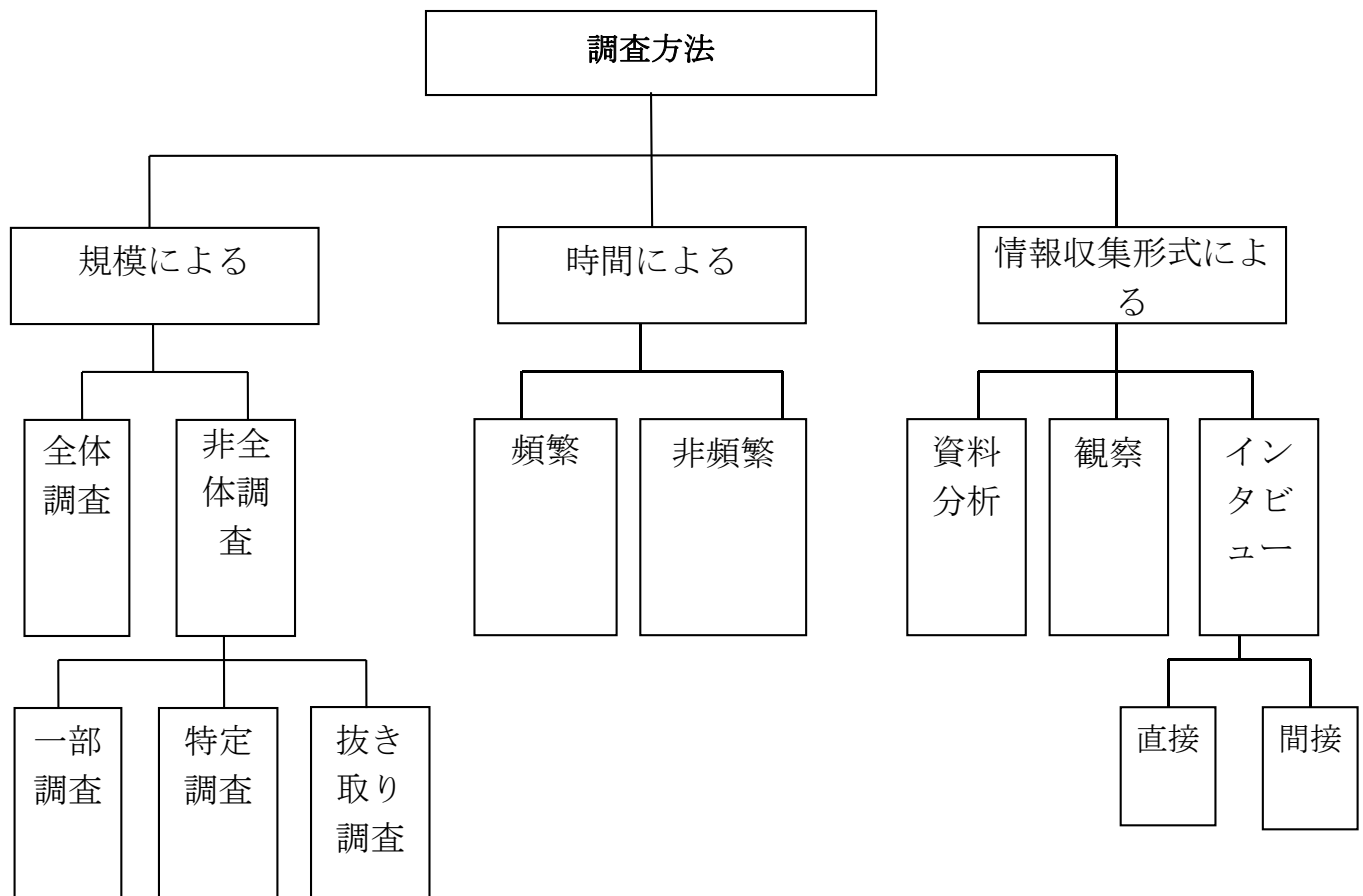
都市、特に国民の認識レベルの高い国における公共旅客輸送ネットワーク開発企画のために重要な根拠である。

f. 世論調査

- 交通運輸システム自体及び生活における交通運輸システムの役割に関する市民の観点、認識。
- 建設工事企画又は交通運輸企画に関する国民の意見、観点。
- 交通運輸のある活動調整に関するある決定、政策又は法律文書に対する世論。

3. 調査方法

都市交通運輸の企画及び管理のための情報を調査、収集するには、色々な方法を採用できる。しかし、一般的に調査方法は下記の図通りに分類される。



3.1. 規模による分類

a. 全体調査

調査対象の全ての部署で概要情報を収集する。この形式を通して対象に関する十分な資料を入手できるが、費用が高くて時間もかかる。

b. 非全体調査

- 一部調査：対象の研究必要な特性を一番明らかに表す幾つかの部署だけで情報を収集する。そうしたら、全体調査をしなくても対象の要研究現象を明らかに把握できる。
- 抜き取り調査：全体調査を代行する可能。研究対象の各部署から選ばれた見本で調査する。

3.2. 時間による分類

- 頻繁調査：現象の初期資料を連続に記録、収集する方法である。
- 非頻繁調査：現象の概要資料を非連続で現象の発展過程に関連付けずに記録、収集する方法である。

3.3. 情報収集形式による分類

a. 資料分析方法

調査を行う際、話題性の高い情報を求めない場合は資料分析方法を採用してもよい。経営者は、既存資料（定期又は臨時考察報告書、既存するインフラ報告書）、過去に実施した調査又はその他調査形式の認証・公表された結果を分析することができる。

b. 観察（目視、カメラ、衛生等）

調査では、「観察は、研究対象に関する概要情報を目視で収集し、研究対象に関連して研究目的観点上意味がある要素を直接に記録する方法」である。体系的、計画性及び目的性は観察の特徴である。また、観察過程は広くて、柔軟でなければならない。ただし、市民の需要についてもっと研究する際、例えば交通手段利用需要、交通運輸システムに関する要望を知りたい場合は意見照会を行う。

c. 意見照会

意見照会とは、直接的な方法（インタビュー）又は間接的にアンケート票で社会心理上の相互作用を通し、初期情報を収集する方法である。

意見照会の際は、市民が適切に回答し正確な情報を収集できるよう、調査員は質問の要点を明確にする等の配慮をしなければならない。

4. 調査結果処理

- データの初期の処理：
 - ✓ 元データの信頼度検査、
 - ✓ データ入力、
 - ✓ データ詳細調整、
 - ✓ 検定及び比較。
- データの後の処理：
 - ✓ 重要な数値確定。
 - ✓ 評価、
 - ✓ 清算及び予測、
 - ✓ 不足発見。
- データ分析：
 - ✓ 解釈、

- ✓ 目標との比較、
- ✓ 仮定検証。

5. Cat Linh-Ha Dong 路線の各駅での旅客流量予測

順	駅間	一日中		ラッシュ時間帯	
		ハノイ - ハードン	ハノイ - ハードン	ハノイ - ハードン	ハノイ - ハードン
1	Cat Linh – La Thanh	152797	151673	12223	12133
2	La Thanh – Thai Ha	166789	167186	13343	13374
3	Thai Ha – Lang	161182	161736	12894	12938
4	Lang – Thuong Dinh	147100	146931	11768	11754
5	Thuong Dinh – Vanh dai 3	92372	92408	7389	7392
6	Vanh dai 3 – Phung Khoang	67552	67600	5404	5360
7	Phung Khoang – Van Quan	69429	69475	5554	5558
8	Van Quan - Ha Dong	70912	70959	5672	5676
9	Ha Dong – La Khe	65391	65468	5231	5237
10	La Khe - Van Khe	66934	67019	5354	5361
11	Van Khe – Yen Nghia バス ターミナル	70453	70538	5636	5643
12	最大流量	166789	167186	13343	13374

(2A 号線の技術設計による)

付録 4. 駅での営業提案
(都市鉄道への旅客の誘導のため)

1. 2A 号線 Cat Linh – Ha Dong の各駅の特徴、旅客及び旅客流量の分析

No.	駅名	駅周辺の特徴	旅客	2016 年の一日旅客流量 (人)	
				乗車	降車
1	Cat Linh	- 建築材料を経営する店、飲食店、喫茶店、 - 住宅地、ホテルが多い、 - オフィスビル、 - Quoc Tu Giam 文廟。	- 周辺の住民、 - 通勤者、学生、ビジネスマン、 - 観光客。	41987	42545
2	La Thanh	- 喫茶店、衣服店等の小規模営業、 - 駅周辺の住民が多い、 - 3 号線と接続する。	- 周辺の住民、 - 通勤者、 - 学生、大学生。	209327	210830
3	Thai Ha	- オフィスとマンションを併せる大きな商工建物、 - Vinaconex、油等の総会社が多い、 - ショッピングセンター、 - ロシア・ベトナム友好協会、 - 映画館。	- 駅周辺の駅、 - 通勤者、 - 観光客、買い物者。	36162	36342
4	Lang	- 党役員教育学校、 - 店が多い、Nga Tu So 市場、 - 大きなショッピングセンター (Loteria の建物)、	- 周辺の住民、 - 学生、職員、 - 買い物者、 - 外国人。	35753	35160

No.	駅名	駅周辺の特徴	旅客	2016 年の一日旅客流量 (人)	
				乗車	降車
		- 大きなショッピング・エンターテイメントセンターを併せる高級マンション。			
5	Thuong Dinh	- 国家大学、 - 学生の寮、 - 商工センター及びアパート・マンション、レストラン、飲食店 - Thang Long タバコ生産工場、Thuong Dinh 靴生産会社。	- 駅周辺の住民、 - 各大学の大学生、労働者及び職員・役員。	42725	42793
6	Vanh Dai 3	- 百貨店、 - 建設病院、 - アパート地域、 - 靴会社、Rang Dong 魔法瓶会社、多くの大学及び商工ビルに近い、 - Pico プラザ（電気品のスーパー）、 - 商工センター、Royal City 高級マンション。	- 駅周辺の住民、 - 大学生、 - 買い物者、観光客	35714	35725

No.	駅名	駅周辺の特徴	旅客	2016 年の一日旅客流量 (人)	
				乗車	降車
7	Phung Khoang	- ハノイ大学、 - 美術短期大学、交通運輸テクノロジー大学、 - Phung Khoang 市場、 - 各大学の寮、 - アパート・マンションの地域。	- 駅周辺の住民、 - 大学生、 - 通勤者。	8722	8720
8	Van Quan	- 建築大学、公安学院、郵政通信学院、Tue Tinh 医学短期大学、 - 大きな電気・電子機器ショッピングセンター (Nguyen Kim, Tran Anh, Coopmark, BigC) を併せるアパート地域 - Lang Viet Kieu、Van Quan という大きなアパート地域。	- アパート地域及び周辺の住民、 - 買い物者、 - 通勤者、 - 大学生。	7061	7061
9	Ha Dong	- 大きな商工センタ、Ha Dong 市場、 - Le Quy Don 高校、 - Ha Dong 運動場、 - Ha Dong 病院。	- 周辺の住民、 - 買い物者、 - 通勤者、 - 学生。	14033	14063
10	La Khe	住民が大勢集まる地域であり、2つの新規アパート地域 (Van Phu, Park City) に近い	- 周辺の住民、 - 通勤者、 - 学生、大学生。	6988	6996

No.	駅名	駅周辺の特徴	旅客	2016 年の一日旅客流量 (人)	
				乗車	降車
11	Van Khe	- Nguyen Hue 高校、 - Van Phu、Van Khe という新規アパート地域。	- 周辺の住民、 - 学生。	5050	5020
12	Yen Nghia バスターミナル	- Yen Nghia バスターミナル（バスの停留所、北方行き バスのターミナル）、 - 経済短期大学、 - Thanh Tay 大学。	- 周辺の住民、 - 学生、大学生、 - 通勤者。	70538	70453

(2A 号線の技術設計 No. HNHD-02-02-00-00-TDS-C のデータによる)

2. 駅での営業提案

2A号線の基礎設計により、当初の一日の旅客流量が259,400人回で、ラッシュアワーに最大断面の流量が13,400人回で、後の段階に一日の流量が925,300人回である。それに従って、見られるのは2A号線がハノイ市の中心からハドンまで大勢の旅客運輸のための対策となる。沿線には、アパート・マンション地域、商工センター、学校及びオフィス等が多い。

各駅、沿線の周辺で便利なサービスを提供することでサービス品質を向上させることを通して、都市鉄道システムの利用に大勢の人を引き付けることを目標として、会社は沿線及び駅の周辺で下記の形式で営業する予定。

a. 敷地営業

会社は、自分で店舗（ファストフード、喫茶店、文房具等）を建設、設置して賃貸し、又は実施を他の会社に委託することができるが、その敷地の使用が鉄道事業に影響を与えないことを保障しなければならない。



METRO'S (Kiosk at Omote-sando Station)



b. 光ケーブル、インターネット・ワイファイ伝送路用設置場所営業

会社は、光ケーブル、インターネットの伝送路を設置する営業会社に橋脚下（又は上）の土地を賃貸するが、運行に影響を与えないことを保障しなければならない。

c. 駐車場営業

駅から遠いところに住んでいて個人手段で駅まで移動する旅客を誘致するために、適切な場所に駐車場の建設を検討する。

Park and Ride の推進により、「駐車場の利用」と「鉄道の利用」の両方を促進させる。

ハノイ市人民委員会

ベトナム社会主義共和国

ハノイ鉄道一人有限会社

独立 - 自由 - 幸福

就業規則

ハノイ鉄道一人有限会社

第1章 総則

1条. 法的根拠、参考資料

- 2012/6/18 日付労働法第 10/2012/QH13 号
- 労働規律及び物理的な責任に関する労働法の一部条項の細則を規定し、施行を案内する 1995/6/06 日付政令第 41/CP 号
- 1995/6/06 日付政令第 41/CP 号の一部条項を改正・補足する 2003/4/02 日付政令第 33/2003/ND-CP 号
- 就労時間、休憩時間、労働安全、労働衛生に関する労働法の一部条項の細則を規定し、施行を案内する 2013/5/10 日付政令第 45/2013/ND-CP 号
- 政府の 1995/6/06 日付政令第 41/CP 号、2003/4/02 日付政令第 33/2003/ND-CP 号の一部条項の施行を案内する 2003/9/22 日付労働傷病兵社会省の省令第 19/2003/TT-BLĐTBXH 号
- そのほかの関連する法律規範文書

2条. 目的、要求

ハノイ鉄道一人有限会社の就業規則（以下、就業規則）の目的は以下のとおりである。

1. 従業員に高い規律組織意識及び責任意識を向上させ、近代且つプロ的な振る舞いを実践させ、労働効率・生産性を向上し、労働規律違反行為を事前防止するために貢献する。
2. 会社の全ての活動を実施するに当たり、管理者及び従業員全員が真剣で遵守する根拠とする；会社の秩序・規律・安全・文明及び持続的発展を確保するように、会社全員に各種ルール・規制・規程・規則・流れなどを確保するために貢献する。
3. 規律違反行為を処分する根拠とし、この就業規則を違反する適用対象者に対し物質責任で懲戒する。

3 条. 適用範囲及び適用対象者

1. 適用範囲：

この就業規則には、通勤時間及び休憩時間に関する規定；秩序及び職場における振る舞いに関する規定；会社において統一に運用する労働規律違反行為及び懲戒並びに物質責任を定める。

2. 適用対象者：

- a. 雇用者：
- b. 会社に直属するユニットに勤める労働契約制度どおりの社員（期限確定もしくは無確定、短期通勤または一定の職種）もしくは試用社員・職業訓練を受ける者。
- c. 機関ごとの労働契約制度に関係なく任命制度どおりの管理ポジションとしての者（会長、総裁）は、本人の責任範囲内でこの就業規則を遵守しなければならない。

4 条. 用語解釈

本規則では、以下の用語の意味を次のとおりとする。

1. “**会社**”：ハノイ鉄道一人有限会社をいう。
2. “**管理者、従業員**”：場合により、会社で働いている者をいう。それは労働契約制度どおりの社員（会社が給与を支払わ、また会社の管理を受ける試用社員・職業訓練の受ける者を含む）もしくは任命制度どおりの者である。
3. “**管理・経営者レベル**”：社員総会会長、総裁、各副総裁、監査員、会計長各直属ユニットの所長・副所長である。

4. **“本社”**: 会社における一番上の執行センターをいう。
5. **“各直属ユニット”**: 本社及び会社に属する他の機関における各部、本部、ワークショップ、ユニット等である。
6. **“労働者を直接に管理するユニット”**: 労走者を直接に管理する権限を持っている各部、本部、ワークショップ、業務専門グループ及び他のユニットである。
7. **“違反行為”**: 国の法令、本規則で定められている会社内部の仕組み・制度、懲戒と物質責任の規制、会社において活動を実施する個人・グループに対する責任処分の規制を違反する行為を言う。
8. **“雇用者”**: 会社の組織・活動の定款もしくは会社内部の仕組みに基づき、被雇用者を使用する権限がある法人代表は社員総会会長と社員総会会長による委託を受ける者である会社をいう。
9. **“被雇用者を直接に管理する者”**: 本社及び会社に属する他の機関における各部、本部、ワークショップ、ユニットの長をいう。
10. **“再犯”**: 被雇用者が労働法とこの規則のとおり、一度罪を犯したので懲戒を受けているものが再び罪を犯すこと。
11. **“規律違反処分有効期間”**: 法令とこの規則で定められているどおりの期間であり、その期間が終えたら、違反者が規律違反行為の処分を受けるのがなくなる。
12. **“労働規律違反”**: (略は規律違反)とは、従業員の振る舞いがこの労働規則とその他の関連制度・文書で定められている基準、要件に真実ではないので、会社の営業・経営の活動に関する秩序・規律・安全に影響を与えることをいう。
13. **“懲戒”**: 管轄を持っている者は、規律違反処分に係わる法令と会社の規定で定められている手順・手続きに基づき、違反行為がある者に処分形式を運用することをいう。

5 条. 就業規則実装責任

1. 以下の対象者は自分担当の機能・業務では就業規則を真剣に実装する責任がある：
 - a. 被雇用者;
 - b. 雇用者、直接管理者;
 - c. 管理・執行者各レベル;
 - d. 従業員の直接管理機関

2. 会社システムにおける共産党組織、労働組合は、執行者各レベルに協力し、従業員がこの就業規則を真剣に守るようその人たちによく育成し、激励する。

第2章 勤務時間、休憩時間

第1節 勤務時間

6条. 勤務時間

1. 事務所スタッフの勤務時間平均は、1日8時間、及び1週間44時間を超えないものとする。（午前8：00～12：00と午後13：00～17：00）。勤務日は月曜日から土曜日の12：00時点までである。
2. 必要な場合には、会社は勤務時間を1週間48時間を超えないものとするができる。
3. 各ユニット、運行・保守部門、OCCにおける業務各種の勤務時間、開始時間、終了時間と休憩時間には、別の規定がある。
4. 昼間と夜間の交代勤務時間は、ユニット長、部門長による決定される。

7条. 時間外労働

- 時間外労働とは、この規則の第6条で定められている通常の勤務時間以外の時間に就労することをいう。
- どんな一定の業務かを完成しなければならない時間・性質により、次に掲げる条件を十全に満たした際に、被雇用者を時間外労働させることができる。
- 被雇用者の同意を得ること。
- 業務の要件により、時間外労働が必要である場合は、営業日の1日で4時間を、休日の1日で8時間を超えてはならず、1年で200時間を超えてもならない。ただし、政府が規定する特別な場合は、1年で300時間を超えない時間外労働が認められる。
- 特別な場合の時間外労働

雇用者は以下の場合に、被雇用者に対しいかなる日でも時間外労働を要求する権利を有し、被雇用者はそれを拒否することができない。

- 法規による国防・安全保障上の緊急事態において、国防・安全保障上の任務遂行のため動員令を履行する場合。
- 自然災害・火災・疫病および大惨事の防止および被害克服において、人命、機関・組織・個人の財産を守るために必要な業務を履行する場合。

8 条： 時間外労働の手続き

時間外労働の手続き・手順は別の規程で定められる。

2 項

休憩時間

9 条： 勤務時間中の休憩と交代時の休憩

1. 勤務中の休憩時間は通常に 12 時から 13 時間までである。
2. 交代で仕事をする労働者は次の交代前に少なくとも 12 時間で休憩する。交代時の休憩時間は別に規定される。

10 条： 週休

毎週労働者は連続の 24 時間（土曜日と日曜日）で休みをとる。特別な場合あるいは毎週労働者を休ませないなら、雇用主が労働者を平均的に 1 ヶ月に 4 日で休ませる責任がある。運行・保守部門と OCC の休みは別に規定される。

交代で仕事をするスタッフの週休は交代で他の日にする。

11 条： 年休

1. 毎年会社で 12 ヶ月働く人は基本給料のすべてをもらえる 12 日の休日がある。
2. 12 ヶ月以下働いたら、休日数は働く時間に応じて計算される。
3. 年休は年功により増えて、5 年なら基本給料のすべてをもらえる 01 日増える。

4. 行政機関、企業から会社に異動された幹部に対して、会社は年休計算のために彼らの機関・企業で働いた期間（幹部書類/社会保険書類等に基づいて）を年功にする。

5. 労働者は年休を数回にわたることについて雇用主と協議できる。山岳地帯で働く人は必要だと思ったら、2年間の年休を1回で取ることができる。もし3年間の年休を1回に取ったら、雇用主の合意を得なければならない。しかし労働者の管理組織が仕事に差し支えなくて突然の休暇を除いてできれば幹部・スタッフの年休取りの要求を満たすために、労働者年休取りを月・四半期の登録を求める。

6. 兵役義務をするために労働契約の実施を一旦に中止する幹部、契約切れの幹部、労働契約を辞める幹部、組織やテクノロジーの変更により失業した幹部、解雇された幹部、定年退職の幹部、死んだ幹部に対して、まだとらない年休の給料を支払う。

3 項

お正月の休暇、個人用事による休暇、無給休暇

12 条：お正月の休暇

労働者は次の日に有給休暇をとれる

- a) 陽暦のお正月： 01 日(陽暦 1 月 1 日)
- b) 旧暦のお正月： 05 日 (年末の 01 日と翌年の年頭の 04 日)
- c) Hung Vuong 王様の命日： 01 日 (旧暦の 3 月 10 日)
- d) 勝利日： 01 日(陽暦の 4 月 30 日)
- e) 国際労働日： 01 日 (陽暦の 5 月 01 日)
- f) 独立記念日： 01 日 (9 月 2 日)

以上の休日は週休（土曜日か日曜日）であれば、労働者が次の日に代休をとれる。

13 条：有給休暇

労働者は次の場合に有給休暇をとれる。

- a) 本人の結婚：03 日休み
- b) 子供の結婚：01 日休み
- c) 実父、実母、義母、義父、妻か夫、子供が死亡：3 日休み

- 以上の場合に休暇をとるとき、雇用主に知らせる責任がある。

- 第 1 項と第 2 項で規定された場合以外に、労働者が雇用主と協議して無給休暇をとることができる。

14 条：社会保険を利用した休暇

1. 労働者は事故にあった場合、病気にかかった場合、妊娠出産の場合、治すために休める。事故・病気・妊娠出産による休みは許可のあり、社会保険の現行規定に従う医療機関の証明書を要る。労働者は事故・病気・出産のための休暇をとった後、書面か規定された形式で報告する。

2. 労働者が年休を病気による休暇に利用したら、会社が有給休暇あるいは手当てを含まない給料の全部をもらえる休暇に関する規定にしたがい、給料を払う。

15 条：個人の理由による無給休暇

労働者は次の場合に無給休暇をとる。

1. 年休をまだ取れない労働者または年休が残らない労働者。

2. 労働者は父母と実兄弟がなくなった場合または父か母、実兄弟が結婚する場合、01 日の無給休暇をとれる。その他、適切な理由（家族の用事、健康不良、会社が派遣しないけど私費で留学するなど）があれば、労働者は無給休暇の届書を出せる。

3. 総裁(本社と所属機関のリーダーに対して)/リーダー（所属機関）は権限範囲内で労働者を直接に管理する機関の意見をもらった後、無給休暇を決める。

無給休暇は昇給、年功・表彰・関連福祉のための評価には労働期間とみなさないが、労働者が総裁の規定（あれば）に決まった権利を受けられる。

第3章 採用・勤務・教育

16条. 仕事記述・業務分掌

1. 分掌された業務は労働契約書及び（各）契約付表及び/又は仕事記述書及び/又は指名決定及び/又は機能・業務・権限記述表に定められた仕事である。

2. 労働者は採用されたら、文章された業務を実施し、労働法、（各）労働付表（ある場合）、労働協約、本労働規定及び会社の他の労働規定、現行政策を遵守する責任がある。

3. 会社の営業需要と労働者の技能、経験に応じ、労働契約、仕事記述書、労働付表（ある場合）に定められた業務以外、労働者は他の業務を負わせられる。どんな時点においても、労働者は真面目で誠実に仕事して、会社の要求、指示、決定を遵守し、分掌された業務がよく完成できるように、できるだけ努力する。

17条. 労働者に対する規定

1. 労働者は仕事の標準、要求をよく把握する事。又は、仕事を効果的に実施するため、関連のある政策、規定、規則、基準を把握する事。仕事を受ける前に、労働者は直接な管理職に仕事の内容、要求、関連情報を明確させる権利を持つ。

2. 仕事をやる時、労働者は作業手順を遵守する事。直接な管理職又は上位の上司（必要な場合）の要求通り実施し、指示を申請する。会社の資産、威信を守るための緊急なケース、又は、上司の指示を受けるケース以外、労働者は所管業務、機能以外の仕事をやらない事。

3. 労働者は分掌業務実施結果を規定により報告し、報告の内容、正確性、誠実性、十分性、期限に関する責任を取る。

4. 労働者が出席させる場合、労働者は会社が開催する会議、セミナー、活動会、勉強会を十分に出席する事。穏当な理由で出席できない場合、労働者は事前に上司に報告し、許可を受けた後、欠席できる。上司の許可を受けないのに、事前に知らされた会議に欠席すれば、年休取得のない欠勤として認められる。会議、セミナー、活動会、勉強会に遅刻する時、勤務時間の遅刻として認められる。評価の時、この事で仕事の精神、態度が検討され、労働者の顕彰結果に影響を与える。

17条. 採用

人事採用手順、手続き、内容が別に定められる。

18 条. 試用労働契約

1. 労働者は試用期間を過ごし、試用業務、計画を完了し、会社の要求の充満を証明する。試用のため、労働者は会社と契約書を締結する。契約書は他の項目以外、以下の項目を具体的に定める。

- a) 仕事の肩書
- b) 給料;
- c) 試用期間:

- 短期大学以上の技術、専門学歴が必要な肩書のある仕事は 60 日以下である。

- 専門学校、専門学校、技術工人、業務の社員の技術専門学歴が必要な肩書のある仕事は 30 日以下である。

- 他の仕事に対する勤務 6 日以下である。

- d) 会社と労働者は試用、試用期間における両側の権利、義務を交渉する可能。

2. 試用期間において、片側は賠償しなくても試用労働者契約を解除する権限を持ち、試用契約に他の項目が定められる場合以外。

19 条. 正式労働契約

- 試用期間が終わった後、労働者が評価され、労働者が会社の標準、要求を満たせば、試用期間が終わって、労働者が会社で正式に採用される。(人事採用手順による)
- 試用期間を成功に過ごした後、労働契約と付表(ある場合)を締結する事を通じ、労働者が会社で正式に採用される。仕事の性質に応じ、会社は労働者と締結する契約書の適正な形式を選択する。試用期間が労働者の勤務期間に計算される。

20 条. 労働契約解除 (以下は HDLD を呼ぶ)

1. 正式労働契約解除

労働契約は以下の場合に解除される。

- 労働契約の効力期間が切れたが会社が継続し締結しない
- 締結した労働契約通りの業務が完了済み
- 両側は契約解除を合意する
- 労働者はベトナム法律による引退年齢になる
- 労働者は規律され、解雇される、又は、労働者は事前通知で期限の前に仕事をやめ、会社の承認を得る。
- 労働者は死亡する、又は、裁判所の公言により失跡する
- 労働者は犯罪を刑される（監禁及び/又執行猶予を含む）又は裁判所の決定によりその仕事をする禁止される。

2. 労働契約の一方的な解除

a) 以下の場合において、会社は効力期限の前に契約書を一方的に解除する権限がある。

- 労働者は労働契約に定めた業務をよく完了しない。
- 労働者は会社の規定により、規律され解雇される。
- 以下の場合において、労働者は病気に掛かる、又は、不可能な都合で会社で連続的に仕事ができない
 - + 労働者は未確定の期限のある契約書より仕事をするが欠勤機関が12ヶ月連続である。
 - + 労働者は1~3年間の期限のある契約書により仕事をするが、欠勤期間が6ヶ月連続である。
 - + 労働者は季節的労働契約又は12ヶ月以下の期限のある一定な仕事をするが欠勤期間が労働契約の期間の半分以上である。

労働者の健康が快復する時、労働者は会社と契約締結の継続が検討される。

b) 再組織、営業種目の変更、活動モデルの変更、災害、火災、危機又は不可能な理由で会社が活動モデルを縮小し、労働者の人数を削減する

3. 労働契約解除時の事前通知期限

a) 労働契約を一方的に解除する時、会社は以下期限に従って労働者に事前に知らせる。

-未確定の期限のある契約に対する 45 日以上

-確定の期限のある契約に対する 30 日以上

-本条の 1 項の b 点に定められたケース及び季節労働者の契約又は 12 ヶ月以下の期限のある一定な仕事の契約に対する 3 日間以上

b) 労働者が規律され解雇される場合、上記の事前通知期限を適用しない事。解雇決定は締結した後すぐ効力が出る、又は、決定に定めた具体期限により、効力が出る。

c) 労働契約を一方的解除する側は事前通知期限の前に一方解除を排除する可能。

d) 事前通知期限が切れる時、両側は労働契約解除の権限を持つ。

e) 労働契約を一方的解除する時、事前通知期限を守らない場合、違反側は事前に通知しない期間における労働者の給料に相当する金額を賠償する。労働者が違反する場合、総裁が別の決定を出す場合以外、この賠償金が解職手当又は労働者が会社に勤める最後月の給料から差引かれる。

f) 労働契約解除の手続きが別に定められる。

4. 労働契約解除における会社の責任

a) 労働契約解除日から勤務 7 日間以内、両側は両側の権利に関する金額を全て清算する責任を持つ。特別な場合において、延長できるが 30 日以上延長できない。

b) 会社は確認手続きを完成し、会社が保管している社会保険書及び他の書類を返す責任を持つ。

c) 会社は国家の現行規定により、解職手当、失業手当を労働者に支払う。

21 条. 教育

1. 営業需要、現存人事により、会社は労働者の業務水準、巧拙水準向上ための教育計画と予算を立てる。組織、人事部は総裁が承認した年度教育計画を展開する責任を持つ。

2. 労働者は講習を十分に出席し、出席時間を確保し、合格と言う最低結果で講習を完成する。詳細な手続きと要求は会社教育規制に定められた。

22 条. 教育後の確約

1. 会社勤め時、専門知識、水準向上、昇格できるように、労働者が会社に派遣され、内部と外部の教育プログラムに出席する場合、労働者は両側の合意による最低期間で会社に勤める事を確約する事。（労働者が会社との確約を締結する事を要求される可能）
2. 詳細な手続きと要求が会社教育規制に具体的に定められる。

第4章

給料、手当て

23 条：共通規定

- 会社から労働者へ支払った給料と手当てがグロスである。つまり労働者は規定どおり政府に社会保険料、医療保険料、失業保険料などの保険料を会社の給料係数に応じて納めなければならない。それとともに、労働者は政府の規定どおり、個人所得税と他の税金（あれば）を支払わなければならない。会社は雇用者への政府 規定どおり、会社の給料係数に応じて社会保険料、医療保険料、失業保険料を支払う。
- 給料の支払方法は職位、時点により異なる。会社は労働者の職位に応じた給料の支払方法を事前に知らせる。
- 給料（残業代を含める）の支払い方法、手当てに関わる詳細な規定は会社により、給料規制に細かく定められ、労働者に知らせられる。

第5章

表彰と福祉

24 条：共通な規定

- 表彰

業務実績がよくて、委任された任務がよくできて、会社の規則と所属部署の規定を厳重に執行する労働者なら、表彰を得る検討を受ける。表彰の基準・方法・レベルは会社の表彰どおり実施される。

- 会社の事業実績に基づいて、総裁は年次の旅行、定期健康検査、お見舞い、葬式、結婚式の参加、政府の支援金などの労働者への（会社の福祉基金から）福祉の支払と支払方法を決める。福祉のための支払基準・形式・金額は会社の規制による。

第 6 章**強制保険及び他の保険****25 条．強制保険料**

政府の規定により、強制保険料は社会保険料、医療保険料及び失業保険料を含める。

- 毎月、会社及び被雇用者は現行法律の規定により、保険ファンドに納付する責任を持つ。
- 強制保険を納付し、休業、解職、失業、労働事故、職業病、病気、産休、引退など被雇用者に手当てを給与するベースとなる給料は（労働契約書による）基本給料である。
- 政府により、毎月給料から差引いて納付する金額は以下のとおりである。
 - 会社納付：社会保険料の 15%、医療保険料の 2%、失業料の 1%。
 - 被雇用者納付：社会保険料の 5%、医療保険料の 1 %、失業料の 1%。
- 財務・会計部は給料から直接に差引いて、社会保険機関に納付する。組織・人事部は登録の手続きを行い、会社で社会保険手帳を保管する。医療保険カードは使用する被雇用者に配布する。
- 社会保険納付者の享受制度は社会保険に関する規定による。

26 条. 他の保険

- 会社のアビリティー及び被雇用者が担当する職務に基づき、会社は被雇用者に対し、事故保険など他の保険形式を行う。
- 会社の規定による具体的な標準、規定及び合意

27 条. 女性の被雇用者に対する規定

- (本社及び現業を含める) 会社の全ての部門と直属部署は 7 ヶ月以上の妊婦又は一歳未満の子供を持っている女性を残業、夜勤、遠い所へ出張させないようになる。
- 重労働に就く女性の被雇用者は妊婦 7 ヶ月となった際には、給料が減額されないままで、軽微な労働に異動される、又は 1 日の勤務時間が 1 時間短縮される。
- 12 ヶ月未満の子供を育児している女性の被雇用者は給料が減額されないままで、1 日の勤務時間が 60 分休憩を取る、又は、(両側の合意により) この休憩時間に業務を就く際、残業料を享受する。
- 女性の被雇用者は出産前後で 6 ヶ月の休暇が与えられ、(社会保険期間による) 100%の基本給料を享受し、それに、1 ヶ月の基本給料を手当てとして享受する。生まれた子供が双子以上だった場合には、一人につきさらに 1 ヶ月休暇が延長される。出産前の休暇期間は 2 ヶ月を越えない。産休期間が終了した後、女性の被雇用者は雇用者と合意し、社会保険の手当てを享受しない条件で、無給休暇で追加で取得することができる。
- 女性の被雇用者は 7 歳以下の第 1 子、第 2 子が病気に掛かって入院する際、休暇し子供を看病すると言う病院の要求を書面として出す場合、休暇を取る時、社会保険に関する現行法律の規定により社会保険の手当てを享受する。

第 7 章

職務における秩序、物腰

公安・安全・衛生

28 条. 総則

- 全ての被雇用者は職務における秩序、物腰、会社の公安、安全、衛生を確保するために、十分な義務を実施する責任を持つ。
- 警備チームは会社入出に関する規定の実施を直接に検査し監査し、全社における人間、資産、手段を保安する責任を持つ。
- 業務実施中、違反が発生すれば、警備チームはすぐ記録書を作成し、その部門のリーダー及び総務部に報告する。

29 条. 職務における秩序

- 被雇用者は規定の時間により、出社し、帰る。勤務時間中、被雇用者は業務の要求又は直接管理者の許可を受ける限り、本社を出る。
- (本社) の総裁及び(現業) の社長が別に定める場合の以外、業務の要求で残業する場合、直接管理者の許可を受ける。
- 被雇用者は個人的な乗物及び任せて管理する会社の乗物を所定場所に置く。全ての自転車、自動車、バイクが会社の規定により、本社の口に入出する。
- 直接管理者の許可を受けるケースの以外、被雇用者は個人的な事で職場で接客してはいけない。
- 道工具、機械、設備、書類、図面など会社の全ての資産は管轄機関の許可を書面で受けない場合、会社に持ち出してはいけない。
- 安全、公安、秩序確保のため、必要により、いつでも、警備チームは入出口を通る人を検査する事ができる。この場合に、警備者は検査する必要な人が警備室に入り、検査手続きを行う事を要求する事ができる。警備チームは遅刻、早退を記録し、(要求がある時) その部署の社長に報告し、コピーし人事部、総務部に送付する。

30 条. 仕事物腰

- 被雇用者は勤務時間において、衣服がきちんとする。制服が交付される場合、規定により使用する。
- 現場と工場に直接に勤める作業者は現行規定により労働保護制服及び労働保護設備を常に使用する。

- 被雇用者、生産管理者、運行保守管理者などは制服管理使用に関する規定により、制服を着る。
- 他の人の仕事に影響を与え、職場の秩序に影響を与える行為、争い、秩序をなくす行為は会社で禁止される。
- 勤務時間に私事をやってはいけない。仕事のため会社が整備するコンピュータ及び資産を個人的な目的で使用してはいけない。
- 会社で勤務時間に酒、ビール、他の覚醒剤を使用してはいけない。
- 被雇用者は直接管理者の指導、運営、分担により実施する。分担する業務を実施する時、問題が発生すれば、上司にタイムリー報告し、上司の意見を受ける。
- 会社の規定により管轄者の分担、委任のない場合、被雇用者は会社を代表し会社に関する情報を他の会社、機関に公表してはいけない。同僚、上司及び会社に関する偽造の情報を流すためにメディアを使用してはいけない。
- 被雇用者は取引の規定に従い、同僚及び顧客に対し丁寧な態度を保ち、尊重する。規定により、顧客及び取引先に手順、手続きを熱心に案内する。顧客及び取引先に迷惑をかける行為をしてはいけない。

31 条. 労働安全

- 会社は会社に勤める被雇用者に十分な労働安全保護施設を整える。被雇用者は会社が行い、出席させる、労働安全及び消火消防に関する講習に全て出席する責任を持つ。
- 被雇用者は爆発安全予防、工場安全、機械設備安全運行に関する規定、手順、規則に従う。本社にある消防消火施設、会社が整備する電気設備、コンピュータ及び他の電子設備を制度、手順、規定により使用し保管する。
- 機械設備に対する安全労働の規範、規則をよく把握しない場合、被雇用者は使用してはいけない。規定、手順に従わなくて、設備、機械に破損が起きる場合、被雇用者は会社に損失を賠償し、労働事故が発生する場合、被雇用者は現行法律により責任を持つ。

- 規定により労働保護物を正しく十分に使用する。通常な健康で、安定な心理で保管する設備の限り、設備を運行する。不安全で破損による修理待ち又は修理中の全ての機械設備に対し、表示が必要である。
- 終業に帰る前に、被雇用者は自分が管理する電気設備、電子設備を消す。最後に帰る被雇用者は自分の部門が管理する電気設備、電子設備を全て消し（仕事の要求のため、規定により連続的に動く設備の以外）、事務所のドアをロックする。
- 労働事故、職業病、害毒の危機又は危険な事故を発見する時、被雇用者は責任者にタイムリー報告し、雇用者の指示がある時、応急及び労働事故余波の処理に携わる。
- 労働安全を無くす事故の原因が本人又はリーダの責任不足又は指示を十分に実施しない事であれば、会社は本人及び関連の被雇用者に規律処分を行う。

31 条. 労働衛生

- 機械、設備の使用を直接に任せられる部門と被雇用者はその設備の手順、規範により、定期検査、補修、保守を厳重に実施し、自分の責任、業務のとおり事務所を定期的に検査し、改造及び補修を提案し、人間及び資産に対し環境、安全、衛生を確保する。
- 被雇用者は仕事のツールを大切に、整頓し、常に職場をきれいに清掃し、事務所を常にきれいに保つ。管轄管理者の分担、指示により、定期大掃除を積極的に参加する。
- （交代で業務を分担する機関の場合）交代準備の時又は終業の時、被雇用者は設備機械及び職場を順番に清掃し、次交代の人に十分な内容を引渡す。
- 健康管理書類を作成し職業病をタイムリー発見するために、被雇用者は会社が行う定期的健康診断を受ける事。

32 条. 労働保護

- 毎年、仕事の性質及び条件により、会社は被雇用者に労働保護を整備する。

- ・ 会社が労働保護を供給する被雇用者は保管して大切に正しく目的で使用する。譲渡し貸し付けてはいけない。遺失の場合、会社の規定により賠償する、又は罰金を支払う。

第8章

資産使用及び保護－知的所有・営業における情報秘密確保

33 条. 資産使用及び確保

- ・ 被雇用者は信号通信装置、乗物、機械、設備及び他の道具、ツールの使用、保管に関する規定を遵守する。法律及び会社の資産管理に関する規定に従う。許可範囲以外、私事で上記の資産を使用してはいけない。
- ・ 印鑑の保管、使用を任せられる個人、部門は会社印鑑管理使用規定及び関連のある法律により厳重に保管する責任を持つ。
- ・ 被雇用者は会社の資産を保ち、よく保管し、正しい目的で効果的に使用する責任感を持つ。被雇用者の主観で遺失し破損する場合、被雇用者は会社が計算する価格で賠償する。使用ニーズがない場合、被雇用者は会社規定により引渡しの手続きを行う。会社の全ての資産は第7章29条5, 6項により、本社から持ち出る。
- ・ 管轄者の承認を受けない時、設備、機械を適宜に移動し、位置、構造、性能を変更してはいけない。
- ・ 業務が分担される社員は会社の規定により設備、機械を監視し注意し期限通りに保守を提案する責任を持つ。
- ・ 警備部門の責任、業務範囲において、会社警備の業務を行う被雇用者は会社に勤めて取引を行う社員及び顧客の乗物を預かる責任を持つ。警備部門の主観誤りによる遺失、破損は警備部門が賠償する。

34 条. 知的所有、営業における情報、秘密保護

- ・ 会社に勤める間に仕事の性質のため、被雇用者は会社の資産の管理、使用を分担され、個人的な問題又は営業における微妙問題に関する特別な情報を把握する。会社の有形資産及び無形資産又は営業利は正しい

目的で正しい管轄者により使用する。総裁又は委任者の許可を受けなければ、無常でも好意でも、内部（無関係者）又は外部への情報漏れ、口外の全ての行為は会社機密保護規定の違反として認められる。

- 被雇用者は労働契約書を解除し休止する、又はいつでも会社が解除、休止の要求を出す時、
- 被雇用者は会社が供給する又は会社に勤める間に入手する資料、資産又は知的所有権を会社に返却する。返却物は書面、電子ファイルを問わず、図面、設計、報告書、技術テクノロジー書類、顧客データ、定価表、費用計算表、ソフト、コンピュータプログラム、管理運行保守の手順及び過程、会社の営業に関するデータを含めるが制限しない。被雇用者は（手書き書類でも）上記内容に関するコピー版、メモ、まとめをキープしない事も合意する。
- 被雇用者は個人的な目的又は他の組織/個人のため、又は会社の利益、威信に損害を与える活動のため、会社に勤める際に入手した代表権を使用してはいけない。
- 会社は関連のある第3者に本合意書の存在を通知する事ができ、会社の恩恵な権利を守るために、会社の方式で違反を懲罰する、又は、会社が嚴重な違反として認める場合、法律の干渉を要求する。
- 会社が情報機密を保護する事を定める、会社と取引先との契約書/合意書を交渉し展開し実施する過程に携わった社員はその契約書/合意書の規定により情報を機密に保護する義務を持つ。
- （総裁又は委任者が公表する）会社が正式に公表した書類以外、会社の営業戦略、研究開発計画、技術規制システム、財務分析データ、未来プロジェクトに関するデータをどんな形式でも口外してはいけない。

第9章

労働規律・労働規律処分及び物質責任

35 条. 労働規律違反として認める行為

- 勤務時間、休憩時間に従わない行為
- 理由がない、又は認められない理由で適宜に休む。

- 勤務時間を遵守しない。許可を受けなくて、恩等な理由がなくして私事で職場を出る。
- 直接管理者の許可を受けないのに、私事の解決のため、勤務時間を常に使用する。
- 勤務時間、休憩時間の遵守に関する他の違反行為。
- 職場における秩序、文明の違反行為
- 勤務時間に常に定める衣服を着なくて、バッジを着けない
- 職場で争い、秩序を無くす行為又は他の人の仕事に影響を与える他の行為、会議に出なくて、時間通りに会議に出なくて、穏当な理由がなくして会議の途中で抜ける行為、又は職場の秩序に影響を与える他の行為、会社の直属部署の社員を含め、同僚に控えめな態度をしなく、尊重しない。
- 取引先に丁寧で控えめな態度、尊重をしなくて、顧客、直属部署に迷惑を掛け、会社の威信、イメージに影響を与える。
- 会社が行うケース以外、職場で酒、ビールを飲んで、勤務時間に酔っ払ってはいけない。
- 職場で泥棒、汚職、賭け事、傷を付ける争い、麻薬の使用、社会悪弊及び法律、習慣、社会道徳を違反する行為
- 職場で秩序、文明を違反する他の行為
- 労働安全、労働衛生を違反する行為
- 爆発予防安全、倉庫・工場安全、運行安全、指令所、コンピュータ及び他の電子設備機械を置く部屋の安全に関する規定を従わない。
- 仕事要求のため会社が供給する電気設備、コンピュータ及び他の設備を手順、規定により使用し保管しない。責任範囲における機械、設備を手順、規定により定期的に検査し補修し保管し保守しない。
- 機能、管轄範囲以外、武器、爆発物を職場に持ち入る。
- 仕事のツール、書類を通常にきちんと整理し整頓し清掃しない、又は、職場における共通衛生をなくす他の行為を行う。職場で自分の機能、業務により、公共衛生作業を行わない。
- 労働安全、労働衛生に関する他の違反行為
- 資産保護、営業秘密保護、知的所有に関する違反行為

- 会社の資産を使用し保管する規定を遵守しない、又は個人的な目的でその資産を使用する。
- 機密保護制度で管理する情報を口外する。会社の規定による自分の機能、管轄範囲以外の秘密情報に故意に接触する。
- 泥棒、汚職、テクノロジー及び営業の秘密口外の行為又は、会社の資産、利益に嚴重な損失を発生させ、会社の威信、ブランドに影響を与える行為。
- 業務管理、作業関係に関する違反行為
- 部下の規律違反を発見する時、隠匿し、良い都合を与える、又は阻止しなく、管轄機関に報告しない行為。
- 規定を違反して部下の仕事に干渉し、仕事の結果を外す。
- 管轄範囲における部下を苛める。
- 手順に関連な個人及び各部署の意見が必要な事を定めるのに、部下、関連のある個人及び部署の保留意見を管轄機関に報告しない。
- 職位、権限を利用し社員を違って評価し、社員について正しくない情報を出す。
- 管轄者が分担した業務を実施しない、又は全ての業務を十分に実施しない。雇用者の転勤の指示を従わないが出した理由が認められない。
- 同僚が自分の仕事に関する仕事を解決する時、同僚をこき使い、差し支える、又は同僚の仕事を遅らせる。
- 自分が把握する責任範囲において、会社の活動に対す不利な動きの情報をタイムリー報告しない。
- 経営関係、作業関係についての他の違反行為
- 都市鉄道システム運行保守に関する規定、テクノロジー手順、技術標準、安全標準を十分に遵守しない行為。
- 会計財務業務の違反行為
- 規定により会計書類、資料を保管使用しなくて、書類、資料の遺失につながる。保管期間がまだ切れない時、又は管轄範囲以外で会計証書、帳簿、財務報告書を廃棄する。

- 会計証書、帳簿を贋造し、データを偽証し、事実と違う事を報告し、他の人に証書、書類を贋造し、データを偽証し、事実と違う事を報告するように強制する。
- 会計規定により、財務報告書をタイムリーで十分に正確に作成し提出しない。
- 業務を実施している検査者、検事、内部の会計監査者（ある場合）の要求により、書類、証拠、データを供給しない、又は、遅延し、逃避する。
- 会計、財務、国内清算、輸入出清算、貿易融通、内部検査、監査（ある場合）の業務に関する他の違反行為
 - 情報技術に関する違反行為
 - 政府、会社の技術情報システムの安全、機密保護に関する業務の規定、手順を遵守しない。
 - 法律と会社の規定によるシステム、コンピュータシステム、通信ネットワークのつながりに影響を与える。
 - システム、データベース、インターネットアクセスに関する安全、機密保護規定を遵守しない。
 - 規定によりソフトを管理・設定・設置・導入しない。
 - 情報をタイムリーで正確で十分に使用し報告できるように情報システムの運行を確保する。
 - 都市鉄道情報技術プロジェクトをよく管理し実施しない。
 - 会社のコンピュータシステムを通じ、ビールスを好意に広げて発散する、又は、会社のコンピュータシステムの活動を混乱させ、閉鎖し、変形させ、データベースを廃棄する他の行為を行う。
 - 本規定の第8章34条に定める項目を違反する
 - 資産購入、基本建設投資に関する作業の違反行為
 - 資産購入、基本建設投資に関する法律及び会社の規定、手順に従わない。
 - 資産購入、サービス購入、基本建設投資におけるいんちきの行為を行い、会社の利益に損失を与える又は、顧客に影響を与える。
 - マケティング、情報、宣伝、広報に関する業務の違反行為

- 未完全又は顧客に供給しない情報/サービスを宣伝する。
- 会社の宣伝情報、広報情報の供給、使用、管理に関する規定を順守しない。
 - 情報、宣伝、広報は形式、内容が規定に従わなくて、管轄範囲以外、又は会社に悪い影響を与える。
 - 社員組織の業務に関する違反行為
 - 政府の現行規定により、給料を決定し、給料レベルを変更し、昇給しない。
 - 規定により社員の書類を管理し保管しない、又は、社員の書類を遺失する。
 - 規定により給料、社会保険に関する制度を解決しない、又はタイムリー解決しない。
 - 正確でない情報を供給する、又は会社の規定により、昇給、社員権利の解決について間違っ助言する。
 - 社員について事実でなく、適切な根拠のない情報を伝え、規定により社員のコメント情報を伝えなく、被雇用者が直接に供給する情報と違う情報を伝えるが適切な根拠がない。
 - 労働法及び関連のある法律に違反して他の組織、個人に社員の情報を供給する。
 - 会社の規定により、社員の採用、任命、調達、企画、教育、管理の手順、原則に従わない。
 - 採用業務に関する違反行為
 - 試験開催に参加する社員に対し、
 - 試験室で受験生に違法する書類、情報、ものを渡す、又は、どんな形式でも、受験生にテストをしてあげる又はテストを手伝う。テストをする替える、又は他の人にする替えを手伝う、又は、テスト番号を漏らす。規定に違反して受験生のテスト内容を追加して書く又は訂正する。持入禁止のものを受験場所、採点場所に持ち入る。受験室の規定に違反する受験生を規定により注意し処分しない。
 - テスト問題公開決定がない間にテスト問題を漏らす

- 規定により受験書類、テストを管理しない。テストが採点できないほどテストを遺失し、壊す。正解、手順によりテストを採点しない。本当の結果と違うスコアボードを作成する。テストを秘密に保護しない。

- 受験室の規則の他の項目に違反する
- 受験者に対して
- 受験登録書類を偽証する。
- 代行受験又は他の人に受験代行してもらう
- 書類、通信設備又はテストを受ける時にいんちきのための情報が入っている設備及び他の違法物を受験室に持ち入る。
- 受験の時に書類を使用する。
- 正しい受験番号どおりに座らない。受験室で情報を交換し、秩序をなくす
- 受験室の規則の他の項目を遵守しない。
- 事務所活動に違反する行為
- 行政、書記、書類に関する規定を遵守しない。規定により発行しない公文を流行する。送信受信の書類、各部門の文書、報告を規定により管理しない。書類、文書を遅く分配する。
- 執行委員会の会議内容を正しくタイムリーに知らせなく、会社の活動に影響を与える。
- 恩等な理由がなくて、会社の規定により施設、ブック、ツール、工具を供給しない。
- ファンド保護、安全秩序保護及び資産、書類運送に関する作業の規定を遵守しない。
- コンサルタント、通訳、翻訳の業務における違反行為
- 個人的な目的でコンサルタントの機能を違法して実施する、又は、効力が切れた法律文書によりコンサルタントの機能を行うが分担する自分の業務、機能、要求により効力が残るかどうか必ず知る必要である。
- 会社の威信をなくす余波につながる事、不注意又は個人的な目的で翻訳者がベトナム語から外国語に、又は外国語からベトナム語に書類、手紙を間違って翻訳する事を含めて、対外関係に関する規定を順守しない。
- 書類、履歴、学歴、証明書、教育に関する違反行為

- 法律、会社の規定による昇給、昇格、教育育成、企画、任命又は他の制度を受けるために、学歴、証明書を違法して交付し使用し、書類及び履歴を偽装する。
- 知識、専門、業務の教育、育成期間において教育規定を違反する、又は、管理者の許可を受けないが適宜にサボる。
- 他の労働規律違反行為
- 他の業務活動に違反する行為は本規定にまだ具体化されない業務実施過程において、実施しない、又は正しく十分に実施しなく、政府及び会社の現行規定、規制、手順により実施しない行為である。
- 本章にまだ具体的に確定されない業務解決過程において制度文書、法律文書に定める要求、基準を遵守する行為である。
- 個人的な目的で会社の名義、社員を利用し、社員のイメージ、威信、名誉に悪い影響を与える。

36 条. 労働規律処分の形式

- 労働規律処分の目的
規律違反の処分は教育、規律違反予防の精神上、内部の規律、綱紀を確保し、法律及び労働規定の遵守認識を付け、会社活動における緩慢な表現、消極行為を排除する。
- 規律違反処分
- 労働規律違反の行為が本労働規定及び法律の規定により処分される。違反行為の性質により、規律違反者が本労働規定の労働規律形式により処分され、行政法律により処分され、又は、法律の規定により刑事責任を糾明される。
- 規律違反行為は本規定により処分する事以外、関連業務文書毎の規定により、他の処分形式を受ける。
- 法律違反場合の規律違反処分：法律規定違反の全ての行為は性質、レベルにより、行政、刑事上処分する事以外、本労働規定により規律違反として認められれば、規律処分する。

- 本労働規定により規律違反処分を検討する時、管轄者は本規定の35条に言及する違反行為発生時の原因、背景、具体状況を検討し評価する事。

- 労働規律処分の原則

- 発見される規律違反行為はすぐ中止される必要である。規律違反処分はタイムリーで客観的に公明に行われる。規律違反による余波は法律及び会社の規定により克服される事。

- 職位、権限を利用して、規律違反を好意に行いし、教唆として行い、再犯し、何回も違反する。自首し誠実に申告し、功労を立て罪滅ぼしし、志願して修理する、又は、損害を賠償する社員に罪を軽減する。

- 規律違反行為毎に対し1回で一つの形式で処分される。一人の社員は同時に多くの違反行為を行う場合、最重違反行為に相当する最高処分の形式しか行わない。

多くの社員は一緒に一つの違反行為を行う場合、その違反社員毎に自分の誤りに相当する処分を行う。

- 規律違反の処分は管轄者が労働法及び会社に定める手順、手続きに行う。

- 規律違反処理は違反の性質、レベル及び軽減又は重増の挿話により、適正な処分を決定する。

- 規律違反処分は民主及び公開の原則により行う。

- 以下の期間において被雇用者に規律処分を行わない。

a) 病気、ナースによる休暇、雇用者の合意を受けた上の休暇

b) 暫定に監禁されている期間

c) 労働法の126条に定める規定の違反行為に関する管轄機関の調査及び結論の結果を待っている期間

d) 妊婦、産休に入っている女性の被雇用者、1歳未満の子供を育ている被雇用者

- 規律違反処分の時、身体、人品侵害が禁止される、又は規律処分の代わりにお金の懲罰、給料削減を行ってはいけない。

4. 労働規律違反の処分形式

- 規律違反の社員は違反の性質、レベルにより、以下の形式の一つで処分される。

+ 譴責（言葉又は書面による）

+ 6 ヶ月間以内で給料レベルの昇格期間の延長；解職

+ 解雇

- 本規定に違反すれば、被雇用者が検討され、相当する形式で規律を処分される。上記に定める規律違反の処分形式の以外、会社の規定により、社員が一定の職位、業務を担当してはいけない。社員が会社の資産に損害を与えれば、規定により資産の損害を賠償する。

a. 譴責の規律形式

- 言葉による譴責は以下の場合により適用される。

+ 被雇用者は初めて労働規則を軽いレベルで違反し、もっと高いレベルで処分するほどではない。

+ 被雇用者が労働規則に違反しないが、他の被雇用者の規則違反行為を知っているが管轄機関に報告しない。その行為は物質損害を与えないが会社の安全、威信、イメージ、ブランドに影響を与えない。

- 書面による譴責は以下の場合に適用される。

+ 軽いレベルで違反するが、常に違反する。

+ 初めて違反するが会社の物質及び/又は非物質の損害がまだない、又は違反行為は会社の資産、利益に影響を与える（損害が被雇用者の勤務地域における政府が定める 10 ヶ月の最小給料の以下）がもっと高いレベルで処分するほどではない。

- + 言葉で譴責された後再犯する、又は、言葉による譴責の形式で2回規律を処分される。

- + 被雇用者は恩等な理由がなく、1ヶ月で累積三日間以下適宜に休職する、又は1年間で累積10日間以下適宜に休職する。

- + 管轄者又は規律処分評議会が労働法の規定により決定する管轄者を提案する他のケース。

- + 会社業務分野における責任処理に関する文書に定める規定による他のケース。

b. 6ヶ月間以内で給料レベルの昇格期間の延長、解職と言う規律形式は以下の場合に適用される。

- 常に違反する、又はその違反のため、会社の資産、利益に関する損害を与える（損害が被雇用者の勤務地域における政府が定める10ヶ月から20ヶ月未満の最小給料）がもっと高いレベルで処分するほどではない。

- 譴責された後再犯する、又は、書面による譴責の形式で2回規律を処分される。

- 被雇用者は恩等な理由がなく、1ヶ月で累積3日間～5日間未満適宜に休職する、又は1年間で累積15日間～20日間未満適宜に休職する。

- 管轄者又は規律処分評議会が労働法の規定により決定する管轄者を提案する他のケース

- 会社業務分野における責任処理に関する文書に定める規定による他のケース

c. 解雇と言う規律形式が以下の場合に適用される。

- システムで精密な性質を持つ違反行為又は会社の資産、物質利益に関する損害を与える違反行為（損害が被雇用者の勤務地域における政

府が定める 20 ヶ月以上の最小給料) がもっと高いレベルで処分するほどではない

- 会社の資産、利益に嚴重な損害を与える違反行為又はそのリスクがある違反行為
- 給料レベルの昇給期間の延長と言う規律処分を受ける被雇用者が処分期間間に再犯する、又は、解職されたが再犯する。
- 被雇用者は恩等な理由がなくて、1 ヶ月で累積 5 日間で適宜に休職する、又は 1 年間で累積 20 日間で適宜に休職する。
- 管轄者又は規律処分評議会が労働法の規定により決定する管轄者を提案する他のケース
- 会社業務分野における責任処理に関する文書に定める規定による他のケース

d. 役員、職員に関する法律により適用する役員に対する規律違反の処分

役員、職員に関する法律を適用する対象で、会社に勤める被雇用者は労働規律違反の場合、役員、職員に関する法律及び関連のある他の法的文書（ある場合）により処分される。

役員、職員に関する法律及び関連のある他の法的文書にこの規定がない場合、本労働内則の規定により処分する。

e. 規律違反の場合における行政違反処理、形成責任

故意による規律違反又は責任感不足で会社に資産、営業活動に大きな損害を与える被雇用者は、労働規律の処分を行われ、本労働規則により賠償する事以外、法律により、行政懲罰を行われる又は刑事責任を迫られる可能性がある。

37 条. 物質責任

1. 物質責任

故意による規則違反又は責任感不足で会社に資産に損害を与える被雇用者は賠償しないといけない又は本労働規則により規律の処分を行われる事以外、法律及び会社の規定により資産の損害を賠償してはいけない。避ける事ができない場合、賠償しない事。

2. 損害賠償

- 道具、設備を壊す、又は会社の資産に損害を与える被雇用者は法律の規定により賠償しないといけない。

- 会社が任せた道具、設備、資産、他の資産を遺失する、又は、許可限度より資材を消耗する場合、市場価格により一部又は全部の損害を賠償する。責任契約書がある場合、責任契約書により賠償する。避ける事ができない場合、賠償しない事。

本項で避ける事ができないケースとは客観的に発生し、予測できなくて、全ての必要な対策を適用するにもかかわらず、克服できない災害、火災、事件による事。

38 条. 損害賠償処理の原則、手順及び手続き

- 実際の誤り、損害レベル及び被雇用者の家族、親戚都合により、損害賠償の金額レベルの検討、決定する。

- 多くの被雇用者は違反し損害を与える場合、その損害に対する物資賠償を行う責任を一緒に持つ。

- 損害賠償処理の手順、手続き、期限は法律及び会社の規定により行う。

39 条. 労働規律、物質責任に関するクレーム

労働規律処分を行われ、仕事を暫定に停止され、又は物質責任制度により賠償する被雇用者は妥当だと気付かない場合、法律の規定により、

雇用者、管轄機関にクレームする権限を持つ、又は、法律規定の手順により労働争う解決を要求する。

第 10 章 クレーム・告訴

40 条. 総則

1. 会社に勤める過程において、被雇用者は会社の管理職又は部門、課に会社の規則、規定、規制により取り扱わないと感じる場合、意見を出して、直接管理職が解決してもらう。直接管理職の解決に満たさない場合、被雇用者は上位管轄職にクレームする。

2. 被雇用者は会社、団体又はその被雇用者の本人に損害を与える、又はその危機を与える個人、部門の不正行為について会社のリーダに告訴する権限を持つ。

3. クレーム、告訴を受ける管理職はタイムリーで客観に解決し、違反者を厳しく処分し、発生できる損害を予防し、自分が決定した事を厳正に実施する事を確保するために対策を実施する。

4. 原則上、会社は匿名性の願書、手紙を解決しないで、必要に応じ、参考として検討する。

41 条. クレーム、告訴を行う人及び行われた人の権利、義務、責任

1. クレームを行う人の権利、義務及び責任
 - a. クレームを行う人の権利は
 - 定めた手続きにより、会社のリーダに願書を送付し直接に説明する、又は合法的な代表者を通じて、クレームする。
 - 管轄する管理職からクレーム告訴決定書又は解決意見通知書を受ける。
 - 侵害された合法的な権利、利益を回復される。
 - 受けた損害（ある場合）の一部分又は全部の支援を検討される。
 - b. クレームする人の義務
 - 会社の手順、規定によりクレームをする。

- 客観的で誠実で穏当に事件を説明し関連のある情報、書類を十分に供給する。
- 要求を受ける場合、審査、対審、鑑定、クレーム内容の明確化に携わる。
- 会社のリーダのクレーム解決決定を厳正に遵守する。
- c. クレームをする人は自分が供給したクレーム内容、情報、書類の正確度、合法について責任を持つ。手順、手続きに違反し正確でない情報を故意に供給する事などのため、クレームされる人に損害を与える、又は、会社の営業活動に障害を与える、又は、会社のリーダの意思決定の課程に影響を与える場合、違反レベルにより、注意される、又は譴責から警告まで規律を処分される。
- 2. 告訴をする人の権限、義務及び責任
 - a. 告訴者はクレームをする人と同じ権限を持つ同時に、告訴解決決定の効力となるまでに告訴解決の人に自分の名前、住所、筆跡を秘密にする事を要求できる。
 - b. 告訴者はクレームをする人と同じ義務を持って、自分が供給した告訴内容、情報、証拠、書類について責任を持つ。
 - c. 告訴者は故意的に偽造し、偽書類を作成し、事実を正しくなく報告する、又は情報を故意にこしつけて、告訴された人に損害を与える又は会社のリーダの威信を偽装する場合、解雇と言う最高レベルで規律を処分される、または、嚴重な損害を与える場合、法律により起訴され、損害を受ける人、組織に物質又は節操を賠償する。
- 3. クレーム、告訴される人の権限、義務及び責任
 - a. クレーム、告訴される人の権限
 - 決定の合法性、決定実施過程について証拠、関連のある証拠、書類を出す
 - 報告書を送付する、又は上司に直接に説明して、告訴事件について解決してもらう。
 - イニシアチブを取って、クレーム、告訴する人に接触し（上司の要求がある場合）、説明し、懐柔する、又は情報をもっと供給し、規定及び適用基礎を一般化する。

- クレーム、告訴処理決定を受け又は、上司の解決意見を通知される。
- 侵害された合法的な権利、利益を回復され、損害賠償（ある場合）を要求する。
 - b. クレーム、告訴される人の義務
 - クレームにつながる決定を審査し明確し検討する。
 - 事件を妥当で誠実に説明し、情報、書類及び関連のある証拠を供給する。
 - 要求される場合、上司に説明する。
 - c. クレーム、告訴される人の責任
 - 有能部署の案内及び上司の指導により、協力精神をもって、クレーム、告訴をする人に解説する。
 - 会社のリーダによるクレーム又は告訴解決決定を厳正に遵守する。クレーム、告訴する人に不公正に取り扱わない事。

42 条. クレーム、告訴の手続き、期限

1. クレーム、告訴の手続き
 - a. クレームの前に、被雇用者は直接管理者に相談し、返信する必要がある。直接管理職の解決に満たさなければ、上位管理職に以下の手順によりクレームをする。
 - 有能部署に書面で報告し、自分がまだ妥当ではないと思う事を明確に述べて、検討してもらう。
 - 妥当に解決されない問題又は解決されない問題について、管轄する上位部署に書面で建議する。
 - b. 被雇用者は告訴書を作成し、管轄する執行委員会に直接に送付し、検討し解決してもらう。
 - c. クレーム、告訴の検討、解決待ち期間において、被雇用者はそのまま責任を持って、勤めて、分担した業務を完成させ、クレームされている決定を遵守する。
 - d. クレームは書面で行われ、送付の時、会社の文書規定により遵守する。

2. クレーム、告訴の期限

a. クレーム期限はクレームにつながる行政決定を公布する日、又はクレームにつながる事が発生する日から 30 日間以内である。

b. 告訴期限は告訴につながる行政決定を公布する日、又は告訴につながる事が発生する日から 60 日間以内である。しかし、告訴された人の決定は会社に損害を与えていれば、告訴期限を定めない。

c. 以下の場合において、会社がクレーム、告訴を解決しない。

- 匿名性の手紙（原則は検討しないが、必要な場合参考できる）
- クレーム期限がなくなったが妥当な理由がない。
- クレームをする人は市民権がなくなり、アルツハイマーにかかっている、又は認識力又は行為制御力をなくす病気にかかっているが合法的な代表者がいない。
- 会社定款及び法律の規定により他の管轄に所属するケースの以外、クレーム、告訴は会社の総裁の最終決定による。

第 11 章 施行事項

38 条. 適用範囲

本規定がハノイ鉄道一人有限会社に一般化され、均一に実施される。

39 条. 施行

1. 各部署の労働規則が部署の労働者毎に一般化され、徹底に施行される。労働契約書に締結する前に雇用者は労働規則を新人の被雇用者に直接に供給する。労働規則は労働契約書の添付資料で、被雇用者は研究、遵守する責任を持つ。

2. 各部署の部長、会社直属部署は責任を持って、労働組合執行委員会及び組織人材部門と協力し、本規則を一般化しよく施行する。

3. 被雇用者が労働規則の項目がよく把握できるように、総務・組織部門は責任を持って、会社全体の被雇用者に案内し説明する。

4. 総裁が委任する範囲において、会社直属部署の社長、部長は本労働規則に違反しなくて、自分の部署の活動、営業状態及び特徴に合わせる詳しい規定を公布する権を持つ。

40 条. 施行効力

1. 本労働規定は総裁が公布のために締結する日から、効力となり、ハノイ労働傷病兵社会局で登録される。

2. 本労働規則の訂正、補充は総裁が決定する。

3. 本労働規定にまだ言及されないが、他の法的文書に定められる場合、その法的文書の項目がもちろん適用される。

4. 会社が公布するほかの規制、規定は本労働規則に付録し補充するもので、お互いに排除する事ではない。本規則と会社及び/又は会社直属部署の他の規制、規則との矛盾がある場合、会社の総裁が責任を持って、検討し、最終決定を出す。

ハノイ, 年 月 日

総裁

(サイン、印鑑)

ハノイ市人民委員会
ハノイ鉄道一人有限会社

ベトナム社会主義共和国
独立 - 自由 - 幸福

採用規制

ハノイ鉄道一人有限会社

第 1 章

総則

第 1 条. 法的根拠

- 2012 年 6 月 23 日付労働法第 10/2012/QH13 号
- その他の関連する法律規範文書

第 1 条. 運用範囲、対象

1. 運用範囲：

この規程は、ハノイ鉄道一人有限会社（以下会社を呼ぶ）に要員採用の作業に対し運用に関する規定を定めることを目的とする。

- ア. 全社において運用のプロセスを統一に実施することを確保すること。
- イ. 総裁によって承認された職位の基準に従う人数及び質の要求を満たす人材を提供すること。
- ウ. 採用された社員は、国の政策、法令及び会社の規程をよく遵守し、業務要求どおりに実施できる能力を十分に持たなければならない。

2. 運用対象：

この規制は、国の現在の規程により、会社の採用管轄に依存するあらゆる職位に対する新規社員を採用することに運用され、詳細は以下のとおりである。

- 学校から新規要員を採用する。

- 社外のユニットから要員を受け取る。
- 全社の各ユニット間で要員を調整する。
- 自社から他社に社員を異動する。

第2条. 採用原則

採用の作業を実施することは、国・HPC・会社による一般原則を守らなければならないが、詳細は以下のとおりである。

1. 採用は、要員に対する实际需要及び会社組織仕組みにおける職位に基づかなければならない。総裁によって承認された要員定員より足りない場合若しくは新しい仕事を作る場合だけに要員を採用する。要員使用需要がまだない場合は、採用をしない。
2. 採用された要員は、採用すべき職位の採用基準を満たし、慎重に選択され、訓練された専門的な知識・モラル資質・能力・実務能力レベル・健康現状が割り当てられる専門的な業務をよく仕上げるかを正しく評価される。
3. 会社は均一にマネジメントする。
 - a. 全社における要員採用の目的、需要、原則、基準及び；専門的な業務担当要員を直接に採用すること。
 - b. OU における短い期間がある契約どおりの労働者について、場合及び職位によって、総裁はそのユニットの長に直接に採用することを委託し、採用結果を報告してもらう。

第2章 採用プロセス

第3条. 採用需要の確定

1. 採用需要は以下のソースから発生した。
 - 会社の要員定員による。
 - 総裁の要求に基づく。
 - 組織・人材部は、転職者、定年者、健康のための退職者などに取り替えるように追加の需要により採用を提案する。
 - 各部課は、作業の需要により提案することに基づく。

2. 採用の需要は、以下の要求を満たさなければならない。
 - 採用はどんな作業のためか。
 - 候補者は、その作業のスキル、専門的なレベル、技術及びその作業の性質によるその他の条件を満たさなければならない条件。
 - 採用すべき人数。
 - 雇用タイプ：正規社員か？それとも臨時社員か？
 - 要員が必要である期間。
3. 長期的需要の確定：将来的にハノイ市都市鉄道の管理・保守・運営の資源を主体的に準備しておくためである。組織・人材部は、需要を確定し、採用評議会常任に報告し、大学・訓練職業学校における優秀な学生を選択し、教育する。その学生たちは、研修を受けた後に、その他のあらゆる対象と同様で共通の採用プロセスどおりに受験しなければならない。

第4条. 採用需要の集約

各部課ユニットは、自部の要員需要をまとめ、会社の書式（書式第1号）により組織・人材部に送る。組織・人材部は、以下の流れで行う。

1. 人数、作業に対する要求に関する各部課ユニットの採用需要を再確定する。
2. 相応しくない事項があると判断する場合、関連部課ユニットの長と直接に打合せし、採用の作業を統一する。
3. 採用すべき需要を一致した後、要員対象別、採用すべき人数別に集約を実施する。
4. 要員採用に関する決定を受けるように採用計画を作成し、総裁に提出する（分析及び具体的説明付け）。要求を満たさない場合、総裁の意見の下、関連部課ユニットの長に再度統一するように相談する。合意を受けない場合、総裁に詳しく説明する必要がある。

第5条. 採用計画

総裁によって採用の承認を受けた後、組織・人材部は、会社の書式（書式第2号）により以下の事項がある採用計画を作成する。

- 業務別に要員採用条件及び人数。
- 人材提供先（会社における求人のお知らせ、新聞・ラジオによる求人のお知らせ、職業仲介センター、教育実施学校）。
- 候補者の個人書類の受付期間

- 候補者への面接を実施する構成の予定（採用対象によって、専門的スキルの面接・試験を出来る専門知識を持つ者を配置する）
- 面接時間
- 総裁に採用費用を含め採用計画を承認してもらうよう提出する。

第6条. 採用評議会設立

1. 採用評議会は、総裁によって公布された採用評議会設立決定により各採用それぞれのメンバーで構成される。
2. 採用評議会の構成は以下のとおりである。
 - 総裁は最高責任者であり、採用評議会の議長とする。
 - 人事担当副総裁は、採用評議会の副議長とする。
 - 組織・人材部部長は、議員兼評議会秘書とする。
 - 労働組合会長、各副総裁、採用需要がある各ユニットの長は、議員とする。
 - 組織・人材部の幾つかの職員、各ユニットのその他の管理員は、採用評議会に関与するように声をかけられる。
3. 採用評議会は、以下の責任を持つ。
 - 職位別の採用基準を確定する。
 - 候補者評価の方法・ツール（筆記試験／選択肢運用試験問題及び正解、面接問題など）を確定する。
 - 候補者評価の基準・手続きを確定し、準備する。
 - 契約の条件及び候補者に向ける待遇制度を確定する。
 - 候補者の評価：評議会によって割り当てられることで、筆記試験の採点、面接による候補者の評価などである。採用評議会メンバーそれぞれは、候補者ごとに対する評価表を持つ。
4. 採用評議会による意思決定の原則
 - 採用評議会のメンバーは、採用の作業に関するあらゆる課題を平等で相談する。
 - 評議会のあらゆる相談は記録書を作られる。
 - 採用評議会メンバーは評議会の決定を議決する。
 - 議決結果は、採用評議会議長が最終決定を出すような参考の根拠となる。

第7条. 採用お知らせ

採用計画を承認された後、組織・人材部は、以下の事項がある求人情報を新聞・ラジオ・職業仲介センター・教育実施学校若しくは会社の掲示板で知らせる。

1. 応募書類は以下のものがある。

- 候補者によって自分のことを記載する表（書式第3号）
 - 履歴書：現地政府機関若しくは現在所属機関（転職の場合）の確認があるオリジナル。（2通）
 - カバーレター：現地政府機関の確認があるオリジナル（1通）
 - 国の現在の規程により健康診断結果表：オリジナル（1通）。運転士に対し、会社によって指名する病院、健康診断センターによる発行する運転条件満足健康証明書を持たなければならない。
 - IDカード：コピー版、オリジナルに対照されたもの（1通）
 - 戸籍：公証があるコピー版（1通）
 - 資格（業務によって）：公証があるコピー版
 - 個人書類、各決定書など（転職の場合）：公証があるコピー版
 - **顔写真**（サイズ4x6）2枚、連絡先
2. 初任給
 3. 職場の住所
 4. 書類受付場所及び期間など

第8条. 書類受付及び検査

組織・人材部は、候補者の書類を受付、候補者に会社の採用流れを案内する。採用試験を受験する希望の候補者に対する最初検査は以下のとおりである。

1. 候補者が十分な年齢になったか検査する（IDカードに基づき、別の資料に対照し、チェックする）。候補者の年齢がまだ足りないと疑問がある場合、面接でチェックすることが出来、年齢が足りない場合はその人員をとらない。

2. 候補者の書類は十分であるか検査する。

すべての書類は組織・人材部が検査する時期までに6ヶ月を超えてはならない。書類が不足する場合、候補者に追加を要求する。

3. 候補者の資格、経験、専門スキルが採用の仕事に合うかチェックする。要求を合格する場合、組織・人材部はリストを作成し、採用評議会に提出する。その後、ホームページにおいて候補者に試験日程を知らすると共に、会社の掲示板に貼り付ける。

第3章

採用

第9条. 最初検査、試用

1. 最初検査：受付け、書類が要求を満たすことを確認できた後、組織・人材部は、各条件及び採用基準を満足する候補者名簿を作り、採用評議会常任に報告し、正式な採用の方法を選ぶ。

2. 試用：卒業したばかり候補者若しくは就業の経験を持ったが今回応募した業務を担当したことがない者に対し、受け取る予定のユニットにおいて試用をやらなければならない、その試用期間は以下のとおりである。

+ 大学卒業、短期大学卒業以上である専門的業務をする者に対するのは2ヶ月である。

+ 生産営業及びサービス担当者に対するのは1ヶ月である。

2.1. 試用の内容：

+ 配置予定の職位に従う専門就業を実施する。試用をやる者を受け取る予定のユニットは、試用を指導する経験がある職員を配置しなければならない。

+ 就業ルール、採用すべき職位の業務に関する各プロセス・規程、労働衛生安全の作業に関わる知識を習得する。

2.2. 試用期間での被雇用者の給与及び各制度：会社による給与支払い及びボーナス分布規制による。

2.3. 試用期間の終了：

+ 試用を実施した被雇用者は、書面により試用結果を報告し、指導者及び試用を行なった者がいるユニットの長は評価を組織・人材部に提出し、組織・人材部は集約し、正式に採用するように採用評議会常任に提出する。

第10条. 正式採用

正式に採用されるように、候補者は、レベルを試験する二つ形式の一つを合格しなければならない：直接のチェック（書類審査及び面接実施）若しくは集中試験（試験を通じる採用）

1. 直接のチェック（書類審査及び面接実施）：

1.1. 採用評議会は、候補者の能力を全面的にチェックできる専門経験を十分に持つ関連部ユニットに所属する職員を評議会のメンバーに決定する。

1.2. チェック結果は、記録にし、評議会の検討・採用決定を受けらるるに提出する。

2. 集中試験（試験を通じる採用）：

2.1. 試験計画作成、試験ルール伝達、試験監督：組織・人材部は、採用評議会議長に試験計画（試験時間、場所、試験室数など）を提出し、試験ルール・規制を伝達し、各部課ユニットと一緒に試験問題を作成し、

監督し、採点までに候補者がやった試験解答用紙を封印する。試験問題の秘密性、正確性を確保し、そして試験を真剣且つ規制どおりに実施する。

2.2. 採点：試験後、組織・人材部は、試験採点評議会の名簿を提案する。その名簿は、能力が足り、試験ルールを違反したことが無く、受験する親戚の人が居ない各部課ユニットに所属する職員から選ぶ。必要に応じ、社外の教師を雇うこともある。解答用紙は個人情報記入した欄を切る。その欄に付ける番号の部分は評議会議長が預ける。採点の際に、正解の配点により実施する。採点担当者間で一致できない場合、採点2回の平均点とする。

2.3. 試験結果決定：採点評議会が（優先点数も入れた）採点表を集約した後、組織・人材部は、合格リストを決定するように採用評議会を会議に招集する。その原則は、点数が一番高い候補者からの順序により採用すべき人数を満たす時まで合格者となる。採用試験結果は、公的に公表される。その後、組織・人材部は各専門部門と協力し、採用の手続きを引続き実施するように運転士（があれば）に対する健康診断を正式に行う。

第4章 労働契約

第11条. 労働契約

1. 試験結果により、組織・人材部は、総裁が被雇用者受取決定の発行及び労働契約締結実施のための申請書を総裁に提出する。

2. 労働契約を締結する時の書類は以下の項目がある。

- 採用書類;
- 履歴書;
- 直接ガイダンスユニットの長（があれば）の署名を付けた専門知識チェックの記録書又は試用の自己評価
- 被雇用者受取決定

3. 労働契約は、すべての被雇用者に対し12月の期間とする。次回のサインから、業務の要求及び被雇用者の対応可能によって3年間の契約又は無期限労働契約を締結する。

第5章 要員配置、転職

第12条. 要員配置

1. 社内の他の部門への異動の希望がある被雇用者は、理由をはっきりと書く申請書を提出する。所属している部門が異動を同意し、来る部門が受取を同意する。組織・人材部は、要員定員及び業務の需要に基づき、総裁に報告する。合意を受けない場合、要員配置が安定にするように、組織・人材部は直ちに本人及び関連部門に通報する。

2. 特に、業務のニーズにより要員の異動が必要になる場合、組織・人材部は業務に合う要員配置を総裁に報告する。その後、総裁の方針を離れて行く要員が居る部門と来る要員が居る部門に通報し、決定を発行する。

第13条. 転職

1. 他社から自社へ転職する場合は、採用プロセスどおりに実施する。

2. 自社の被雇用者が他社に転職する希望を持つ場合、本人は転職申請書を提出し、その部門が要員配置対策を講じるように、少なくとも15日前に部門の長に報告しなければならない。その部門は配置できない場合、部門の長は解決策があるように会社のリーダーに報告しなければならない。取り換えの人員が居ない場合、転職の希望がある要員は引続き勤務しなければならない、若しくは法律により労働契約を一方的に解除する。

3. 他社に転職する希望があり、又は労働契約を一方的に解除する希望がある被雇用者は、借金及び管理している会社の資産並びに国・業界の規程による教育費用、その他の関連費用（があれば）を会社に返済し、戻す。

第6章 実施体制

第14条. 実施体制

1. 組織・人材部によるアドバイス提供の業務の他、その他の関連専門部門も試験問題作成・採点・演習検査・能力チェックなどの採用工程に責任を向上させなければならない。部門はいずれの業務を委託し

てもらっても、総裁の前にその業務の品質・進捗に関する責任を完全に持つ。

2. 各部課ユニット、労働組合会長は、この規制をよく把握し、そして全社員に徹底させなければならない、採用プロセスの原則・手順・手続きなどを理解させるように説明・ガイダンスをする。

3. 実施中に、トラブル・課題が発生する場合、各部課ユニットは、組織・人材部にフィードバックする。総裁がそれらの課題をタイムリーに解決できるように、組織・人材部は集約し、総裁に報告する。

総裁

ロゴ

ハノイ鉄道一人有限会社

6 ヶ月要員採用計画

部門:.....

☐ 20... 年度前半☐ 20... 年度後半

順 番	部門におけ る要員定員 である職位	現在 有す る要 員数	追加 すべ き要 員数	採用すべき 職位の業務 内容	追加す べき職 の基準 ／技術 ／専門	予定給 与	追加の理由	月別の追加プロセス					
1	2	3	4	5	6	7	8	9	10	11	12	13	14

ハノイ、 年 月 日

組織・人材部

部門長

作成者

(計画作成)

書式第2号

ロゴ

ハノイ鉄道一人有限会社

会社要員採用計画
(年 四半期)

順 番	採用職位	人数	採用基準	予定給与	優先	採用の方 法	採用機関	実施	備考
1	2	3	4	5	6	7	8	9	10
1	総務部								
2	組織・人材部								
3	財務・会計部								
4	安全・品質部								
5	営業・広報部								
6	企画プロジェクト部								

7	統合列車運行部								
8	技術保守本部								
	車両部								
	電気通信信号、駅設備部								
	軌道部								
	工務部								

ハノイ、 年 月 日

総裁

組織・人材部部长

作成者

ロゴ

ハノイ鉄道一人有限会社

候補者自己記述表

応募職位:.....コード:.....

候補者のコード:.....

1. 個人情報:

氏名		要員コード	
応募職位		部門	
ID カード／パスポート No.		授与日： 授与機関：	
生年月日：		性別：	
出身地：		宗教：	
居住地：			
所在地：			
電話番号		携帯番号：	

2. 知識能力:

2.1. 学歴

	学校名	研修専攻	研修期間	ランク
職業訓練学校				
短期大学				
大学1				

大学2				
大学院				

2.2. 外国語

外国語	英語 <input type="checkbox"/>	フランス語 <input type="checkbox"/>	日本語 <input type="checkbox"/>	中国語 <input type="checkbox"/>	その他 <input type="checkbox"/>
ランク	A B C	A B C	A B C	A B C	A B C

2.3. コンピュータースキル

Ms. Word ☐ Ms. Access ☐ Ms. Excel ☐ Corel ☐

Photoshop ☐ その他 ☐

2.4. その他の専攻（受験中のコースも記載）

順番	証明書	研修専攻	研修期間	ランク

3. 職業:**3.1. 職業の目的:**

職業の目的	
希望給与（試用）	
正規給与（試用期間後）	
希望給与（能力を十分に発揮した後）	
会社に勤務を開始できる日	

3.2. 勤務経験

社名:.....			
勤務期間: 年 月 日～ 年 月 日			
住所:.....			
電話番号:.....		Email:.....	
製造・営業業界:.....			
期間	職位	仕事内容	給与（係数、給与のレベル、ランク）
退職理由:.....			

.....	
審査のために連絡できる人:..... 職位:.....	電話番号:.....

社名:.....			
勤務期間: 年 月 日～ 年 月 日			
住所:.....			
電話番号:.....		Email:.....	
製造・営業業界:.....			
期間	職位	仕事内容	給与（係数、給与のレベル、ランク）
退職理由:.....			
審査のために連絡できる人:..... 職位:.....		電話番号:.....	

社名:.....

勤務期間: 年 月 日～ 年 月 日			
住所:.....			
電話番号:.....		Email:.....	
製造・営業業界:.....			
期間	職位	仕事内容	給与（係数、給与のレベル、ランク）
退職理由:.....			
審査のために連絡できる人:..... 職位:.....			電話番号:.....

社名:.....			
勤務期間: 年 月 日～ 年 月 日			
住所:.....			
電話番号:.....		Email:.....	
製造・営業業界:.....			

期間	職位	仕事内容	給与（係数、給与のレベル、ランク）
退職理由:.....			
審査のために連絡できる人:..... 職位:.....			電話番号:.....

3.3. 能力及び資質の自己評価:

個人資質:	
適正:	
技術:	

--	--

3.4. 関与した専門的協会若しくは団体:

順番	協会・団体名	業務	関与期間

非常の時に連絡できる人:
住所:.....	
電話番号:.....	

上記の情報は十分且つ正確なものを約束する。

採用に必要となる個人情報及び職歴の審査を受け入れる。

以下のように約束する：

- 採用される場合、私が上記若しくは面接で提供した不正確な情報は会社が労働契約を解除する根拠とする。
- 国と会社の規則・規程を遵守する。

ハノイ、 年 月 日
サイン

ハノイ市人民委員会
ハノイ鉄道一人有限会社

ベトナム社会主義協和国
独立 - 自由 - 幸福

草案

賃金規則

ハノイ鉄道一人有限会社

第 1 章

総則

1 条. 運用範囲、対象

1. この規則は、ハノイ鉄道一人有限会社（以下「会社」という。）の被雇用者に賃金及び賞与（あれば）を支払うことを定める。この規則も、国の現行の主張・政策・規程及び会社の経営の要件に相応しい賃金使用、配分を統一に実施するための賃金・賞与の管理に係わる原則、内容を定める。それと同時に、職位及び作業実績に合わせる賃金並びに報酬を段階的に付する

2. 給料、賃金（賃金をいう。）とは、被雇用者の作業の数及び質または国の現行の規定及び会社の規程に基づく雇用者と被雇用者の間の渉外により雇用者が被雇用者に支払うものとする。

3. 賞金とは、被雇用者の仕事の結果及び貢献度による祝日、テットの日、四半期末、年末に雇用者が被雇用者若しくは被雇用者の集団に渡すもの、又は被雇用者、被雇用者の集団が作業改善発想がある時若しくは業務を優秀で完了した時にその被雇用者に渡すものである。

2 条. 賃金・賞与の配分の総則

会社の被雇用者への支給はベトナム労働・傷病兵・社会省が国が所有者としての一人有限会社における被雇用者に対する被雇用者、賃金及び賞与の支払いを管理することを指導する 2013 年 9 月 9 日付けの通達 18/2013/TT-BLĐTBXH 号による。以下の基本的原則を遵守しなければならない。

1. 賃金・賞与ファンドの使用は国による定めた制度、政策及び会社の条件に合わせ、効果があり、設定された目的とおりにする。

2. 被雇用者への支給は被雇用者配置の原則による。それは、業務、職位により支給する（業務・職位は労働契約又は会社総裁の決定書で述べられる）。業務・職位を変更する決定がある時、新しい職位に合わせる賃金をタイムリーに調整する。

3. 教育を受け、専門性（学位、学名を含まない）があり、高い技術を持ち、熟練し、貢献度が高く、営業効果を作った被雇用者に対し、より高い賃金を支払う。

4. 被雇用者個人若しくは被雇用者集団への賃金・賞与は、被雇用者・被雇用者集団の業務実施の生産性、質量、効果及び貢献度に基づき、決定され、被雇用者・被雇用者集団間に対する公的且つ公平性を確保する。

5. すべての賃金・賞与は、会社の賃金表若しくは賃金台帳に十分且つ正確に述べなければならない。

6. 一人が二つ以上の職位として仕事をする場合若しくは複数の作業を担当する場合は、賃金・賞与はその期間内における職位・仕事の一番高い賃金係数を導入する。

3 条. 法的根拠

- 2012/6/18 日付労働法第 10/2012/QH13 号
- 国営企業の俸給表・賃金表・手当の制度を規定する政府の 2014/12/14 日付政令第 205/2004/ND-CP 号
- 賃金に関する労働法の一部条項の細則を規定し、施行を案内する 2013/5/14 日付政令第 49/2013/ND-CP 号
- 国家所有一人有限会社に勤務する従業員に与える賃金、賞金の管理を規定する政府の 2013/5/14 日付政令 50/2013/ND-CP 号

- 国家所有一人有限会社の社員総合の会員・会長、監査員、総裁・社長、副総裁・副社長、会計長に与える賃金、賞金の管理を規定する政府の 2013/5/14 日付政令 51/2013/NĐ-CP 号

- 賃金に関する政府の 2012 年 12 月 31 日付政令第 114/2002/NĐ-CP 号の一部条項の施行を案内する労働傷病兵社会省の 2003/5/30 日付省令 12/2003/TT-BLĐTBXH 号、2008/9/16 日付省令 18/2008/TT-BLĐTBXH 号

- 国家所有一人有限会社に勤務する従業員、賃金、賞金の管理の施行を案内する労働傷病兵社会省の 2013/9/9 日付省令 18/2013/TT-BLĐTBXH 号

- 国営会社の一部の分野に勤務する労働者、従業員、公務員の特殊的な制度に関する首相の 2005 年 9 月 26 日付決定第 234/2005/QĐ-TTg 号の名前を修正し、第 1 条を修正し、補足する 2012/10/12 日付決定第 43/2012/QĐ-TTg 号

- その他の関連する法律規範文書

4 条. 勤務原則

賃金・賞与規則は、労働組合執行委員会の合意及び会社全員の意見に基づき、立てられる。

第 2 章

具体的規程

5 条. 賃金基金形成ソース

職員に支給する賃金ファンドは、以下のような項目があり、会社の営業結果をベースにし、確定される。

1. 国の制度による実施される賃金基金の総額 (V1) :

- HPC が定めた賃金単価による賃金基金
- 国の規程・制度などによる追加の賃金基金

2. その他の営業活動、サービスから調整された賃金基金（ソフト賃金及び 13 月目の賃金（あれば））(V2)

上記のソースから形成した賃金基金とは賃金基金の総額をいう (V)

$$V = V_1 + V_2$$

5 条. 会社の毎年賃金基金総額の確定の方法

毎年の賃金基金総額とは、会社が仕事各種に支給する総額であり、以下のような事項がある。

- 賃金、時間外手当、外注係員を派遣してきた個人・組織への賃金（あれば）であるすべての仕事各種に対する支払った賃金総額。

- 被雇用者が計画指標を超えた結果で完成した場合、効果がある営業を行った場合、会社がその被雇用者に支給した収入による賃金（あれば）。

6 条. 会社の毎年の賃金

1. ハード賃金（基本賃金）は、教育されたレベル及び被雇用者の質を考慮し、被雇用者の職位により支払われる。

2. 夜勤、時間外手当は、国の規程により夜勤、時間外勤務の実際の時間に当たる金額を支給する。

3. ソフト賃金（収入による賃金）は、被雇用者が計画指標を超えた結果で完成した場合、効果がある営業を行った場合に支給する追加賃金である。

4. 日雇い労働者又は臨時の労働者を派遣してきた個人・組織への賃金（あれば）。

7 条. 支給の方法

会社の現状に基づき、被雇用者に支給する制度は時間に当たり支給する形式を導入する。

8 条. 賃金基金の総額の使用

賃金基金の総額を超えないような支給を確保する、及び賃金基金から支払うことを年末月に集中しない（収入分配が適切ではないことに繋ぎ）、若しくは翌年の大きな賃金基金の予備をするように、賃金基金の総額は以下のような基金を区分することを規程している。

1. 被雇用者に直接に支給するハード賃金基金（時間による）：この賃金基金は被雇用者の職位レベル、仕事の職位、勤務日数、役職係数などにより毎月に支給する。支給額は、官庁が承認された会社の賃金ランク（政府が発行されている 2013 年 5 月 14 日付けの政令 50/2013/ND-CP 号を運用する）に基づく基本賃金基金の 100%である。政府が賃金に関する新しい規程がある時、その新しい規定を運用する。

2. ソフト賃金基金（あれば）：この賃金基金は、営業効果に従い満期前支払いをされ、以下の原則で年末に決算される。

- どんな部門が計画を超えた収入を達成すれば、その部門と間接の部門がその成果を楽しむ。

- ハード賃金の以外、追加のソフト賃金はハード賃金の 1.5 を超えない。

- 計画を超えた収入の利益率は少なくとも計画の利益率と等しいである。

3. 翌年のための予備基金：ハードとソフトの賃金を支給した後、残る部分は会社リーダーが賃金評議会を通じ、予備基金の使用を決定し、8 条 2 項のソフトの賃金の分配を実施した場合、翌年の予備基金は賃金基金の総額の 17%を超えない金額（ハードとソフトの賃金を含める）である。

4. ソフトの賃金：

a. 夜勤、時間外手当は、国の規程により夜勤、時間外勤務の実際の時間に当たる金額を支給する。

- 会社の営業経営の現状により、総裁は賃金評議会を通じ決定する。

b. ソフトの賃金は以下の場合に下げる調整を実施される。

- 収入は計画に超えない場合。

- ソフトの賃金を収集しなければならない項目は年内に満期前支払った場合。

第 3 章

賃金分配、賃金表のシステム、賃金ランク決定基準、賃金額決定、賃金レベルのアップ

9 条. 一般的賃金分配の公式

1. 時間に当たり被雇用者に支払う月給は以下の公式を運用する。

被雇用者が実際にもらう分 (V_{tl}) = ハードの賃金 (V_c) + 手当て (V_{pc}) + ソフトの賃金 (V_m) - 国の規程による支払わなければならない項目（健康保険、社会保険、事故保険、個人所得税）

2. ハードの賃金(V_c)は以下のように算出される。

$$V_c = V_{tt} \times H_{l,pc} \times H_{dt}$$

その中:

V_{tt} : 最低賃金（政府の規程による）

$H_{l,pc}$: 政府の規程による賃金係数及び役職の手当て

H_{dt} : 特殊手当係数（優遇手当係数を適用するのは収入を確保し、専門レベルの高い人材を誘致するためである。）

3. 手当て：政府及び会社の規程による（リーダーに対する出張費、電話代、シフトの食事代など）。

4. ソフトの賃金 (V_m):

-夜勤、時間外手当は、国の規程により夜勤、時間外勤務の実際の時間に当たる金額を支給する。

-会社の営業経営の現状により、総裁は賃金評議会を通じ決定する。

10 条. 経営者、リーダーに対する賃金決定

1. 政府の 2013 年 5 月 14 日付けの政令 51/2013/ND-CP 号を運用し、会長、総裁、副総裁、監査員、会計長に向ける賃金を決定することは以下の原則による。

- 会社はどんなランクに入ったら、会長・総裁・副総裁・監査員・会計長の賃金表に基づき、職位によりそのランクに相当する賃金を決定する。会社のランクが変更されたら（アップかダウンされた）、賃金決定もそれに従い変更される。

- 兼任の職位に対し、一番高い職位に対する賃金のみ支払う。

- 上記の賃金表における職位を担当しなくなる時、新規職位に対する賃金を決定しなければならない、決定されたランクの賃金を保留することはだめである。

- 上記の賃金表における各職位の任命を決定した所有者（HPC）は、これらの職位に対する賃金を決定する。

2. 当初の数年間において、会社はランク 2 に入るので、経営者・リーダーの賃金表は以下のようである。

順番	職位	賃金係数	
		1	2

1	会長	6,97	7,30
2	総裁	6,64	6,97
3	監査員、副総裁	5,98	6,31
4	会計長	5,65	5,98

11 条. 会社の職員、作業者に対する賃金決定

1. 会社の職員、作業者に対する賃金のランク・レベル、職位手当ての係数は、以下のように政令 205/ND-CP 号を運用される。

a. 専門、実務別の職員、作業者の賃金表。

順 番	職 位	係数、賃金											
		1	2	3	4	5	6	7	8	9	10	11	12
I. 専門家職員の賃金表													
1	シニア専門員、シニア経済専門員、シニア技術者	5,58	5,92	6,26	6,60								
2	キー専門員、キー経済専門員、	4,00	4,33	4,66	4,99	5,32	5,65						

	キー 技術 者												
3	専門 員、 経済 専門 員、 技術 者	2,34	2,65	2,96	3,27	3,58	3,89	4,20	4,51				
4	基幹 管理 者、 技術 者	1,80	1,99	2,18	2,37	2,56	2,75	2,94	3,13	3,32	3,51	3,70	3,89
5	文書 管理 スタッ フ	1,35	1,53	1,71	1,89	2,07	2,25	2,43	2,61	2,79	2,97	3,15	3,33
6	サー ビス スタッ フ	1,00	1,18	1,36	1,54	1,72	1,90	2,08	2,26	2,44	2,62	2,80	2,98

II. 従業員の賃金表

A. 車内

1	運転 士	4,45	4,87	5,32									
2	運転 士の アシ	3,70	4,10										

	スタ ント												
3	車 両長 (運 転指 導)	4,10	4,46	4,87									
4	副車 掌	3,90	4,30	4,70									
5	客車、 貨車長	2,51	2, 90	3,33	3,85								
6	列車 係員	1,65	2,08	2,62	3,17								
B. 駅係員													
1	駅司 令員	2,81	3,19	3,73	4,47								
2	駅監 督員	2,51	2,83	3,26	3,81								
3	車両 入換 係長	2,35	2,65	3,04	3,05								
4	分岐、 連結 器、 走行	2,05	2,44	2,84	3,30								

	器係員												
5	駅員	1,55	1,96	2,48	2,99								
6	車両保守係員	1,78	2,10	2,48	2,02	3,45	4,07	4,80					
7	電気保守係員	1,67	1,96	2,31	2,71	3,19	3,74	4,40					
8	レール保守係員	1,67	1,96	2,31	2,71	3,19	3,74	4,40					
9	乗車券販売・サービス係員	1,84	2,33	2,73	3,20	3,72							
10	警備員	1,75	2,12	2,56	3,04	3,62							

b. 会社の部長・副部長の役職に対する手当表

順番	職位	職位手当係数
I. 本社		
1	部長及びそれに相当する職位	0,5
2	副部長及びそれに相当する職位	0,4
II. 運行ユニット		
1	社長及びそれに相当する職位	0,6
2	副社長及びそれに相当する職位	0,5

3	部長及びそれに相当する職位	0,4
4	副部長及びそれに相当する職位	0,3
5	駅長	0,2

III. 会社の職員・作業者は、正規被雇用者になる前の研修の間、その職位の賃金の 85%という研修時賃金をもらう。

12 条. 賃金レベルアップの原則

ベトナム労働・傷病兵・社会省による 2003 年 5 月 30 日付けの 12/2003/TT-BLĐTBXH 号の通達、そして政府による 2002 年 12 月 31 日付けの 114/2002/NĐ-CP 号の賃金に関する政令の実装を指導するベトナム労働・傷病兵・社会省による 2008 年 9 月 16 日付けの 18/2008/TT-BLĐTBXH 号の通達を応用する。

1. 賃金レベルをアップさせる制度

政令 114/2002/NĐ-CP 号の第 6 条 2 項における賃金レベルアップの制度は以下のように実施される。

a) 毎年、業務のニーズ、営業の状況に基づき、基礎労働組合執行委員会若しくは臨時労働組合執行委員会の意見を聞いた後、会社は計画を作成し、被雇用者の賃金レベルをアップさせる。

b) 営業実施者及び作業者に対する賃金レベルアップの根拠は担当している作業の技術レベルの基準であり、専門員、業務スタッフ、サービススタッフに対する賃金レベルアップのは職員の専門基準及び勤続年数である。

c) 毎年に賃金レベルアップを実施するための条件は以下の様である。

- 締結している労働契約どおりに作業の数量、質を良く完成しなければならない。

- 労働法及び会社の就業規則の規程による懲戒を受けている期間ではない。

- 政令 205/2004/NĐ-CP 号に基づき、専門員、業務スタッフ、サービススタッフは、賃金係数が 2.34 以下（レベル 1）のランクに対し、現在の賃金レベルを少なくとも 2 年間（24 ヶ月）で受給し、賃金係数が 2.34

以上（レベル 1）のランクに対し、現在の賃金レベルを少なくとも 3 年間（36 ヶ月）で受給する。

担当している作業に適した技術レベル基準に基づくレベルアップ用の試験を合格した直接営業実施者及び作業者に対し、合格したランクどおりに賃金を決定する。

d) 賃金レベルを早く行われ、賃金レベルアップの機関を短縮するケース。

上記の c 項の規程どおりのレベル維持の期間内において、被雇用者は会社の代表者として国家又は国際レベルの専門・技術の試合を勝ち、労働ヒーロー・労働メダル・国家全体若しくは業界の競争兵士であり、又は首相・省庁の表彰を受け取ったら、以下のように早めに賃金レベルアップを検討してもらう。

- 国際レベルの試合で一番優秀な人若しくは 2 番目の人は上の 2 レベルをアップさせる。

- 国家レベルの試合で一番優秀な人と国際レベルの試合で 3 番目の人、2005 年 9 月 30 日付けの政令 121/2005/ND-CP 号及び競争表彰法の実装指導・詳細的規定並びに競争表彰法の幾つかの点の訂正・追加法による労働ヒーロー、1・2・3 レベルの労働メダルを受けた人は、上の 1 レベルを早めにアップさせる。

- 国家レベルの試合で 2 番目の人は賃金レベルアップを検討する期間の 3 分の 2 を短縮される。

- 国家レベルの試合で 3 番目の人、首相の表彰を受け取った人は賃金レベルアップを検討する期間の 2 分の 1 を超えなく短縮される。

- 2 年間で続けて省庁の表彰を受けた人、業界・分野の競争兵士は賃金レベルアップを検討する 1 年間（12 ヶ月）を短縮される。

賃金を早くアップされた被雇用者及び賃金アップ期間を短縮された被雇用者に対する新しい賃金レベルを実際に受給する時点は以下のようである。

- 上のレベルの 1 以上を早くアップされる被雇用者に対し、決定がある日から新しい賃金レベルを受給し、次のレベルアップの計算のために古いレベルを保留する。

- 賃金レベルアップの期間を短縮された被雇用者は、速急の賃金レベルアップを決定した日から新しい賃金レベルを受給し、そして次の賃金レベルアップの時間が新しい賃金レベルを受給した日からである。

d) 賃金レベルアップ期間を延長する場合：

賃金レベル維持の時、被雇用者は労働法の 84 条 1 項の b により懲戒を受けた場合、賃金レベルアップ期間に 6 ヶ月を超えなく延長する。

5. 会長・総裁・副総裁・監査員・会計長の賃金レベルをアップすることは以下のような賃金レベルアップの条件及び基準による。

- 賃金レベル維持の期間は 3 年以上である。
- 年次の生産・営業計画を完成する。
- 労働法における責任制度を違反しない。
- 懲戒を受けている期間ではない。

前項の d に基づく成績を達成した会社管理職員も賃金レベルを早くアップされ、若しくは賃金レベルアップ期間を短縮される。戒告や警告以上の懲戒の形式を受ける場合、定めた期間に対してもう 12 ヶ月を延長される。

第 4 章

共通規程による場合別に支給

13 条. 困難になった場合に対するの給与

1. 予定外の困難に入った場合、若しくは生産・営業のニーズに従い、被雇用者を本人の専門と違う分野に移動する時（多くとも年に 60 日を越えるのはだめである）、その被雇用者に対する新しい業務への賃金は古い業務の賃金より低ければだめである。

2. 生産・営業・サービスが困難になり、収入・利益が予定を達成できない場合、被雇用者の賃金は下がる傾向で調整されるが、国による定められている最低限の賃金より低ければだめである。

14 条. 私的な休暇、年次有給休暇の場合に対する給与

1. 年次有給休暇、特別な保護制度を受ける時の休暇、有給の私的な休暇（労働法の 78 条による）の日に被雇用者の賃金は本給の 100% である。

2. 雇用者の要求により、そして被雇用者の合意がある場合、被雇用者は労働法で定めている基準どおりに年次有給休暇を取ることが出来ない場合、その日数に当たる金額で被雇用者に支給する。

15 条. 研修を受けている日の給与

1. 仕事の要求を満たし、又は基幹管理者を企画するような会社の主張、育成計画、基幹管理者補講のために、会社の派遣の下、国内外における専門知識向上の研修講座を受けている日に、被雇用者の賃金は以下のように支給される。

a. 連続ではない研修を受ける被雇用者（研究総時間は一つ四半期に 1 ヶ月以下）は研修の日に賃金（ハードとソフトの賃金を含め）の 100%を受給する。

b. 1 ヶ月以上の研修を連続に受ける被雇用者は研修の日に賃金の 100%を受給する。

c. 自分の希望で（総裁の許可を得る）研修を受ける被雇用者は研修費に受給しない。

d. 被雇用者は一方で労働契約を終了させる場合、研修料金を賠償しなければならない。

賠償の金額は、総裁が国の現行の規程に基づき労働組合執行委員会との相談の上、決定される。

16 条. 労働事故を復旧するために休む日の給与

（管轄を持っている健康機関で確認した）職業病や労働事故を復旧するために休む日に被雇用者の賃金は、労働法の規程及び労働法の実装を指導する文書により実施される。

17 条. 産休制度を受けている日の給与

産休、妊娠中絶の休暇、産前の診断、（人口計画化の宣伝の基準及び要件に応じ）人口計画化の場合、現行の社会保険制度を受ける。

18 条. 病気休暇の日の給与

被雇用者は医者さんに休暇の証明書を発行してもらう場合、社会保険基金に現行の規程により病気の手当を受ける。

19 条. 工作中止の期間中の給与

法律の規程により、仕事中止の期間の賃金は以下のように支給される。

1. 会社のミスであれば、被雇用者は労働契約に定めている賃金の100%を受給する。

2. 被雇用者のミスであれば、その被雇用者は賃金を受給しなく、仕事が中止しなければならない部門又はユニットにおける他の被雇用者は労働契約に定めている賃金の100%を受給する。

20 条. 制度対応受領を待つ期間中の給与

定年である労働者又は労働のための健康が足りない労働者は、制度により休暇中で、3 ヶ月で自分の職位に応用していた本給の100%を受給する。以前にまだ受けない賃金・報酬の項目は決定が効力ある日までに全部を支給しなければならない。

被雇用者は（労働契約有効期間中）に死亡した場合、適法の相続人は、死亡した人が死亡する前に職位の賃金の3ヵ月分に当たる金額を受ける。

21 条. 一時に仕事を停止させる期間中の給与

労働関係に関する一時に仕事を停止されたり、拘留されたりしている被雇用者（管轄を持っている者）は、制度による賃金の50%を満期前支払ってもらい、その停止期間又は拘留期間が終え、被雇用者は有罪であり、懲戒を受ける場合、満期前支払った全額を返さなければならない（停止期間又は拘留期間の後に仕事に戻った賃金にこれを精算する）。被雇用者は無罪であれば、停止期間又は拘留期間に当たる賃金の100%を受給する。

15・17・19・20 条において支給する職位に当たる賃金は、本人が休暇前の賃金に基づく。その条件は勤務日数が足り、勤務の品質が良いものとする。

22 条. 退職期間中の給与

被雇用者は、自らの希望により退職する場合、現行の規程により退職手当を受ける。

23 条. 試用期間中の給与

試用時間中の給与は、相当する業務を担当している者の当初給与の85%程度でなければならない。

支給する根拠の試用期間は以下の様である。

-大学以上及びそれに相当するレベルを要する職位の業務の場合は、60 日である。

- 大学以下のレベルを要する職位の業務の場合は、30 日である。

試用期間終了後、試験結果及びユニット担当者の評価に基づき、総裁は、その結果を参考し、検討し、**両当事者**の合意の下、労働者との契約を締結する。

第 5 章:

各種の手当、保険

24 条. 各種の手当

会社の賃金表及び決定された給与ランク/レベルにより算出された月給の以外、被雇用者は、以下の場合に応じ手当の一種又は幾つかの種類を受ける。

1. 役職手当

対象者及び手当額は通達 03/2005/TT-BLDTBXH 号による。

2. シフトの食事手当、移動手当、電話手当

これらの手当は、被雇用者にシフトの間の食事代、毎日の移動料金、電話代を補助する目標とする。対象者及び手当額は、総裁により現行の規程に基づき定められる。

3. 出張手当

会社が各地方、都市、海外などに出張の派遣を受けた被雇用者に応用される。対象者及び手当額は財務省の通達 97/2010/TT-BTC 号及び通達 102/2012/TT-BTC 号による。

4. 毒性手当

対象者及び手当額はベトナム労働・傷病兵・社会省の現行の規程による。

25 条. 時間外労働、深夜労働の賃金

会社の就業規則で定めている日々の勤務時間の以外、被雇用者が時間外労働をする若しくは／及び深夜労働をする場合、以下の賃金が支払われるものとする。

- a) 通常勤務日の時間外労働の場合は、本給の 150%。
- b) 週休日の時間外労働の場合は、本給の 200%。
- c) 祝日または有給休暇の時間外労働の場合は、本給の 300%。

+ 時間外をした後、その時間の代わりの休暇を配置してもらう場合、会社は通常勤務日の給与との超過額のみ支払う。

+ すべての時間外場合は、総裁の承認を得るために報告しなければならない。

その他の発生場合は、ユニット担当者が総裁に詳しい形式での申請書を提出しなければならない。

26 条. 賞与

毎年の賞与は、表彰・福利厚生基金若しくはその他のソースからの賞金から引かれ、総裁が決定する。賞与は以下のように定められる。

- 計画を超えた実績がある個人・集団又は会社の収入・生産性向上のための技術改善のアイデアがある者、若しくはその他の理由で個人・集団に賞与を渡す。表彰の理由、賞与及び表彰の形式は、総裁が労働組合執行委員会と相談の上、決定される。

- 祝日、テットの賞与額は総裁により決定される。賞与を支払う形式は、国の規程及び会社の状況に基づく具体的な基準がある。

安全性賞与制度:

- 国営会社の一部の分野に勤務する労働者、従業員、公務員の特殊な制度に関する首相の 2005 年 9 月 26 日付決定第 234/2005/QĐ-TTg 号の名前を修正し、第 1 条を修正し、補足する 2012/10/12 日付決定第 43/2012/QĐ-TTg 号に基づき：

I. 職位・職階の給与の 20%は以下の場合に適用される：

1. 電気設備の修理・試験・修正、110Kw 以上の電圧の送電システムの管理、運行の従業員、職員
2. 電力システム経由情報ネットワークシステム、コンピューターネットワークの管理、運営する従業員、職員。

II. 職位・職階の給与の 15%は以下の場合に適用される：

1. 110Kw 以下の電圧の送電システムの管理、運行の従業員、職員。
2. 電力システムの技術管理職員。

3. 列車運行指令係員、車両長、運転手、運転手のアシスタント、駅直員、車両入変係長、車両連結係員、レール・橋・トンネルの巡回係員、分岐器係員。

27 条. 保険

会社が社会保険、健康保険、事故保険を支払うことは現行の規程による。

第 6 章:

実装組織

28 条. 賃金評議会の設立

社内の賃金制度を設立し、実施するように、総裁は賃金評議会の設立を決定する。

賃金評議会メンバーは以下の様である。

- 議長：総裁
- 副議長：労働組合会長
- 常任議員：組織・人材部部長
- 評議会の秘書：組織・人材部人事担当職員
- 議員：党委代表者、総裁により任命される部長・ユニット長

29 条. 賃金評議会の責任

- 賃金・報酬の管理、分配に関する規程の草案を作成する。討議を組織し、会社に報告する。その規程の発行・運用を実施する。
- 賃金レベルアップの計画を公表する。向上において直接に作業している者に対するレベルアップの試験を実施する。毎年の給与レベルをアップさせること及び専門技術の職員に対する給与を予定の周期の前に昇給することを検討する。
- 賃金に関するすべての事項を見直すために、毎年の会議の日程（少なくとも 2 回）を提案する。その会議では、現状の問題及び職員の意見を討議し、総裁はより適切な規則があるように訂正を決定する。
- 公布した規則に基づき、賃金に関する課題を決定する。

第 7 章:

実装条項

30 条. この規則は、総裁が発行の決定に署名をする日から有効になる。
この規則は作成され、労働法の規程による権限がある機関に登録される。

31 条.

実装組織中において、この規則は会社の現状に合わせるように、
追加、訂正が出来る。

この規則のすべての追加・訂正は、賃金評議会の合意を取り、総裁が発
行の決定に署名をし、そして現行の規程による権限がある機関に登録し
た後のみ、有効になる。

ハノイ、 日 月 年

総裁

(署名、スタンプ)

ハノイ市人民委員会
ハノイ鉄道一人有限会社

ベトナム社会主義共和国
独立 - 自由 - 幸福

草案

規程 社内競争・表彰について ハノイ鉄道一人有限会社

第一章 総則

第1条. 法的根拠

- 国営企業の財務管理規制及び他の企業へ国家資本、国内外の個人・組織からの入金、その他の合法的な収入の管理規制を公布する政府の2009/02/05 日付政令 09/2009/NĐ-CP 号
- 競争・表彰法の一部条項の細則を規定し、施行を案内する政府の2010/4/15 日付政令第 42/2010/NĐ-VP 号及び、競争・表彰法の一部条項の修正・補足する法律
- その他の関連する法律規範文書

第2条. 運用範囲・対象

1. 運用範囲

a. この規程は、競争内容、競争活動の実施、競争後に達成したタイトルの基準；表彰の形式、対象、基準、及び表彰決済及び授与の権限；表彰授与及び受賞式、表彰形式；表彰提案書類；競争・表彰基金；表彰を受賞した個人・団体の権限及び義務；違反及び違反処理；競争・表彰に関する苦情や非難を詳しく定める。

b. この規程に定められない競争・表彰に関するその他の内容は、競争・表彰法と現行の法令により実施される。

2. 運用対象:

この規程は、以下の対象者としての個人・集団に対する競争・表彰活動を実施するために運用される。

a. 個人:

個人は、ハノイ鉄道一人有限会社（以下、会社という）における各部課の管理者、従業員（時間が限られる契約、時間が限らない契約）である。

b. 集団:

会社における各部課である。

第3条. 競争・表彰原則

競争・表彰を実施することは、国家及びハノイ市人民委員会の一般原則による。詳細は以下のとおりである。

1. 競争原則:

a. 競争は、会社全員に動機を付け、愛国心・ダイナミズム・創造性を向上させ、割り当てられた業務を良い質で完成させ、会社発展目標に貢献させ、「人民がお金持ち、国が強く、社会が公平・民主・文明」という目標のために常に行動させるように、具体的目標がなければならない。

b. 自発的、自己認識、公開的；団結、協力、相互発展；競争に出るすべての個人・集団は競争の登録がなければならない。競争を登録しなければ、競争参加資格を見てもらわなく、競争後の位置を認められない。

2. 表彰原則：

a. 表彰は、正確且つタイムリー、定期的に行われ、評価は公開・公平・民主でなければならない、競争後に達成する位置及び表象形式のそれぞれに基準を確保する；すべての個人・集団に愛国心と生産労働の競争性を向上させる役立ちがあり、他の個人・集団に優秀な個人・集団のことを学ばせるようにその優秀な個人・集団を表彰する。

b. 成績からの影響の程度及び範囲をベースにし、相応しい表彰形式を検討され、成績をどの程度で達成すれば、相当の表彰を与え、表彰を低いレベルから高いレベルまで与えることが必要ではない。困難条件の中、成績を達成し、そしてその成績の影響範囲が大きいであればあるほど、高いレベルで表彰を検討してもらおう。成績を累計しなく、前回の表彰形式をもって今回の表彰形式を考えることはない。必ずしも次の表彰は前回の表彰より高いことではない。重複する表彰をしなくてはならない。

c. 直接に生産・作業をやっている個人、会社の重要な分野において作業しているユニット・集団、困難の条件で作業している個人・集団への表彰を注視する。

- d. どんな職位レベルが競争活動を開始させると、その職位レベルによって表彰を主に実施する。特別の優秀な成績、競争活動の代表的な成績だけに対し上の職位レベルからの表彰を提案する。
- e. 動機付け及び物質での励み合いを緊密に組み込まれる。

第Ⅱ章

競争及び競争後に達成したタイトル

第4条. 競争活動における組織形式

- 1. 定期的競争活動:
 - a. 個人・集団が担当する業務に基づき、運動開始する形式である。機関、部課、ユニットの毎日・毎月・毎四半期・毎年の業務を一番良い質で実施する目標とする。
 - b. 一つ集団にある個人間、一つユニットにある集団間、業務・機能と仕事と一緒に若しくは近いのユニット間で運用される。
 - c. 目的、要件、目標、具体的指標を明確に確定し、個人間・集団間・ユニット間の競争の約束を登録することを行わなければならない。計画の年度が終わった後、組織は競争タイトルを考え、集計し、そして優秀な成績を持つ個人・集団に向ける表彰を与える。
- 2. 回別、トピック別の競争:
 - a. 重要な業務若しくは不規則的な業務を一定の期間でスムーズに解決する目標、又は一番困難な業務、一番気になっている業務、悪い結果がある業務、課題である業務、多くの人たちが解決してもらいたい業務を解決する目標を達成するための競争形式である。また、国・都市・会社の大きな記念日に向ける一定の期間で確定される重要な業務を良い質で実施するためにハノイ市人民委員会・各部局・祖国戦線委員会・団体によって開始され、展開されるその他の形式である。
 - b. 回別の競争は、策定した目標・業務を完成するための目的、指標、時間をクリアーに確定した後、開始される。

第5条. 競争活動実施内容

- 1. 競争・表彰法とその法の改正の法の条項を実施することを定める 2010 年 4 月 15 日付けの政令 42/2010/ND-CP 号第 7 条を遵守する。競争活動を行う内容は、HPC と会社の政治業務に付けなければならない。
- 2. 競争の運動開始の形式は実践、多様且つ豊富であり、多くの人たちに参加を誘惑する。競争の指標を確定するのは可能性がなければならない、作成した指標は個人・集団がその指標を達成するために努力

しなければならないように各段階を設立しなければならない。競争参加対象者を参加してもらうような宣伝、競争活動の精神・物質の条件への確保に中心する。それと同時に、実施組織プロセスをより強く監査し、新しい要素を発見し、事例を作り、タイムリーに反省してもらうように事例の指導を実施する。競争目標を早く達成した個人・集団に対し表彰をタイムリーに与える。

3. 競争活動は、法律どおりに開始され、団結・協力・相互発展を確保する。

第 6 条. 競争後に達成したタイトル

1. 集団に対する競争後に達成したタイトルは以下の形式がある。
 - 政府の競争旗、都市の競争旗
 - 優秀的労働集団、先進的労働集団
2. 個人に対する競争後に達成したタイトルは以下の形式がある。
 - 全国レベルの競争兵士、都市レベルの競争兵士、組織レベルの競争兵士
 - 先進的労働者

第 7 条. 集団に対する競争後に達成したタイトルに向ける表彰基準及び数量

1. 政府の競争旗:

「政府の競争旗」は、毎年、都市におけるグループごとの先頭にある集団の中からの代表者としての優秀な集団、若しくは都市における新しいモデルがある業界・分野ごとの一番先頭にある集団に与え、他の企業にそれを学ばせ、競争・表彰法第 25 条に定めた基準を満たせる目標とする。
2. 都市人民委員会の競争旗:
 - a. 「都市人民委員会の競争旗」は、毎年、都市の競争活動における優秀な成績を達成した集団に与える。その集団は、グループごとの競争活動で優秀と評価され、競争・表彰法第 26 条に定める基準を達成された。
 - b. トピック別の市人民委員会の競争旗は、都市のトピック別の競争活動で与えられるものとする。
3. 「優秀的労働集団」タイトル:
 - a. 「優秀的労働集団」タイトルを与えてもらう集団は、競争・表彰法第 27 条に定める基準を満たす「先進的労働集団」の中から選択された優秀な集団である。

b. 「優秀的労働集団」タイトルを与える提案を受ける集団の率は、ユニットにおける「先進的労働集団」の15%を超えてはならない。

4. 「先進的労働集団」タイトル：

a. 「先進的労働集団」タイトルを与えてもらう集団は、競争・表彰法第28条に定める基準を満たし、そして業務を完成した集団の中から選択されたモデル集団である。

b. 「先進的労働集団」タイトルを与える提案を受ける集団の率は、会社の現状に合わせるように会社によって決定される。

第8条. 個人に対する競争後に達成したタイトルに向ける表彰基準及び数量

1. 「全国レベルの競争兵士」タイトル：

a. 「全国レベルの競争兵士」タイトルは、「都市レベルの競争兵士」というタイトルを2回で連続して受けた個人に与えることを検討される。その個人は、全国において大幅に影響されるアイデア・業務対策・研究トピックを持つ。

b. そのアイデア・対策・研究トピックの影響範囲を評価することは、都市レベルの科学・アイデア評議会によって実施する。

2. 「都市レベルの競争兵士」タイトル：

a. 「都市レベルの競争兵士」は、毎年、「組織レベルの競争兵士」というタイトルを3回で連続して受けた個人に与えることを検討される。その個人は、都市において大幅に影響されるアイデア・業務対策・研究トピック・導入される新しい技術を持つ。

b. 「都市レベルの競争兵士」タイトルを与える提案を受ける人数は、会社における「組織レベルの競争兵士」の10%を超えてはならない。その10%は一人以下である場合、最高でも一人を検討する。

c. 都市レベルの科学・アイデア評議会は、アイデア・業務対策・研究トピック若しくは新しい技術の導入を審査し、承認する。

3. 「組織レベルの競争兵士」タイトル：

a. 「組織レベルの競争兵士」タイトルは、毎年の業務年度終了式に当たり、「先進的労働者」の中からのモデルスタッフに与えられる。その個人は、技術改善アイデア・業務対策・研究トピック・新しい技術の導入・業務効率若しくは生産性を向上させる政策を持つ。

b. 「組織レベルの競争兵士」タイトルは、会社における「先進的労働者」の15%を超えてはならない。

c. 科学・アイデア評議会を設立する決定は社長によって行う。その評議会のメンバーは、専門的管理スキル・技術・評価能力・改善ア

アイデア若しくは対策、管理におけるテーマの審査・機関、ユニットにおける業務組織実施の能力を持っている者である。

4. 「先進的労働者」タイトル：

a. 「先進的労働者」タイトルは、毎年の業務年度終了式に当たり、競争・表彰法第24条1項に定める基準を満たし、そして会社・ユニットで開始させる競争活動に積極的に参加する会社の各部課ユニットに属する管理者・従業員である。

b. 国家の規程どおりに産休する女性の従業員若しくは人命救難・財産に対する応急のために怪我等がある者は、健康機関の結論に基づき、治療を受けなければならない場合、休暇する期間でも「先進的労働集団」タイトルを与えることを検討するための期間とする。

1年間以内に研修を受ける個人は、良いランク以上という結果があり、教育機関のルールをよく遵守する場合、その研修の機関も会社において作業を実施する期間と合わせ、「先進的労働者」タイトルを与えることを検討する。1年間以上で研修を受け、良いランク以上という結果がある個人は、当年に「先進的労働者」タイトルに相当するランクを与え、そのランクは他の競争タイトル及び表彰形式を与えることを検討する根拠とする。

転職した個人に対し、今の機関は、元の機関の評価をベースにし、「先進的労働者」タイトルを与えることを検討する責任を負う。（元の機関における勤務期間は6ヶ月以上の場合）

c. 以下の場合に対し「先進的労働者」タイトルを与えない：競争の登録がない、会社に入った期間は10ヶ月以下である、休暇期間は勤務時間の40日以上である、罰金刑を科せる、叱責という形式からの懲戒を受けた場合である。

d. 「先進的労働者」タイトルを与える率は、会社の各部課ユニットによって現状に合わせ、定める。

第3章

表彰の形式・対象者・基準

第9条. 表彰の概念及び形式

競争・表彰法と競争・表彰法の改定法の条項の実装を詳しく定める2010年4月15日付けの政令42/2010/ND-CP号の実装を指導するための内務省による2011年1月24日付けの通達02/2011/TT-BNV号第II節1項による。

第 10 条. 社長による決定される表彰形式若しくは上位者に表彰を受けるように社長によって提出する形式

1. 社長は、以下の（機関レベル）の表彰形式を決定する。
 - a. 表彰状:
 - 先進的労働者;
 - 先進的労働集団;
 - 規定に基づくその他の競争タイトル
 - b. 証明書:
 - 競争兵士;
 - 良い人、良いことをやった人;
 - 優秀的集団;
 - 規定に基づくその他のタイトル
2. 上位者に表彰を受けるように社長によって提出する形式:
 - a. 機関レベルの競争タイトルをベースにし、以下のタイトルに対し都市レベルの「表彰状」「証明書」の表彰形式を都市人民委員会によって決定してもらうように提出する。
 - 競争兵士;
 - 良い人、良いことをやった人;
 - 優秀的集団;
 - 規定に基づくその他のタイトル
 - b. 以下のタイトルに対し、政府に表彰形式を決定してもらうように、都市人民委員会の提出を提案する。
 - 全国レベルの競争兵士;
 - 第 1 ランク、2 ランク、3 ランクの労働メダル;
 - 規定に基づくその他のタイトル

第 11 条. 競争タイトルの登録

1. 毎年、会社は競争の登録と競争タイトルの登録がある会社における個人・集団に社内競争・表彰の実施計画を作る。
2. 会社の社内競争・表彰の実施計画に基づき、各部課ユニットは自部における個人・集団による競争の登録書を会社の競争・表彰評議会に監査してもらうように届ける。その登録書は年内の競争タイトルを与える検討の根拠とする。

第 12 条. 表彰を受ける個人・集団の権限・義務

1. 権限:
 - 競争タイトル・表彰形式を与えてもらった個人・集団は、賞品を保存し、展示し、使用する権限を持つ。

- ハノイ市人民委員会における各ユニットとの正規職員と契約に基づく職員が優秀な成績を達成した場合、HPC の現行の規程の元、昇給期限前に賃金のレベルをアップさせることを検討してもらう。

- 専門レベル向上のための国内外における研修・出張などを優先で派遣してもらう

- 競争タイトル・表彰形式は、職員の評価、企画、任命、再任命の根拠とする。

2. 義務：

- 異なるレベルの各組織によって承認された競争タイトル、表彰形式を受けた個人・集団は、賞品を保管し、違法の行為を実施しようと思った他人に貸してはならない。

- 与えてもらったタイトルを定期的に維持する。

第 13 条. 会社の競争・表彰評議会

1. 会社の競争・表彰評議会は、会社範囲における競争・表彰の分野について会社リーダーへのコンサルタント評議会であり、若しくはユニットレベル以上のレベルに表彰を与えてもらうようにそのレベルに提案する。評議会の勤務原則は集団的、民主的、集中的である。会議を実施する場合は、評議会議員の 3 分の 2 以上の人数が出席しなければ、会議を実施できない。予想外の場合、議長は書面で各議員のコメントを聞くことが出来、そして評議会議員の 2/3 で合意してもらわなければならない。

2. 会社の競争・表彰評議会は、社長によって決定され、メンバーは以下のとおりである。

- 社長：議長

- 会社の労働組合会長：副議長

- 副社長、組織・人事部部長と幾つかの部課ユニットの長：議員

- 評議会の常任ユニット：組織・人事部

- 評議会の秘書：会社において競争・表彰の活動を展開する者

3. 会社の競争・表彰評議会の常任ユニットの機能・業務：

a. 社長と競争・表彰評議会が会社内における競争・表彰活動を国家の共産党と法律の主張・政策を具体化してもらうように助言する。

b. 会社の競争・表彰評議会の常務業務を担当する。会社レベル以上の表彰形式の提案及び競争活動に関するすべての内容並びに全面・テーマ別・予想外の成績の表彰指導は、競争・表彰評議会によって実施し、審査し、そして会社リーダーに決定・承認をもらうように提出する。

c. 毎年の生産・営業の業務を成功に実施できるように、社長に競争・表彰の計画、内容を助言する。計画年度内に定期的と予想外の競争活動を社長の変わりに実施し、そしてタイムリーに表彰の活動を行う。

d. 会社の各ユニットに競争・表彰の活動を実施させるように検査・促進を宣伝し、指導する。そして、結果集計、モデル発見、経験集計及び宣伝、競争活動及び先進的モデルの一般化を社長に手伝う。競争・表彰の活動を更新することを提案する。表彰形式に関する提案を検討し、審査することは、正確的、タイムリーに行い、法令を遵守する。

e. 表彰の政策に関する規程を実施することを組織し、検査する。競争・表彰に関する苦情などの解決に参加する。会社の競争・表彰の基金を設立し、管理する。

f. 会社の賞品を管理し、手配する。法律を守り、表彰式関係組織業務を実施する。賞品が破損若しくは紛失である場合、賞品の交換手続きを実施し、個人・集団に対する表彰形式を確認する。

g. 上位のリーダーの規程に基づき、会社における各部課ユニットへのマニュアルを作る。

第 14 条. 会社のタイトル基準

1. 「組織レベルの競争兵士」のタイトル

「組織レベルの競争兵士」のタイトルは以下の基準を達成した個人に与える。

- 業務を優秀に完成した管理者、従業員としてランクされる
- 競争活動及び集団活動に積極的に参加する
- 共産党の主張、政策及び国家の法律によく従う。
- 規定、規制を厳守する見本になり、組織構造に積極的に携わる。
- 会社における勤務時間が 10 ヶ月以上（勤務制度により 200 日間以上）

2. 「先進的労働者」のタイトル

「先進的労働者」のタイトルは以下の基準を達成した管理者、従業員、契約社員に与える。

- 業務をよく完成した管理者、従業員としてランクされる
- 競争活動及び集団活動に積極的に参加する
- 共産党の主張、政策及び国家の法律によく従う。
- 規定、規制を厳守する見本になり、組織構造に積極的に携わる。
- 会社における勤務時間が 10 ヶ月以上（勤務制度により 200 日間以上）

3. 「組織レベルの良い事をした良い人」のタイトル

「組織レベルの良い事をした良い人」のタイトルは以下の基準を達成した代表で優秀な管理者、従業員、契約社員に与える。

- 分掌した業務をよく完成する。
- 政治的な水準、業務専門を向上させるために、連続的に学ぶ。
- 文明・幸福の家族を造る。元気な子供を育て、大人しい子供を教える。文化の家族と認められる。住所における活動をはじめ、社会活動に積極的に参加する。
- 毎日良い事をたくさんして、家族及び社会における悪い事の制限を積極的に闘争する。人民に好まれ、信頼され、尊重される。
- 競争活動、集団活動に積極的に参加する。健全な会社の構造意識を持つ。
- HPC による「良い事をした良い人」タイトルを与える規制による他の基準（ある場合）

4. 「組織レベルの優秀的集団」のタイトル

「組織レベルの優秀的集団」のタイトルは以下の基準を達成した集団に与える。

- 「先進的労働集団」のタイトルを達成した代表な集団であり、70%以上の個人は「組織レベルの競争兵士」及び「先進的労働者」のタイトルを達成した。
- 内部が団結し、一緒に進歩できるように協力する精神を持つ。良い事をたくさんする。
- 社会活動に積極的に参加し、会社の競争活動における代表的な成績を多く達成する。
- 「訓戒の形式以上」を受けた個人がいない。
- HPC による「良い集団」のタイトルを与える規制による他の基準（ある場合）

5. 「先進的労働集団」のタイトル

「先進的労働集団」のタイトルは以下の基準を達成した集団に与える。

- 業務をよく完成する。
- 競争活動及び集団活動に積極的に参加する。
- 管轄機関が承認する仕組み、政策、提案、規定、規制などを積極的に策定する。
- 集団の内 50%以上の個人は「組織レベルの競争兵士」、先進的労働者」を達成する。「訓戒の形式以上」を受けた個人がいない。

第 4 章

表彰手続き・与える手順

第 15 条. 表彰形式申出書類

1. 総裁が表彰する権限における競争タイトルに対し、書類は以下のとおり。
 - 部署の顕彰申出書及び顕彰申し出を受けた個人、集団リスト
 - 各部署の会議議事録（その内、点数による個人の順番をランクし、顕彰申し出のタイトルを明確に述べる。）各組織レベルの競争タイトルを与える事を申出する場合、投票券は合意率が 75%以上である。
 - 不規則な顕彰し、トピック別の顕彰を除き、顕彰申し出の個人・集団に関する詳しい採点表（各部署の承認を得た）。
 - 年内に達成した顕彰書のコピー版（ある場合）
 - 顕彰申し出の個人・集団の大まかな成績に関する報告書（各部署の承認を得た）。「各組織レベル競争兵士」のタイトルの顕彰を申出る個人の場合、成績の報告書において、管轄機関が確認した実践の効果のある業務及び管理におけるテーマ内容、アイディア、対策を明確にする。
2. HPC, 政府、国家が与える競争タイトルの場合、書類は競争・顕彰法、政令及び管轄機関の説明書の規定により実施する。

第 16 条. 表彰承認プロセス

1. 各部課ユニットは、毎年 12 月 20 日までに競争タイトルを与えてもらう個人・集団を評価し、ランク化する。予想外の表彰とテーマ別の表彰は、年内の詳しいガイダンスによる。
2. 会社の競争・表彰評議会常任委員は表彰提案の書類を受付、集約し、競争・表彰評議会に検討と決定を受けるように提出する。
3. 現行の規定に基づき、表彰の各形式を発表し、与える。それは、丁寧・科学・文明を確保し、ダイナミックの競争環境を作るが、動機を付け、モデルで教育し、形式の誇示ともしたいないことを避ける。

第 V 章

競争・表彰基金

第 17 条. 基金のソース及び引く金額

表彰のための経費は、国営会社において財務管理スキーム及びその他の企業に投資した国の資金の管理という 2009 年 2 月 5 日付けの政令

09/2009/ND-CP 号によるユニットの競争・表彰基金並びに国内外の個人・集団が寄付したソースとその他の適法のソースから引かれる。

第 18 条. 基金の管理及び使用

1. 基金管理：政令 42/2010/ND-CP 号第 69 条による。
2. 基金使用：政令 42/2010/ND-CP 号第 68 条による。

第 19 条. 表彰金額及び優遇制度

1. 表彰金額は、政令 42/2010/ND-CP 号第 70、71 条による。
 - a. 同じ時点で、同じ成績に対し、同じ個人若しくは集団は、異なる賞金がある複数の競争タイトルを達成した場合、一番高いの賞金のみ受ける。
 - b. 同じ時点で、同じ個人若しくは集団は、複数の競争タイトルを与えてもらう場合、それらの競争タイトルを達成するような時間が異なったら、すべての異なる競争タイトルの賞金を受ける。
 - c. 同じ時点で、同じ個人若しくは集団は、競争タイトルを達成したと共に、表彰形式を与えてもらう場合、競争タイトルと表彰形式の両方の賞金を受ける。

第 VI 章

競争・表彰の違反の処理

第 20 条. 違反行為及び表彰を与えてもらった個人・集団に対する処理の形式

競争・表彰法とその法の改正の法の条項を実施することを定める 2010 年 4 月 15 日付けの政令 42/2010/ND-CP 号第 80 条による。

第 21 条. 競争・表彰に関する異議・苦情及びその異議・苦情に対する処理

2010 年 4 月 15 日付けの政令 42/2010/ND-CP 号第 82、83 条による。

第 22 条. 競争タイトル・表彰形式の取り消し及び回復の手続き

1. 会社の競争タイトル、表彰形式を取り消す場合、以下の手続きどおりに実施される。
 - a. 会社に属する各部課ユニットの長による提案書は社長に提出される。
 - b. 競争タイトル・表彰形式を取り消す根拠、理由を簡潔に報告する。

2. 会社の競争タイトル、表彰形式を回復させる場合、以下の手続きどおりに実施される。

a. 会社に属する各部課ユニットの長による提案書は社長に提出される。

b. 競争タイトル・表彰形式を回復させる根拠、理由を簡潔に報告する。

第 VII 章

実装条項

第 23 条. 各部課ユニットの責任

1. 各部課ユニットの長は、競争・表彰評議会の前に計画・進捗どおりに自部の競争を登録し、評価する責任を持つ。

2. 自部に属する個人・集団に表彰を与える承認を受けるような書類・成績の報告などの申請書の正確性に関する責任を持つ。

3. 虚偽の記述・報告はこの規程第 19 条に定める規程どおりに懲戒をされる。

4. 自部における競争・表彰活動に関するすべての書類を管理し、保存することは、規程による。

第 24 条. 個人の責任

1. 表彰提案を与えられる個人は、各位の表彰承認を受けるような成績報告・記述に当たる正確性を確保する責任を持つ。表彰を受けるように成績の記述・報告が虚偽であれば、この規程第 19 条どおりに懲戒を受ける。

2. 個人は、他人のために虚偽で確認した場合若しくは虚偽の書類を作成した場合、又は職位・権限を乱用して、違法に表彰を決定する場合は、この規程第 19 条どおりに懲戒を受ける。

第 25 条. 実装組織

1. 会社における各部課ユニットの（期間が限られる契約、期間が限られない契約どおりの）すべての職員・従業員は、この規程を実装する責任を持つ。

2. 実装する間、課題が発生する場合、各部課ユニットは会社の競争・表彰評議会常任委員に報告し、その委員は集約し、社長がタイムリーに調整してもらうように報告する。

社長

ハノイ市人民委員会
ハノイ鉄道一人有限会社

ベトナム社会主義共和国
独立 - 自由 - 幸福

草案

職制

ハノイ鉄道一人有限責任会社

第 1 章

総則

1 条. 法的根拠

- 2012/6/18 日付労働法第 10/2012/QH2013 号
- その他の関連する法律規範文書

2 条. 適用範囲対象

1. 本規則はハノイ鉄道一人有限責任会社（以下、会社という）の部門、直属するユニットの就業原則、責任制度、就業慣例、作業関係及び仕事解決手順について定める。

2. 会社の役員、公務員、被雇用者、各部門、直属するユニット、会社と作業を進める組織、個人は本規則の適用対象である。

3 条. 言葉解釈

本規則において、以下の言葉は以下のように解説する。

1. ハノイ都市鉄道運営の一人有限責任会社は会社と呼ぶ。
2. 執行委員会は総裁及び副総裁を含める。
3. 各ユニットのリーダは官房長、各部長、会社に直属するユニットのリーダを含める。
4. 主担当の責任がアサインされるユニット、個人は主な責任を負い、仕事の実施、解決において積極的に協力するユニット、個人である。
5. ハノイ人民委員会はハノイ市の UBND として省略する。

4 条. 就業原則

1. ハノイメトロ会社は 100%の国有資金で、HPC に直属する会社で、ハノイにおける都市鉄道システムの管理、運営、運行という業務、機能を果たす。それ以外、HPC がアサインする他の業務を実施する。

2. 会社は指導者の制度により就業する。会社の全ての活動は法律の規定及び会社の職制を遵守する。会社の役員、公務員、社員は分担された責任、権限範囲において仕事を処理し解決する事。

3. 業務分担について、一つの業務は一つのユニットだけに分担され、一人だけ担当し、主な責任を負う。ある業務があるユニットに分担されれば、そのユニットのリーダは分担された業務に対して主な責任を負う。関連のある部門、ユニットは協力して共通の業務を解決し、定めた機能、権限により意見を出す。（事業を実施する際の個人の権限は付録1において定められる。職位基準の要件は添付される付録2において定められる。）

4. 緊急な場合又は上司から別の指示がある場合の以外、法律の規定、プログラム、計画、稼働スケジュール及び職制により仕事解決の手順、手続き及び期限を確保する。

5. すべての活動における民主、明確性、効果を確保する。

第2章

仕事解決責任・範囲及び作業関係

5 条. 総裁の仕事解決責任・範囲

1. 総裁は会社のリーダで、以下の責任を持つ。

a. 会社の全ての活動を指導し管理し運営する。HPC から指導を受け、中央官庁から専門、業務に関する指導を受ける。法律、HPC の前に、会社の機能、業務、権限における全ての活動、総裁の機能、権限における全ての仕事（副総裁に分担する又は委任した場合でも）及び法律の規定による管理範囲における職員、役員、被雇用者の仕事施行についての責任を負う。

b. 仕事の要求により、HPC が承認した上、総裁は会社直属ユニットの設立、解除及び機能、業務の分担を決定する。業務の要求により、分担した業務の要求を満たすために、会社直属ユニットのリーダ、役員を転勤する。時期別の業務の要求により、タスクフォースを設立する。タスクフォースの活動は兼任制度による。

c. 会社直属ユニットに管理範囲における分担される業務の実施、法律の遵守を案内し監査し検査する事を指導する。

d. 総裁の権限範囲における文書を締結する。

2. 総裁の仕事解決範囲

a. 職制及び関連のある法的文書に定められ、権限範囲における業務である。社員総会の会長が分担する又は委任する業務である。

b. 業務を決定し分担し、総裁、各副総裁、会社直属各ユニット間の仕事解決において調整し組合わせる。総裁は副総裁が解決する範囲における仕事を以下の場合に決定する。

- 留守する副総裁の分野における仕事を急に解決する必要な場合
- 副総裁が解決できない場合
- 各副総裁の意見が違う場合
- 副総裁は総裁の主張及び意見、指導により仕事を解決しない場合。

c. 総裁を支援し会社の全般業務を運営する常任副総裁として副総裁を分掌する。

d. 委員会の通常会議、臨時会議を招集し、議長として勤める。上司が召集する会議、セミナーに出席する。会議の内容により、副総裁又はユニットのリーダに出席してもらう事を委任する事ができる。

6 条. 副総裁の仕事解決責任・範囲

1. 副総裁の仕事解決責任

a. 副総裁は総裁に支援し、総裁に幾つかの具体的な業務が分掌され、直轄する幾つかのユニットを直接に指導し、幾つかの仕事を解決するために委任される。分掌される業務範囲において、総裁の権限の使用権を持ち、総裁を代表して分掌される分野における業務を解決し、総裁及び法律の前に、その分野、業務に関する自分の決定について責任を取る。

b. 総裁は各副総裁の業務分掌を調整する時、各副総裁は関連のある業務、書類を互いに引渡し、総裁に報告する。

2. 仕事解決範囲

a. 総裁分掌の分野における作業計画、計画と進捗通りの仕事解決標準と手順、提案、プロジェクト及び他の管理書類の策定を所轄するユニットに指導する。

b. 業務展開、実施の検査を指導し、分掌された分野における各ユニットの発生業務、提案報告の解決を指導する。法律の遵守を確保するために修正、補充が必要な問題を発見し提案し、その決定について責任を取る。

c. 総裁は言論機関に接触し担当する分野の問題について回答し、その内容について自分が責任を取って、それ以外、総裁に報告する。分掌された業務を積極的に解決する。他の副総裁の分野に関する問題があれば、その副総裁に直接に協力し解決する。

総裁の意見が必要である、又は各副総裁の意見がまだ合意しない場合、総裁に報告し決定してもらう。

d. 定期又は臨時な定例会議において、副総裁は担当する分野の指導結果及び会社の全般指導作業について発表すると同時に新しく発生した問題を出し、会議で一緒に議論し決定する。常に直接に報告し、分掌された業務の対策、結果について総裁の意見を求める。ユニットのリーダーを通じ、副総裁は仕事を指導し運営する。必要な場合、副総裁は職員、公務員、被雇用者に仕事を直接に指導し運営する。

e. 他の文書に定められる副総裁の作業

3. 副総裁が以下の文書のサインを委任される。

直接管理範囲における、出張する職員、公務員、被雇用者の公文、紹介状及び国家规定による担当分野の文書

7 条. 常任副総裁の仕事解決責任・範囲

常任副総裁は分掌された通常業務を実施する事以外、以下の権限、業務を持つ。

1. 総裁に委任され、総裁の代わりに、会社の全般仕事を指導し解決し、総裁が留守する時、総裁の代わりに、文書を締結する。

2. 総裁に委任され、各副総裁の活動を主担当し組合わせ、会社の総務部門の活動を直接にプロローし指導する。

3. 総裁の委任により、他の副総裁が留守している時、その副総裁の急用を幾つか解決する。

8 条. 会社直属ユニットのリーダーの仕事解決責任・範囲

1. 各ユニットのリーダーは市の職員管理レベル分けにより、会社総裁が任命し、解職する。

a. ユニットの機能、業務、権限における業務を積極的に実施する。自らのユニットの月、四半期及び年間の作業計画、プログラムを策定する。ユニットの職員、公務員、被雇用者毎に別文書で作業業務を分掌する。

b. 業務を助言し提案し、状況をまとめ、業務の結果を担当する副総裁及び総裁に報告する。

c. 人事を管理し、ユニットの職員、公務員、被雇用者の日常の業務を検査し、勤務時間、内規、規程の遵守を検査し、規定により出勤をチェックする。

d. 直轄する職員、公務員、被雇用者をコメントし評価する責任を持つ。会社の規定により、社員を定期又は臨時に推薦し選択し、教育

し、競争顕彰のに投票する。担当するユニットの職員、公務員、被雇用者の規律を検討し昇給し、病気による休暇、年休、残業及び他の制度を確認する。

e. ユニットのリーダは執行委員会定例・業務展開指導に関する会議の内容を自らのユニットの職員、公務員、被雇用者に全て伝える。書類保管に関する国家と会社の規定により、自らのユニットの書類の保管を行う。

f. 作業計画実施を反省するためのユニット内部会議を定期又は臨時に行うスケジュールを策定する。専門、業務を打合せ、法律及び会社の規定により報告、情報共有の制度をきちんと実施する。

g. 個人的な責任を高揚し、権限範囲において分掌された業務のとおり実施する。分掌業務を積極的に解決する。権限範囲を超えて発生した事について、総裁又は担当する副総裁にタイムリー報告し、指導、意見を受けて解決する。自らのユニットの権限、業務における仕事を他のユニット又は会社の執行委員会に移さない。他のユニットの権限、業務における仕事を解決しない。

h. 他のユニットのリーダと積極的に協力し、自らのユニットの機能、業務における仕事の問題を処理し、会社の全般業務を実施する。

仕事の結果報告、ユニットの業務における仕事の解決提案を担当する副総裁に送る時、報告のため、総裁にも送付する。

i. 総裁又は担当する副総裁が分掌する他の業務を実施する。総裁に総裁の権限における仕事の解決、代行で幾つかの書類の締結を委任され、委任された内容について、法律及び総裁の前に、個人的な責任を取る。

j. 会社を留守する時、副職にユニットの管理、運営を委任する。二日間以上の留守の場合、会社の官房長に報告する。委任期間におけるユニットの全ての活動について、委任された人は総裁及び法律の前に責任を負う。

k. ユニットのサブリーダはリーダを支援し、直接に実施し、ユニットの職員、公務員及び被雇用者に業務の実施を指導する。リーダが分掌した業務について、リーダ及び法律の前に責任を取る。総裁又は担当する副総裁に直接に業務を分掌される場合、ユニットのサブリーダが実施し、ユニットのリーダに報告する責任を取る。ユニットのリーダが委任する、又は会社の執行委員会が直接に業務を分掌する時、ユニットのサブリーダは会社の執行委員会に提出する書類に改竄予防のサインをする。

9 条. 役員、職員、被雇用者の仕事解決責任・範囲

1. ユニットの職員、公務員、被雇用者（以下は職員と呼ぶ）は以下の責任を取る。
 - a. 分掌された専門分野、ユニットのリーダー又は会社の執行委員会がユニットの機能、業務により分掌する仕事を積極的に研究し助言する。
 - b. ユニットのリーダーに直接に管理し運営し分掌され、ユニットのリーダー及び会社の執行委員会の前に、分掌業務毎の意見、提案、進捗、品質と効果、文書の形式、手順、発行手続き及びフローしている業務の解決手順について、責任を取る。
 - c. 職員に関する法律の規定、会社の内規、規程及びユニットの規定を実施する義務を持つ。
2. 職員、公務員、被雇用者の仕事解決範囲
 - a. 業務解決過程において問題がある、又は、権限を超える場合、業務をアサインした人に報告し、指導を受ける。
 - b. 職員は自分の作業計画を立て、積極的に創造し、仕事の困難を克服し、部署の全体業務を完成するために仕事上、同僚を支援する。
 - c. 職員は会社のリーダーから直接に業務をアサインされる場合、その業務を実施する責任を持ち、部署のリーダーに業務の実績を報告する。
 - d. 3 ヶ月以下の短期契約、試用就業の契約により勤める場合、契約の規定によりアサインされた仕事を実施する責任を持ち、会社の内規、規程、規定を遵守する義務を持つ。
 - e. 職員は年休、無給休暇、お葬式、結婚式の休暇など休暇を取りたい場合、理由、休暇日、所属部門を書き、部署のリーダーが合意し、総裁が承認する休暇登録書が必要である。その後、管理しフローする組織人材部に渡す。1 日休んだら、報告し、部署のリーダーの合意が必要である。1 日以上の場合、届出を作って部署のリーダーから合意を受け、総裁に提出し、承認を受ける限り、休暇を取る。計画の進捗に間に合うため、部署のリーダーは業務を担当する他の人を配置する。
 - f. 職員は長期学習、インサービス学習、大学院の学習のため、派遣される、又は能力向上のため自分で勉強する職員は分掌された業務を完成し、学期毎に学習結果を会社のリーダー及び組織人材部に報告する責任を持つ。
 - g. 職員はセキュリティーに関する規定を厳正に遵守し、総裁の合意を受けない場合、外部の組織、個人に資料を絶対に供給しない。職員が転勤する、又は労働契約書を解除する場合、部署のリーダー又は引受ける人に書類を十分に引渡す事。
3. 文書の作成・提出書の承認

職員は担当する書類、文書を作成しタイプし、文書の内容及び様式についての責任を取り、部署のリーダーに提出し、発行する会社のリー

ダに提出する前に、文書に改竄予防のサインをする。必要な場合、会社のリーダーが部署のリーダー又は職員に文書の作成を直接にアサインする事ができる。その際に提出の前に、アサインされた人が改竄予防のサインをして、自分で作成した文書の内容及び様式について、会社のリーダー及び法律の前に、責任を持つ。

10 条. 本社の各部門と会社直属ユニットとの作業関係

1. 本社の部署は会社直属ユニットの活動を指導し検査する責任を持つ。直属ユニットは本社の各部署から専門業務に関する指導を受け、本社の管轄する部署から、規程、政策、法律、会社が承認した開発戦略、企画の実施に関する検査、監査を受ける。

会社の権限・責任範囲における業務の実施を検査し推進し指導するために、総裁及び副総裁は定期・臨時に検査を行う。

2. 会社の直属ユニットのリーダーは本ユニットで会社のプログラム、計画を展開する。共通活動に全て参加し、定めた職位により会社が召集する会議に出席する。会社の管理規定を十分に実施する。

11 条. 会社のリーダーと直属ユニットとの関係

1. 総裁、副総裁は各分野、部署を担当し、各部署のリーダーと定期・臨時に会議を行う、又はは各部署のリーダー毎と会議を行い、直接に報告を聞いて、会社及び部署の作業プログラム、計画の実施を指導する。

2. 部署のリーダーは責任を持って、会社のリーダーに作業実績を報告し、本規定の 7 条に定める規定を実施する時の解決必要な問題を提案し、訂正・補充必要な仕組み、政策に関する問題を提案し、HPC 及び会社の要求に適正するために、作業プログラム、企画の訂正、補充を提案する。

12 条. 各部署、ユニットのリーダー間の関係

1. 部署のリーダーは他の部署の権限、業務に関する問題解決の主体责任を分掌される場合、その部署のリーダーと意見を交換する必要がある。意見を求められた部署のリーダーは主担当する部署のリーダーの要求により回答する責任を持つ。

2. 総裁の分掌により、各部署のリーダーは協力し、会社のプロジェクト、プログラム、企画を実施する責任を持つ。たくさんの部署に関わり、解決権限を超える、又は実施条件が不十分な場合、主担当する部署のリーダーは会社のリーダーに報告し提案し、検討・決定を得る。

13 条. 他の関係

1. 総裁と共産党執行委員会、労働組合、青年団、関連分野、境界における 職業・社会的な団体との作業関係は国家の規定、法律文書及び関連のある規定に従う。

- 6 ヶ月 1 回で総裁又は委託される副総裁は会社の政治・社会組織の執行委員会と作業を進め、会社の作業主張を知らせ、団員、メンバーの建議に対する解決対策を知らせ、会社の各組織、団体の意見を聞く。

- 会社の政治・社会組織のリーダは会社のリーダが主催する、組織、団体の団員、メンバーの活動、権限、義務、合理的利益に関する会議に招待される。

- 上記の組織が効率的に活動し、HPC がアサインする会社の政治業務の実施に資するための良い環境を整える。団員、メンバーの権限、義務及び合理的利益に関する問題を決定する前に、その組織の意見を参考する。

2. 会社は HPC、各官庁と密接な関係を持ち、情報を常に交換し、作業プログラムの実施を協力し、監査し、HPC がアサインし指導した作業プログラム、計画、業務の進捗により実施し、品質を確保する。

3. 本社の各部署は常に直属ユニットと協力し、会社の業務の実施を指導し、直属ユニットの強固を造るために指導し、専門、技能を持ち、規律、綱紀を遵守し、全ての業務の完成を確保する職員を教育し育成する。

4. 会社直属ユニット及び各レベル共産党執行委員会、大衆組織、ユニットの職員、公務員、被雇用者との関係

a. 共産党、青年団の組織が定款、目的、趣意により活動できるように、ユニットのリーダが良い都合を整える。共産党執行委員会は大衆組織と協力し、ユニットの職員、公務員、被雇用者がよく勤め、学習し、政治能力と専門業務を向上させるように、良い都合を整え、会社の活動における民主規制の実施を確保し、職場の文化、行政の規律、綱紀を造る。

b. 党員、団員、組織のメンバーである職員、公務員、被雇用者は典型的にして、職員、公務員、被雇用者に関する規定により、分掌された仕事をよく完了し、党員、メンバーの責任、業務に関する規定、職員、公務員の公務に関する規定に厳正に従い、手続き及び時間どおりに仕事を解決し、分掌された業務の実績について、ユニットのリーダの前に責任を持つ。

第三章

会社実行委員会委員による仕事解決流れ

14 条. 会社執行委員会委員による仕事解決の仕方

1. 総裁・副総裁は、会社のフォーム「仕事解決申請表」に基づき、検討・解決をする。
2. 総裁・副総裁は、この条の 1 項に定められている規定で処理できない重要な課題を解決する前に、機関・組織のリーダー、専門家に意見を参考するための打ち合わせの議長に勤める。
3. 出張し、現場で仕事を解決すること若しくは担当範囲に属するユニットと直接に業務をすること、顧客対応とその他の方式などのこの規程との別の解決案を総裁により規定する、又は委託する。

15 条. 仕事解決申請、書類提出の手続き

1. 総裁、副総裁に仕事解決を提出する手続き：
 - a. 会社執行委員会委員への書類、申請書を会社に属するユニット長が管轄に応じサイン・印鑑をする。
 - b. 他のユニットの機能・業務に関する課題に対し、提出書類に関連ユニットによる書面での正式な意見を添付しなければならない。
 - c. 書類・提案に対する提出書類は以下のものが含む。
 - 総裁への提出表は提案の主な内容、推奨の根拠、意見を明確に説明する。法令規範書類に対し、提出表の内容は、法令規範文書発行人法と実装指導書類を守らなければならない。国際協定及び条約に対し、関連する書類の規定を守らなければならない。
 - 法令若しくは会社の規程に基づく監査ユニットによる書類又は意見。
 - 他のコンサルタントを含め（あれば）関係があるユニットによる意見を収集する説明レポート。
 - その他の必要な資料。
2. 仕事解決申請書・文書は、解決管轄を持っているユニットまで原稿の 1 通だけを送る。関連があるユニットが理解してほしい若しくは協力してほしい場合、文書の受付先のところにそれらのユニットの名前を記載する。
3. 会社による行政又は専門的な所管を受けない機関・組織に対し、会社まで書類を送る手続きは書類保管に関する現行法令を守る。外国の組織・機関は、国際習慣に基づき、会社文書送付の手続きでやる。

16 条. 文書保管作業

1. 総務部は、送る文書及び届く文書を含めすべての書類・資料を一元的に管理する責任を持つ。文書を送り、貰うのは、場所及び時間を正しくする。「秘密」という印を取り付ける文書に対し、特別な規定で管理される。「至急」又は「エクスプレス」という印を取り付ける文書に対し、総務部は、タイムリーに処理できるように、総裁にすぐに送らなければならない。
2. 文書が発行する時に、文書保管担当者は、文書のフォーム及び法令に基づくサイン者の管轄をチェックし、その文書が法令を守れば、日中に関係がある組織・個人に発行する。文書を保存する同時に、会社内部の情報ネットにアップデートする。文書発行及び文書管理は、資料・情報管理に関する法令を正しく守ることを確保する。
3. 会社執行委員会委員が仕事内容に関する合意若しくは指導を出した後の5日の勤務時間以内、総務部は、関係するユニットに協力し、手続きを完成し、文書を発行する若しくは会議における会社執行委員会による結論を通知する。
4. 会社執行委員会委員が月次の定例会議を行った後の3日の勤務時間以内、総務部は、会議における会社執行委員会による結論を通知する。
5. 会社のスタンプの管理及びセキュリティは、文書保管担当者に任せる。スタンプをなくしてはならない。スタンプを会社以外に持って出てはならない。そして総裁若しくは事務局局長の合意を得ないと、他人に渡してはならない。同時に、引き継ぐ記録書がなければならない。違反すれば、法令の規定に従い懲戒を受ける。ブランク書類を印鑑することは禁止である。
6. 会社に属する各部課が関連文書を実装するかどうかを検査することは、法令の規定に基づき実施される。

第IV章

会議及び報告情報制度

17 条. 会議制度

業務の要件及び業務分野範囲をベースにし、会社は、実践的且つ効果で、節約にセミナー及び会議を行う。

1. 会議は全社会議、タイトル別のセミナー（展開、中間会議、終期会議とその他のトピックの会議）であり、専門訓練セミナーもある。
2. 会長が議長に努める会議は次のとおりである。
 - a. 毎週頭の会社実行委員会の定例会議である。

- b. その他に会長が議長に勤める重要な会議である。
- 3. 実行委員会委員が議長に努める会議は次のとおりである。
 - a. 会社実行委員会の月・四半期毎の会議である。
 - b. 毎週頭の会社実行委員会の定例会議である。
 - c. 会社執行委員会は、会社事務所において、関係がある機関・カウンターパートの代表者と打ち合わせなどを行う。
 - d. 会社執行委員会は、会社に属する各部課に打ち合わせをする。
 - e. 仕事を解決するように、会社執行委員会全員会議及びその他の会議を行う。
 - f. 総裁が議長に努める必要であるその他の重要な会議若しくは非定期的会議である。
- 4. 副総裁が議長に努める会議は次のとおりである。
 - a. 会社に属する各部課ユニットは、定めたユニットごとの専門業務及び業務・機能に沿ったその他の事項を解決するように、ユニット長が主催する会議を行う。
 - b. その他の重要な会議又は非定期的な会議に対し、副総裁が主催することが必要である。
- 5. 会社に属するユニットのリーダーは、この規程に基づき、総裁・副総裁の委託を受け、関連機関の代表者との打ち合わせを主催する可能性がある。

会社に属する各部課は、専門の関連ユニット・組織の代表者を会議出席に招待する時、会社のリーダーの許可を得なければならない、そしてダブルに招待を避けるように総務部と相談しなければならない。
- 6. セミナー・会議の準備
 - a. 総裁・副総裁は、セミナー・会議実施を担当するユニットがプログラム・内容・場所・時間・予算・招待状及びその他の資料を（勤務時間の 2 日前までに）準備することを指導する。上級のリーダーを招待する場合、早めに連絡し、事前に資料を送り、スピーチ原稿（あれば）を準備しなければならない。
 - b. セミナー・会議のための資料は、発行する前に、会社のリーダーの合意と承認を得なければならない。内容によって、関連機関・ユニットのコメントを受け取るように会社のリーダーの指示を得る。
 - c. 総務部は、セミナー・会議を行うために、以下の業務をする：招待状及びその他の資料の送付、会場の準備、お客さんへの受付・対応のために他の部課への協力である。非定期的なセミナー・会議であれば、セミナー・会議を無事に実施できるように、総務部は、各事業を主体的に展開する。
- 7. 会議終了後の仕事：

総務部及び分担されたユニットとの協力で、セミナー・会議における会社のリーダーが決定された業務を実施する責任を持つ。それらの結論の実施進捗を監査し、促進し、そして実施結果を集計し、会社執行委員会に報告する。

18 条. 情報共有、報告の業務

1. 総裁によって会長に報告。
会社の作業実施の進捗、総裁の解決管轄を超える決定、及び会長の決定を得なければならないこと。
2. 副総裁によって総裁に報告。
 - a. 担当している業務の実施進捗、副総裁の解決管轄を超える決定、及び総裁の決定を得なければならないこと。
 - b. 総裁の委託または総裁の指示の下、主催した会議若しくは出席した会議の内容と結論。
 - c. 国内外の出張終了後、会社に対する機関・ユニット・カウンターパートによる業務結果及び推奨。
3. 各部課ユニットによって会社執行委員会に報告。
 - a. 会社に属する各部課ユニット長は、会社の規定に沿い、会社執行委員会に情報共有・報告制度を十分に遵守する。
ユニットの管理権限を越えた発生課題がある場合、タイムリーに処理できるように、ユニット長は会社執行委員会に報告する。
 - b. この条の 3 項の a の規定を実装する以外、会社事務局局長は以下の業務を実施しなければならない。
 - 解決した課題に当たり、総裁・副総裁に毎日に情報共有を行う。
 - 会社執行委員会に毎週の定例会議で報告を準備する。
 - 会社の業務実施報告書の作成・集約をし、HPC 及び各政府官庁に送る。
 - 会社に属する各部課ユニットに情報共有・報告制度を真剣に実施させるために指導・監視・促進をし、そして総裁の指導・制御を支援するように情報の開発を組織する。
 - 会社に関するメディア・社会からの反映における処理が必要である課題を会社執行委員会に提出し、報告する。
4. 会社に属する各部課ユニットの活動に関する情報を提供する。
会社に属する各部課ユニットは、関連管理者・職員に以下の情報を把握させるように、何らかの適した形式で報告の責任を持つ。
 - a. 作業に関する共産党・政府・会社の主張及び製作。

- b. 会社及び各部課ユニットの事業計画、事業実施経費及び年次決算（があれば）。
- c. 採用、研修派遣、褒賞、懲戒、昇給、昇格、管理者・職員の任命。
- d. 各部課ユニット内の不服申立て、告発に係わる結論文書。
- e. 会社及び各部課ユニットの就業ルール、規程
- f. 規定に基づくその他の課題
- 5. 会社の活動に関する情報を提供する。
 - a. 情報提供について：
 - 総裁は、会社の情報管理を定める。HPC と各部局の指導を支援するために、情報を定期的に提供することを確保する。会社の事業を人民にメディア機関経由で情報を正確且つタイムリーに提供する。
 - HPC 市長の指導若しくはメディア機関のリクエストの下、新聞などでの回答を実施する。正確ではないニュースを記載したメディア機関に改定の要求を出し、又は会社は、法令に基づくその他の権限を実施する。
 - 情報共有において、会社の秘密情報リストにある情報及び処理中のセンシティブな課題を提供してはならない。
 - b. メディアの面接を対応することは、法令の規定及び会社の情報管理業務に関する規定を守らなければならない。
- 6. 会社における大幅な IT ネットワークで情報を伝達する。
 - a. 会社における大幅な IT ネットワークで以下の文書を伝達する。
 - 発行した会社に関する法令規范文書。
 - 事務局局長による指定した行政文書、各種報告、様式及びその他の文書。
 - b. 総務部は、会社執行委員会の制御業務を効果に支援するために、法令規范文書・情報、各種報告及びその他の関連情報を会社の IT ネットワークに展開し、伝達する。
 - c. 会社に属する各部課ユニットは、会社の情報及び制御指導文書をタイムリーに受け取り、タイムリーに実装するために、IT ネットワーク経由で情報交換制度を実施する。
 - d. 会社のホームページに情報をアップデートすることは、インターネット上に記載する法令及び会社の関連規定を遵守しなければならない。

第V章

施行条項

19 条. 運用範囲

会社執行委員会全員、各部課ユニットのリーダー、職員、労働者全員はこの規程を施行する責任を持つ。

20 条. 実施組織

実施組織の際、新規課題が発生したり、適しない課題を発見したりする場合、会社に属する各部課ユニットは、書面で組織・人材部にフィードバックし、その組織・人材部は、集約し、会社執行委員会の検討・決定を得るよう提出する。

ハノイ、 年 月 日

総裁

(サイン、印鑑)

付録1 権限規定表

主な業務の内容	部長	副部長	部長の書記	課長	スタッフ
1. 部所管の文書の発行・訂正・廃棄に関する事項	X				
2. 報告に関する事項 + 重要なことを上司に報告 + 部の共通業務 + 課に関する事項 + OUに関する事項 + 業務解決案に関する簡単な事項	X	X	X	X	X
3. 部の要員組織体制と配置に関する事項 + 重要なことと全体に対する指導 + 協力、簡単な仕事の処理	X	X			
4. 内外への取扱いに関する事項 + 重要なこと + 簡単なこと	X	X	X		
5. 会議の開催・調整・参加に関する事項 + 重要なこと + 簡単なこと + 分担されるとき、準備し、実施する。	X	X	X	X	X
6. 部の要員管理に関する事項 + 労働ルールの遵守に対して管理する。 + 就労表と残業の承認 + 有休の承認（規定どおり） + 要員の急な異動 - 重要なこと - 部内のこと	X X X X	X X	X 	X X	
7. 部の収支（あれば）に関する事項 - 重要なこと - 部内の簡単なこと	X	X			

付録2 職位レベル基準要件表

職務	専門知識・スキルのレベル	能力、理解力、計画作成可能性、創造	指導・交渉力
部長	<ul style="list-style-type: none"> - 専門知識・スキルレベルが高い。 - 理論が深い。 - 管理知識が多い。 	<ul style="list-style-type: none"> - 決定力とアイデアが部の活動に必要なかどうかを評価できる能力がある。 - 会社の経営方針に基づき、部の活動方針と計画の作成能力がある。 	<ul style="list-style-type: none"> - 部の業務指導に必要な交渉力が強い。 - 部下への指導・教育能力がある。 - 部下が高レベル管理者になるように部下を訓練できる能力がある。
副部長	<ul style="list-style-type: none"> - 専門知識・スキルレベルが高い。理論が深い。 - 管理知識が多い。 	<ul style="list-style-type: none"> - 決定力がある。担当分野に関わる業務を実施できるように、アイデアがよいかどうかを評価する能力がある。 - 部の経営方針に基づき、担当課の活動方針と計画の作成能力がある 	<ul style="list-style-type: none"> - 担当課の業務に役立つ交渉力が強い。 - 部下への指導・教育能力がある。部下が高レベル管理者になるように部下を訓練する能力がある。
部長のアシスタント	<ul style="list-style-type: none"> - 専門知識・スキルレベルが高い。理論が深い。 - 全体管理知識がある。 	<ul style="list-style-type: none"> - 決定力がある。担当分野に関わる業務を実施できるように、アイデアがよいかどうかを評価する能力がある - 会社の経営方針に基づき、部の活動方針と計画の作成能力がある。 	<ul style="list-style-type: none"> - 部の業務指導に必要な交渉力が強い。 - 部下への指導・教育能力がある。部下が管理者になるように部下を訓練する能力がある。 - 部の活動を調整し、連携する能力がある。
課長	<ul style="list-style-type: none"> - 専門知識・スキルレベルが高い。理論が深い。 	<ul style="list-style-type: none"> - 決定力がある。担当課に関わる業務を実施できるように、アイデアが 	<ul style="list-style-type: none"> - 担当課の業務に役立つ広範囲での交渉力が強い。

	<ul style="list-style-type: none"> -全体管理知識がある。 	<ul style="list-style-type: none"> -よいかどうかを評価する能力がある -部の経営方針に基づき、担当課の活動方針と計画の作成能力がある。 	<ul style="list-style-type: none"> -部下に業務を指導する能力がある。
スタッフ	<ul style="list-style-type: none"> -担当業務の一定な専門知識とスキルがある。 	<ul style="list-style-type: none"> -担当業務に関する指導資料と規定を把握する。 -PO の変更部分の一部分を評価する能力がある。 -業務実施に当たって、創造能力を発揮できる。 	<ul style="list-style-type: none"> -担当業務の範囲で交渉力がある。 -連絡し、正確的に報告する。

HQ要員計画

順	部門	職務	人数 (名)	学歴	年齢	採用要件*		採用期限			教育内容
						経験	資格・技術	2014.6 (O&M会社設 立)	2014.8 (東横線開 始)	2015.6 (2A号線引 入)	
1	総務部	部長	1	大学	45歳以下	・行政機関又は国営企業における管理職務3年以上 (鉄道業界における5年以上の業務経験そのうち専門業務に関する3年以上の業務経験)	・職位にふさわしい専門知識 ・いずれかの外国語でB資格以上	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		副部長（外務担当）	1	大学	45歳以下	・行政機関又は国営企業における管理職務1年以上 (専門業務に関する3年以上の業務経験)	・職位にふさわしい専門知識 ・いずれかの外国語でB資格以上		1		・2A号線業務試行におけるOJT
		副部長（内部の責任）	1	大学	45歳以下	・行政機関又は国営企業における管理職務1年以上 (専門業務に関する3年以上の業務経験)	・職位にふさわしい専門知識 ・いずれかの外国語でB資格以上		1		・2A号線業務試行におけるOJT
		渉外、翻訳通訳担当者	2	大学	40歳以下	・担当職務関係経験者優先	・職位にふさわしい英語又はその他の外国語の学士号を持つ。		1	1	・2A号線業務試行におけるOJT ・先行採用者によるOJT
		法務スタッフ	1	大学	45歳以下	・行政機関又は国営企業における法律関係業務1年以上	・法律関係知識		1		・2A号線業務試行におけるOJT
		書類・保存業務の担当者	2	大学	35歳以下				1	1	・2A号線業務試行におけるOJT ・先行採用者によるOJT
		事務所・企業資産管理担当者	1	大学	40歳以下		・建物管理経験者優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		情報システム及びITオフィス制御管理担当者	2	大学	35歳以下	・行政機関又は国営企業におけるシステム管理業務1年以上	・ITに関する有資格者優遇	1	1		・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによるシステム教育
		事務・土地・環境に関する担当者	1	大学	40歳以下			1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		事件、ロジスティクス担当者	1	大学	35歳以下				1		・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		トータル	13					4	7	2	
2	組織・人材部	部長	1	大学	45歳以下	・行政機関又は国営企業における管理職務3年以上 (鉄道業界における5年以上の業務経験そのうち専門業務に関する3年以上の業務経験)	・職位にふさわしい専門知識 ・いずれかの外国語でB資格以上	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		副部長	2	大学	45歳以下	・行政機関又は国営企業における管理職務1年以上 (専門業務に関する3年以上の業務経験)	・職位にふさわしい専門知識 ・いずれかの外国語でB資格以上		2		・2A号線業務試行におけるOJT
		人事担当の係員	1	大学	45歳以下		・労働法令関係知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		制度、政策、給料担当の係員	1	大学	45歳以下		・労働法令関係知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		競争、顕彰、総務担当の係員	1	大学	45歳以下		・労働法令関係知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		教育担当の係員	1	大学	45歳以下				1		・2A号線業務試行におけるOJT
		トータル	7					4	3	0	
3	安全品質部	部長	1	大学	45歳以下	・行政機関又は国営企業における管理職務3年以上 (鉄道業界における5年以上の業務経験そのうち専門業務に関する3年以上の業務経験)	・鉄道実務の実施能力又はそれに相当する専門知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		副部長	1	大学	45歳以下	・行政機関又は国営企業における管理職務1年以上 (専門業務に関する3年以上の業務経験)	・鉄道実務の実施能力又はそれに相当する専門知識		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		サービス品質担当の係員	1	大学	45歳以下	・行政機関又は国営企業における品質管理業務	・品質管理に関する知識を有する者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		鉄道システム技術品質担当の係員	1	大学	45歳以下	・行政機関又は国営企業における品質管理業務	・品質管理に関する知識を有する者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		サービス安全担当の係員	1	大学	45歳以下	・鉄道事業者における安全管理業務1年以上			1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		鉄道システム技術安全担当の係員	1	大学	45歳以下	・鉄道事業者における安全管理業務1年以上		1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		トータル	6					2	4	0	
		部長	1	大学	45歳以下	・行政機関又は国営企業における管理職務3年以上 (鉄道業界における5年以上の業務経験そのうち専門業務に関する3年以上の業務経験)	・職位にふさわしい専門知識 ・いずれかの外国語でB資格以上	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育

順	部門	職務	人数 (名)	採用要件*				採用期限			教育内容
				学歴	年齢	経験	資格・技術	2014.6 (O&M会社設 立)	2014.8 (業務試行開 始)	2015.6 (2A号線引受 付)	
4	営業・ P R 部	副部長	2	大学	45歳 以下	・行政機関又は国営企業に おける管理職務1年以上 (専門業務に関する3年以上 の業務経験)	・職位にふさわしい専門知 識 ・いずれかの外国語でB資 格以上	2			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		計画及び投資の担当者	1	大学	45歳 以下		経理・財務関係業務に係る 知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		契約管理及び設備の購入の担 当者	1	大学	45歳 以下		契約管理業務に係る知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		総務・人事の検査・管理の担 当者	1	大学	45歳 以下	行政機関又は国営企業にお ける総務・人事業務1年以上		1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		運賃経営の担当者	1	大学	45歳 以下		経理業務経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		非運賃経営の担当者	1	大学	45歳 以下				1		・2A号線業務試行におけるOJT ・RPMUによる3A号線概要教 育
		PR担当者	1	大学	45歳 以下				1		・2A号線業務試行におけるOJT ・RPMUによる4A号線概要教 育
		合計	9					6	3	0	

順	部門	職務	人数 (名)	学歴	年齢	採用要件*		採用期限			教育内容
						経験	資格・技術	2014.6 (O&M会社設 立)	2014.8 (業務試行開 始)	2015.6 (2A号線引受 付)	
5	企画・プロジェクト部	部長	1	大学	45歳以下	・会社経営又は同等の経験（マネージャーとしての企業の経営計画・投資計画策定業務）（鉄道業界における5年以上の業務経験、そのうち専門業務に関する3年以上の業務経験）	・企業経営に関する知識・センス ・いずれかの外国語でB資格以上	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		副部長	2	大学	45歳以下	・マネージャーとしての企業の経営計画・投資計画策定業務経験者（専門業務に関する3年以上の業務経験）	・企業経営に関する知識・センス ・いずれかの外国語でB資格以上			2	・先行採用者によるOJT
		計画担当者	1	大学	45歳以下		アカウンティング、ファイナンスの知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		投資促進の担当者	1	大学	45歳以下		ファイナンスの知識	(計画担当が兼務)	1		・2A号線業務試行におけるOJT
		請負担当者（契約管理）	1	大学	45歳以下		契約法の知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT
		資本・資金の管理の担当者	1	大学	45歳以下		アカウンティング、ファイナンスの知識	(計画担当が兼務)	1		・2A号線業務試行におけるOJT
		合計	7					3	2	2	
6	財務・会計部	部長	1	大学 財務会計学部、経済学部を卒業した者を優遇	45歳以下	・行政機関又は国営企業における財務会計職務3年以上の経験（専門業務に関する3年以上の業務経験。国の現行規定によるチーフアカウンタントの認定証有り）	・財務知識 ・会計知識 ・チーフアカウンタント	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育
		財務担当の副部長	1	大学 財務会計学部、経済学部を卒業した者を優遇	45歳以下	・行政機関又は国営企業における財務会計業務及び契約管理業務に関する5年以上の業務経験	・財務知識 ・契約知識		1		・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育
		会計担当の副部長（会計長）	1	大学 財務会計学部卒業、経済学部を卒業した者を優遇	45歳以下	・行政機関又は国営企業における財務会計業務3年以上（特に財務諸表作成経験）	・財務知識（財務諸表） ・会計知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育
		資金・予算の管理、配分の担当者	1	大学 財務会計学部、経済学部を卒業した者を優遇	45歳以下	・行政機関又は国営企業における財務会計業務1年以上	・会計知識 ・財務知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育
		計算、証憑のチェック、税金など（会計）の担当者	3	大学 財務会計学部卒業	45歳以下	・行政機関又は国営企業における会計業務1年以上	・会計知識 ・税務知識 ・会計の有資格者	1	2		・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育
		出納長	1	大学	40歳以下	・行政機関又は国営企業における出納業務1年以上	・会計知識を有することが望ましい	1			・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育
		固定資産・資材・契約の管理の担当者	2	大学	45歳以下	・行政機関又は国営企業における資産管理業務又は契約管理業務1年以上	・資産管理知識 ・契約知識		1	1	・2A号線業務試行におけるOJT ・2A号線EPCによるシステム教育 ・先行採用者によるOJT
		合計	10					5	4	1	
7	総合運行部	部長	1	大学	45歳以下	・行政機関又は国営企業における管理職務3年以上（鉄道業界における5年以上の業務経験そのうち専門業務に関する3年以上の業務経験）	・鉄道実務の実施能力又はそれに相当する専門知識	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		副部長	2	大学	45歳以下	・行政機関又は国営企業における管理職務1年以上（専門業務に関する3年以上の業務経験）	・鉄道実務の実施能力又はそれに相当する専門知識		2		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		運行計画課の担当者	2	大学	45歳以下	・ある会社における一般的な総務及び人事業務の経験者		2			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		運行課の担当者	2	大学 電気鉄道に関する学部卒業	45歳以下	・鉄道の列車運行に関する実務経験若しくはそれに相当する知識がある者 ここでいう「列車運行に関する実務経験」とは、運行計画、運行管理、安全管理、乗務員のいずれかの経験を指す	・鉄道運転士の免許若しくはそれに相当する専門知識	2			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		運転・安全課の担当者	2	大学 電気鉄道に関する学部卒業	45歳以下	・鉄道の列車運行に関する実務経験若しくはそれに相当する知識がある者 ここで言う「列車運行に関する実務経験」とは、運行計画、運行管理、安全管理、乗務員のいずれかの経験を指す	・鉄道運転士の免許資格若しくはそれに相当する専門知識	2			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教育
		合計	9					7	2	0	

順	部門	職務	人数 (名)	採用要件*				採用期限			教育内容
				学歴	年齢	経験	資格・技術	2014.6 (O&M会社設 定)	2014.8 (業務試行開 始)	2015.6 (2A号線引受 け)	
8	保守技術本 部	合計	30					12	18	0	
	車 両 部	部長	1	大学 機械工学部 又は電気工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・行政機関又は国営企業に おける管理職務3年以上 (鉄道業界における3年以上 の業務経験そのうち専門 業務に関する3年以上の業 務経験)	電気鉄道車両の保守又は設 計業務経験者優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		副部長	1	大学 機械工学部 又は電気工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・行政機関又は国営企業に おける管理職務1年以上 (専門業務に関する3年以上 の業務経験)	電気鉄道車両の保守又は設 計業務経験者優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		保守設計担当者	1	大学 機械工学部 又は電気工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・機械設備又は電気設備 (鉄道車両含む)の保守に 関する実務経験を有する者	・鉄道車両の保守経験者優 遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		計画担当者	1	大学 機械工学部 又は電気工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・機械設備又は電気設備 (鉄道車両含む)の保守に 関する実務経験を有する者	鉄道車両の保守経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		保守技術担当者	1	大学 機械工学部 又は電気工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・機械設備又は電気設備 (鉄道車両含む)の保守に 関する実務経験を有する者	鉄道車両の保守経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		合計	5					2	3	0	
	電 気 信 号 通 信 部 (駅 設 備)	部長	1	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・行政機関又は国営企業に おける管理職務3年以上 (鉄道業界における5年以上 の業務経験そのうち専門 業務に関する3年以上の業 務経験)	・鉄道の電気に関する設備 又は機械設備の保守又は設 計業務経験者優遇、特に電 気鉄道であればより優遇 ・電気設備の保守作業に必 要な資格(ライセンス)の 有無に関しては、採用時点 までにこの資格を取得して いることが望ましい。(日 本の場合)	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		副部長	2	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・行政機関又は国営企業に おける管理職務1年以上 (専門業務に関する3年以上 の業務経験)	鉄道の電気に関する設備又 は機械設備の保守又は設計 業務経験者優遇、特に電気 鉄道であればより優遇		2		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		計画担当者	1	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・電気に関する設備又は機 械設備の保守に関する実務 経験を有する者	鉄道の電気に関する設備又 は機械設備の設計又は保守 業務経験者優遇、電気鉄道 であればより優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		電気設備の担当者	2	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・電気設備に関する実務経 験を有する者	鉄道の電気又は機械設備の 設計又は保守業務経験者優 遇、特に電気鉄道であれば より優遇	2			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		電気機械の担当者	1	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・電気設備又は機械設備の 保守に関する実務経験を有 する者	鉄道の電気又は機械設備の 設計又は保守業務経験者優 遇、特に電気鉄道であれば より優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		通信装置の担当者	1	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・通信設備の保守に関する 実務経験を有する者	鉄道の通信設備の設計又は 保守業務経験者優遇、特に 電気鉄道であればより優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		信号装置の担当者	1	大学 電気工学部 又は機械工 学部卒業若 しくはそれ に相当する 専門知識	45歳 以下	・信号設備の保守に関する 実務経験を有する者	鉄道の信号設備の設計又は 保守業務経験者優遇、特に 電気鉄道であればより優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
		AFCの担当者	2	大学	20～ 29歳	ベトナムにAFCの導入例な く 未経験でも可	・電気・通信工学部卒業	2			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育

				採用要件*				採用期限				
順	部門	職務	人数 (名)	学歴	年齢	経験	資格・技術	2014.6 (O&M会社設 32)	2014.8 (業務試行開 始)	2015.6 (2A号線引受 け)	教育内容	
		合計	11					8	3	0		
	レール 設備 部	部長	1	大学 鉄道工学部 又は土木工 学部卒業	45歳 以下	・行政機関又は国営企業に おける管理職務3年以上 (鉄道業界における5年以 上の業務経験そのうち専門 業務に関する3年以上の業 務経験)	・電気鉄道経験者優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		副部長	1	大学 鉄道工学部 又は土木工 学部卒業	45歳 以下	・行政機関又は国営企業に おける管理職務1年以上 (専門業務に関する3年以 上の業務経験)	・電気鉄道経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		レール検査管理	1	大学 鉄道工学部 又は土木工 学部卒業	45歳 以下	・鉄道保守(軌道)経験3 年以上	・電気鉄道経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		レール保守計画作成の管理 (計画作成と予算のチェック を含める)	1	大学 鉄道工学部 又は土木工 学部卒業	45歳 以下	・鉄道保守(軌道)経験3 年以上	・電気鉄道経験者優遇 ・予算管理経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		レール保守管理	1	大学 鉄道工学部 又は土木工 学部卒業	45歳 以下	・鉄道保守(軌道)経験3 年以上	・電気鉄道経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		技術管理	1	大学 鉄道工学部 又は土木工 学部卒業	45歳 以下	・鉄道保守(軌道)経験1 年以上	・電気鉄道経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		総務担当者	1	短大	35歳 以下				1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
		合計	7						1	6	0	
		構 造 物 部	部長	1	大学 土木工学部 卒業	45歳 以下	・行政機関又は国営企業に おける管理職務3年以上 (鉄道業界における5年以 上の業務経験そのうち専門 業務に関する3年以上の業 務経験) ・土木構造物管理経験の3 年以上。	・建物保守経験者優遇	1			・TAプロジェクトによるOJT ・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育
	副部長		1	大学 土木工学部 卒業	45歳 以下	・行政機関又は国営企業に おける管理職務1年以上 (専門業務に関する3年以 上の業務経験) ・土木構造物管理経験の1 年以上。	・建物保守経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
	検査担当者		1	大学 土木工学部 卒業	45歳 以下	・土木工事管理業務経験3 年以上	・建物保守経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
	計画担当者		1	大学 土木工学部 卒業	45歳 以下	・土木工事管理業務3年以 上	・建物保守経験者優遇 ・予算管理経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
	保守担当者		1	大学 土木工学部 卒業	45歳 以下	・土木工事管理業務3年以 上	・建物保守経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
	技術担当者		1	大学 土木工学部 卒業	45歳 以下	・土木工事管理業務1年以 上	・建物保守経験者優遇		1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
	総務担当者		1	短大	35歳 以下				1		・2A号線業務試行におけるOJT ・RPMUによる2A号線概要教 育	
	合計		7						1	6	0	
合計				91					43	43	5	

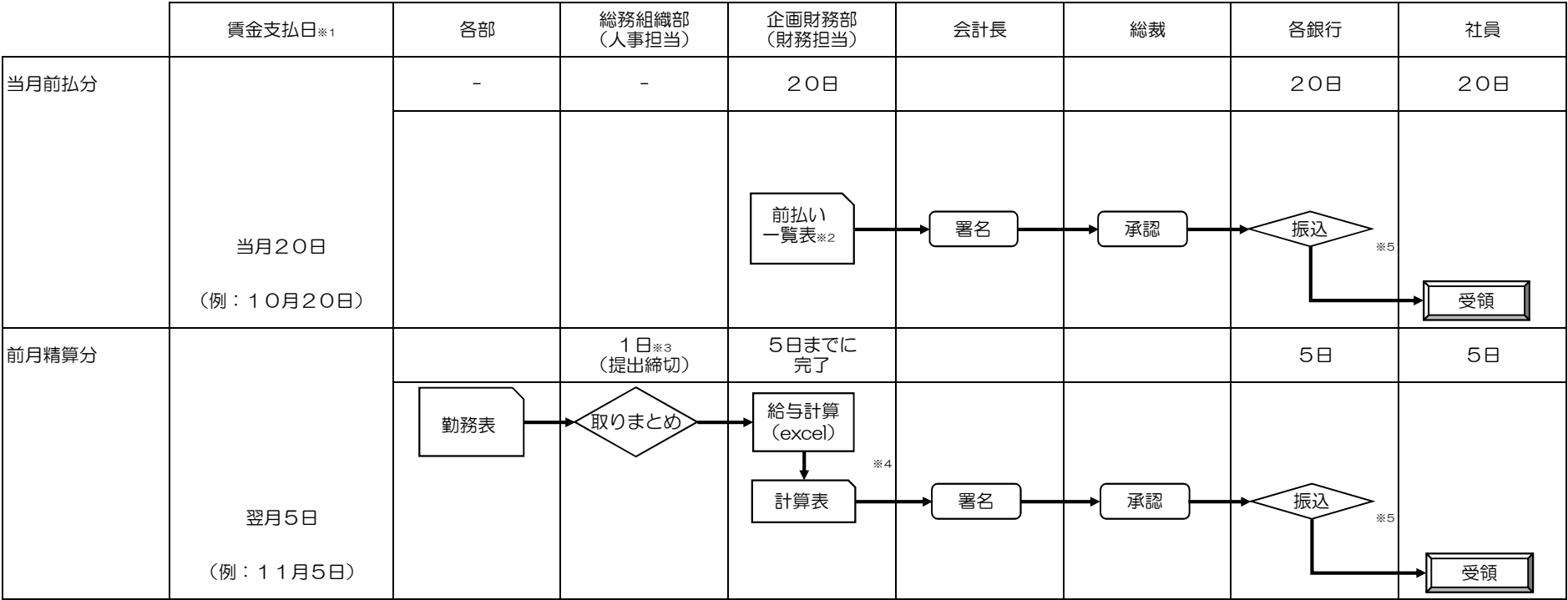
※採用要件は、本表のほか以下のとおり。

・要求を満たした健康であること。
・部長・副部長などの基幹職位に対し、上記の要件を満たすこと以外に、これらの職位に対する指導スキルに係わる要件もHMCの規定により満たさなければならないこと。

・TAプロジェクトにより教育を受けているOMUのメンバーを会社におけるふさわしい職位に就けることを推奨する。

* 採用方法：パブリック (Public)

給与支払フロー（例：10月分）



※1 賃金支払い日が休日の場合は、基本的には翌営業日の支払いだが、間に合う場合は前営業日（上の前月精算分の例では11月4日）に支払うこともある。

※2 前払分については、支払額が固定しているため給与計算は行わない。

※3 提出締切日が休日の場合は、翌営業日（上の例では2日）が基本だが、間に合う場合は早めに取りまとめることもある。

※4 excelのみで行っており、HMCで購入した会計ソフトは使用していない。

※5 excelの一覧表（従業員の賃金・口座番号を記載）を銀行に提出している。

ハノイ鉄道一人有限会社
総務・組織部

勤務表
2015年9月

No.	名前	月の日																														給料のまま享受対象日				制度享受休暇						
																																総計	その中				総計	その中				
		火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	木	金	土	日	月	火	水	平日出勤	祝日	予備	修理	有給休暇	有 社会保険の 給休暇	有 社会保険の 50%有給休暇		有 社会保険の 無給休暇									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		25	1										
1	A	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
2	B	x	nl	x	x	x		x	x	x	x	x	x		x	x	H	H	H	H		x	x	x	x	x		x	x	x	26	25	1									
3	C	H	nl	H	H	H		H	H	H	H	H	H		H	H	H	H	H	H		H	H	H	H	H		H	H	H	26	25	1									
4	D	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
5	E	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
6	F	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
7	G	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
8	H	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
9	I	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
10	J	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									
11	K	x	nl	x	x	x		x	x	x	x	x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	26	25	1									

担当者

ハノイ、2015年9月30日
責任者

Nguyễn Quang Khải

Nguyễn Văn Ngọc

凡例： H: 研修
 nl: 祝日

会計規則

目次

I - 総則	1
1. 趣旨	1
2. 適用範囲、対象	1
3. 定義、用語、略語	1
4. 法的根拠、関連資料	2
5. 実施責任	3
II - 規則の内容	3
1. 会社の事業年度、勘定科目、会計帳簿	3
2. 金銭	4
3. 資金	6
4. 物品	7
5. 固定資産	7
6. 予算	8
7. 決算と報告	9
III. 書類保管の規定	9
IV. 付録	11
1. 会計勘定科目システム	12
2. 精算請求、前払い請求、前払金精算請求（第 16 条）	18
3. 会計プロセス	20

I - 総則

第 1 条：趣旨

この規則は、会社の会計及び財務に関する基準を確立し、経済状況に応じた経理・財務業務の分類及び体系化を図り、経済・社会的決定を出したり、会社の運営効果を評価したりすることを目的とする。

第 2 条：適用範囲、対象

1. 適用範囲：会計業務、会計帳簿システム、報告を規定する。
2. 対象：財務会計部、会計・決済業務に係る社員

第 3 条：定義、用語、略語

1. 定義、用語

- 会計とは価値・現物・就労時間の形態とする経済・財務の情報を収集、処理、検査、分析、提供することをいう。

- 会計帳簿：会計業務の方法と規定の通りに、元の帳票に基づき各経済業務を記載し、系統化くるための一定の様式の帳簿をいう。
- 会計帳票：会計帳簿を記載する根拠とし、経済・財務業務が発生・完了したことを記載した書類・会計取引情報記録物品をいう。
- 会計整理：会計書類の管理・保管・活用の業務が円滑に実施される目的とし、書類を再整理し、その内、修訂、完成、系統化を実施することをいう。
- 資産・資金（金銭の資産）：企業の流動的な資産の一部であり、金銭の形態として存在し、流動性の一番高い資産で、企業の現金及び預金、未達現金のことをいう。

2. 略語

略語	解釈
TCKT	財務会計
TSCD	固定資産
UBND TP HANOI	ハノイ市人民委員会
TGD	総裁

第4条：法的根拠、関連資料

1. 法的根拠

- ベトナム国会計法
- 税務管理法第 78/2006/QH11 号
- 税務管理法の一部条項を改正・補足する法律第 21/2012/QH13 号
- 企業所得税法第 14/2008/QH12 号
- 企業所得税法の一部条項を改正・補足する法律第 32/2013/QH13 号
- 個人所得税法第 04/2007/QH12 号
- 個人所得税法の一部条項を改正・補足する法律第 26/2012/QH13 号
- 付加価値税法第 13/2008/QH12 号
- 付加価値税法の一部条項を改正・補足する法律第 31/2013/QH13 号
- 統計法第 04/2003/QH11 号
- 国家会計分野に適用する会計法の一部条項の細則を規定し、施行を案内する政令第 128/2004/ND-CP 号
- 税務管理法・税務管理改正法の一部条項の細則を規定し、施行を案内し、税務管理法の一部条項の細則を規定する政令第 83/2013/ND-CP 号
- 商品販売、サービス提供の領収書を規定する政令第 51/2010/ND-CP 号
- 商品販売、サービス提供の領収書を規定する政令第 51/2010/ND-CP 号を改正する政令第 04/2014/ND-CP 号
- 会計書類の保管制度を公布する決定第 218/2000/QĐ-BTC 号
- 企業会計制度の施行を案内する省令第 200/2014/TT-BTC 号

- 商品販売、サービス提供の領収書に関する政令第 51/2010/ND-CP 号及び政令第 04/2014/ND-CP 号の実施の施行を案内する省令第 39/2014/TT-BTC 号
- 税務に関する行政手続きを改革し、シンプル化するために、省令第 156/2003/TT-BTC 号、111/2003/TT-BTC 号、219/2013/TT-BTC、08/2013/TT-BTC 号、85/2011/TT-BTC 号、39/2014/TT-BTC 号および 78/2014/TT-BTC 号を改正する省令第 119/2004/TT-BTC 号
- 付加価値及び税務管理を規定する政令 12/2015/ND-CP 号の実施を案内し、商品販売・サービス提供の領収書を規定する省令第 39/2014/TT-BTC 号を改正する省令第 26/2015/TT-BTC 号

2. 関連資料

- ベトナムの会計基準 (VAS)

第 5 条: 実施責任

1. 総裁

- 国家が規定した基準、条件の通りに会計組織及び会計係員・チーフアカウントを配置すること。
- 会計に関する法律の規定の通りに会計部門の会計業務の実施を指導し、自分のミス、罪から生じた結果に責任を負う。

2. 財務会計部長

- 規定通りに会計部門の会計業務の実施を展開する責務を持つ。
- 会社の財務監督業務に総裁をサポートする。
- 会計資料の管理、使用、保管に責任を負う。
- 法定のとおり、組織・個人に会計の情報・資料を適時かつ十分に。誠実に、明確的に提供する責任を負う。

3. 財務会計部の社員

会計に関する法定を遵守し、課された仕事を遂行し、自分の専門業務に責任を負う。会計係員が代わるとき、旧会計係員は新会計係員に会計仕事と資料の引き継ぎをする責任を負う。旧会計係員は自分が勤務の期間中の会計仕事に責任を負う。

II - 規則の内容

1. 会社の事業年度、勘定科目、会計帳簿

第 6 条 : 会社の事業年度

1. 会計期間（事業年度）は陽暦の 1 月 1 日から 12 月 31 日までとする。なお、会社設立後、最初の事業年度は、経営登記認定証の発効日からその年の 12 月 31 日までとする。
2. 当初と最終の事業年度が 90 日未満である場合は、翌事業年度又は前事業年度と併合することができる。ただし、この場合の当初と最終の事業年度の期間は 15 か月未満でなければならない。
3. 会社は会社の制度と政府の規定どおり財務内容を公開する。

第 7 条：会計整理

財産・債務・株主資本・収入・費用に係る企業の経済・財務業務は金銭を実際に出納する時点ではなく、発生時点で会計帳簿に記入する。その日を決定し難い場合は、その原因たる事実を確認した日を基準として年度所属を区分する。

第 8 条：会計取引の記録

1. 資産、負債及び資本の増減及び異動並びに収入及び経費の発生に関する一切の会計取引は、会計帳簿に記録整理するものとする。
2. 会計計算は取引発生 of 帳票に基づいて行われる。

第 9 条：勘定科目

会計に関する取引は、勘定科目表を定める規則に従って整理する。

第 10 条：勘定科目システム

2014/12/22 日付省令第 200/2014/TT-BTC 号（付録付随）に規定する企業会計システムに従う。

第 11 条：会計帳簿

2014/12/22 日付省令第 200/2014/TT-BTC 号に定められる会計帳簿及び会計形式に関する規定に従う。

2. 金銭

第 12 条：金銭取扱い

金銭取扱いについては、金銭取扱規則による。

第 13 条：金銭の出納

金銭の出納は、金銭取扱規則に規定された出納要求及び証票書類により行う。財務会計部は必要に応じて、他の書類を求めることができる。

第 14 条：領収書に関する規定**1. 領収書の発行と徴収**

金銭を収納したときは、領収証を発行し、金銭を支払ったときは、領収証を徴しなければならない。ただし、金銭出納規則に規定された場合に適用されない。

2. 領収書を使用するとき注意する必要がある規定**a. 合法的な領収書**

付加価値税の控除、付加価値税の還付、控除額、精算額の費用計算のとき使われる領収書は下記の内容に該当しなければならない：

- 商品・サービス購買領収書の原本第 2 控え（お客さんの控え）
- 規定通りに各内容、項目が十分に記入される領収書であり、きれいで、破れていない状態である。
- 規定通りに数字、文字が修正されたり消されたりすることなく、はっきりに、十分に、正確に記載された領収書でなければならない。

b. 領収書紛失の報告

組織、個人が領収書（税務機関の購入領収書、自身印刷領収書を含む）を紛失した場合、領収書を購入した税務機関或いは自身印刷を登録した機関にすぐ報告しなければならない。

c. 領収書の使用状況の報告：

財務省に発行された領収書や自身印刷領収書を使用している組織、個人が領収書の使用状況の月報をその次の月の 20 日まで作成しなければならない。また、毎年領収書使用精算報告をその次の年度の 2 月 25 日までに直接管理税務期間に提出しなければならない。

d. 非合法的な領収書の取扱い

- 税務機関が発行する領収書を購入した場合以外で、規定通りに内容を記載していない領収書の売買。
- 商品・サービスの売買が発生しない場合における経済活動の内容が記載された領収書の売買、使用
- 証票無しで購買した商品・サービスの合法化や、販売のときの税務詐欺、納税申告しないで商品を販売するために、偽の領収書、その他の営業所の領収書の購入、使用。
- 商品・サービスの価額が各領収書控えで差異がある領収書の売買、使用。
- 使用期間が切れた領収書の売買、使用。

- 営業所に対して税務当局から破産の通知が出されていない状況下においても、税務当局・公安機関、その他の行政機関に不法だと裁決された領収書。

第15条：金銭の保管

金銭を収納したときは、業務上必要な手許保管額を除き、所定の金融機関に預け入れるものとする。

第16条：前払/支払/前払金の精算

財務会計部に送る前払、支払、前払金の精算の請求書は全部そろえておかなければならない。

1. 旅費の場合、次の書類が必要である。
 - 承認された出張の決定
 - 承認された旅費の予算
 - 前払請求書（前払の場合）
 - 支払請求書（支払の場合）
 - 前払金の支払請求書（前払金の支払の場合）
 - 費用の明細書
 - 領収書、関係証ひょう書類
 - 他の証ひょう書類（ある場合）
2. 商品の購入又はサービスの場合、次の書類が必要である。
 - 承認された予算
 - 見積もり3個を付随する比較書（500,000VND 以上の場合）
 - 前払請求書（前払の場合）
 - 支払請求書（支払の場合）
 - 前払金の支払請求書（前払金の支払の場合）
 - 請負・購入規則に規定された書類
 - 他の証ひょう書類（ある場合）

3. 資金

第17条：資金計画

収支予算と設備投資予算の実施状況を把握するため、資金計画に基づき、資金繰実績票をもってコントロールされる。

第18条：資金調達

1. 資金調達は、経済情勢・会社の財務状況を見ながら、資金計画に基づいて慎重に検討する必要がある。
2. 資金調達の決定は社長の権限である。

第 19 条：資金運用

1. 資金計画作成及び資金調達は、企画プロジェクト部により実施される。
2. 財務会計部は、承認された資金計画に基づき、資金の管理と割り当ての責任を負う。

第 20 条：引当金

在庫品の割引と不良債権の引当金を含める。

4. 物品

第 21 条：物品管理

1. 物品の管理は、物品管理事務規則に基づき、慎重に行わなければならない。
2. 物品管理の担当者は、所属部門の物品管理責任を負う。財務会計部は、物品の会計処理を行う。
3. 会社の物品を損失した場合、財務会計部長の定める責任分担に基づいて、関係者は損害額を弁償する責任を負う。ただし、善良な管理者としての注意をもって管理をしていたと認定された場合は、その責を免れる。

第 22 条：貯蔵品の評価法

貯蔵品の払出価額は、移動平均法によるものとする。

第 23 条：たな卸

物品のたな卸は、毎事業年度 1 回以上行うものとする。

第 24 条：物品等の契約

物品等の売買又は賃借及び製作、修理又は加工の請負の契約は、調達規則に定めるところにより行うものとする。

5. 固定資産

第 25 条：固定資産の管理

1. 固定資産の管理は、固定資産規則に基づき、慎重に行わなければならない。
2. 慎重に、厳密に管理しなければならない。
3. 固定資産管理の責任者は、所属部門の固定資産を管理する。財務会計部は、固定資産の会計処理を行う。

第 26 条：固定資産の貸付け、譲渡等

固定資産の貸付け、譲渡等は所有者であるハノイ市人民委員会の承認を取得しなければならない。

固定資産は、適正な対価なくして会社以外の者にこれを貸し付け、使用させ、譲渡し、又は交換することはできない。ただし、特別な理由があるときは、対価を減免することができる。

第 27 条：固定資産の減価償却

固定資産の減価償却については、定額法による間接法とする。

第 28 条：固定資産の売却

固定資産を売却する場合は、企業に国家資本の投資及び国家の 100%資本保有企業の財務管理に関する政令第 71/2013/NĐ-CP 号、固定資産管の規則の詳細規定に基づき実施される。

第 29 条：たな卸

固定資産管理の責任者は、実績と台帳を参照し、たな卸を行わなければならない。

6. 予算

第 30 条：趣旨

予算は、毎事業年度の事業計画に基づく経営活動の目標を計数的に示すとともに、業務の円滑的運営と各部門間の整理を図り、もって経営能率の増進に資することを目的とする。

第 31 条：予算の体系

財務会計部は、会社の事業計画に基づいて、予算を作成する。

- 収支予算（運賃、非運賃）
- 設備投資予算（運賃、非運賃）
- 資金計画

第 32 条：予算の管理・実施・割り当て

1. 財務会計部は、予算管理と関連部門への予算割り当ての責任を負う。
2. 予算の実施に当たって、予算の範囲内で予算の目的を目指すことを確保する。
3. 常に予算と実績との対照を行い、差が発生した場合は、各部が財務部に報告し、その発生原因を解明する。

第 33 条：予算の変更

1. 変更する必要があるときは、所定の手続により変更する。
2. 予算の変更は、社長の承認を受けなければならない。

第 34 条：資金計画

収支予算と設備投資予算に基づいて、資金計画を作成する。

7. 決算と報告

第 35 条：目的

会計期間における会計取引を整理して、この期間における会社の財務状況を明らかにする。

第 36 条：報告の種類

企業への政府の投資及び政府が 100%の資金を所有する企業の債務管理についての政令 71/2013/ND-CP 号に従う。

第 37 条：報告時期

報告の時期は、企業会計制度の施行を案内する省令第 200/2014/TT-BTC 号及び国営企業・国外の投資金のある企業・プロジェクトに適用する基礎的な報告・統計体制の発行についての決定 77/2010/QĐ-TTg 号に従う。

(詳細は決算規則に記載される)

III. 書類保管の規定

第 38 条：会計書類の保管制度

時間により実施され、会計書類の保管制度は会計法第 40 条及び会計書類の保管制度公布に関する決定第 218/2000/QĐ-BTC 号に定められる。

伝票の保管に関する留意点：

- 未使用伝票や使用後の伝票が紛失されたり敗れたりすることなく、安全なところに保管されなければならない。

- 使用後の伝票は使用時間の順番にそろえられ、国家の保管に関する規定通りに保管しなければならない（最小 5 年間）。伝票を切り分けする場合、保存の各控えは一緒に順番どおり一冊にまとめられ、保管されなければならない。

IV – 付録

1. 会計勘定科目システム

勘定コード		勘定名	備考
レベル 1	レベル 2		
		第 1 種: 短期資産	
111	.	現金	詳細は各銀行により
.	1111	ベトナム貨幣	
.	1112	外貨	
112	.	銀行預金	
.	1121	ベトナム貨幣	
.	1122	外貨	
113	.	未達現金	
.	1131	ベトナム貨幣	
.	1132	外貨	
121	.	有価証券	
.	1211	株式	詳細は各項目により
.	1212	債券	
	1213	証券とその他の金融商品	
128	.	その他の短期投資	
.	1281	定期預金	
.	1288	その他の短期投資	
131	.	売掛金	
133	.	控除付加価値税	
.	1331	物品・サービスに係る控除付加価値税	
.	1332	固定資産に係る控除付加価値税	
136	.	関係会社未収金	
.	1361	附属関係会社の貸付金	
.	1368	その他の関係会社未収金	
138	.	その他の未収金	
.	1381	仮勘定	
.	1385	株式化に係る未収金	
.	1388	その他の未収金	
141	.	前払金	詳細は各項目により

151	.	未着品	詳細は各項目により
152	.	原材料	
153	.	工具・機械	
154	.	生産費用	
155	.	製品	
156	.	商品	
.	1561	購入価格	
.	1562	購入費用	
.	1567	不動産	
157	.	販売委託品	
158	.	保税倉庫の商品	
161	.	事業支出	
.	1611	前期事業支出	
.	1612	当期事業支出	
		第2種：固定資産	
211	.	有形固定資産	
.	2111	土地、建物	
.	2112	機械、装置	
.	2113	車両運搬具	
.	2114	工具器具備品	
.	2115	産業用動植物	
.	2118	その他の固定資産	
212	.	ファイナンスリース資産	
.	2121	有形ファイナンスリース資産	
.	2122	無形ファイナンスリース資産	
213	.	無形固定資産	
.	2131	土地使用権	
.	2132	流通権	
.	2133	特許権	
.	2134	商標権	
.	2135	ソフトウェア	
.	2136	フランチャイズ権	
.	2138	その他の無形固定資産	
214	.	固定資産の減価償却累計額	
.	2141	有形固定資産の減価償却累計額	
.	2142	ファイナンスリース資産の減価償却累計額	
.	2143	無形固定資産の減価償却推計額	

・	2147	投資不動産の減価償却推計額	
・			
217	・	投資不動産	
221	・	子会社への投資	
222	・	関係会社株式	
228	・	その他の長期投資	
・	2281	株式	
・	2282	債券	
・	2288	その他の投資	
229	・	長期投資評価損引当金	
	2291	有価証券評価損引当金	
	2292	他社投資損失引当金	
	2293	貸倒引当金	
	2294	在庫品評価損引当金	
241		建設仮勘定	
・	2411	固定資産仕入	
・	2412	基本的な建設	
・	2413	固定資産の大修繕	
242	・	長期前払費用	
243	・	繰延税金資産	
244	・	長期保証金、長期差入担保	
		第3種: 負債	
331	・	買掛金	
333	・	未払法人税など	
・	3331	未払付加価値税	
・	33311	仮受付加価値税	
・	33312	輸入付加価値税	
・	3332	特別売上税	
・	3333	輸出入関税	
・	3334	事業所得税	
・	3335	個人所得税	
・	3336	天然資源税	
・	3337	建物・土地賃借税	
・	3338	環境保護税及びその他の税	
・	33381	環境保護税	
・	33382	その他の税	
・	3339	手数料、その他の未払い金	
334	・	従業員未払金	
・	3341	未払い給与	
・	3348	その他の従業員未払金未払雑給	

335	.	未払い費用	
336	.	関係会社未払金	
337	.	進行度合による工事未払金	
338	.	その他の未払い金	
.	3381	余剰資産調整勘定	
.	3382	未払労働組合予算	
.	3383	未払社会保険	
.	3384	未払健康保険	
.	3385	株式化に係る未払金	
.	3386	未払失業保険	
.	3387	未実現収入	
.	3388	その他の未払金	
341	.	ファイナンスリース借入金及び債務	
.	3411	借入金	
.	3412	ファイナンスリース債務	
343	.	社債	
.	3431	普通社債	
.	34311	社債価格	
.	34312	社債割引	
.	34313	オーバーパーの発行価格と額面金額の差額	
.	3432	転換社債	
344	.	長期預り金	
347	.	繰延未払所得税	
352	.	未払引当金	
	3521	製品保証引当金	
	3522	建設工事保証引当金	
	3523	企業再構築引当金	
	3524	その他の未払引当金	
353	.	賞与又は福利厚生資金	
.	3531	賞与資金	
.	3532	福利厚生資金	
.	3533	固定資産を形成した福利厚生資金	
.	3534	会社運営管理委員会賞与資金	
356	.	科学及び技術開発資金	
.	3561	科学及び技術開発資金	
.	3562	固定資産を形成した科学及び技術開発資金	

357	.	価格安定資金	
		第 4 種: 資本	
411	.	株主資本	
.	4111	資本金	
.	4112	資本剰余金	
.	4118	その他の資本	
412	.	資産再評価差額金	
413	.	為替換算差額	
.	4131	外貨建貨幣性項目の再評価による 為替換算差額	
.	4132	活動開始前の為替換算差額	
414	.	投資開発積立金	
417	.	事業目的積立金	
418	.	その他の積立金	
419	.	株式投資信託	
421	.	税引後未処分利益	
.	4211	前期税引後未処分利益	
.	4212	当期末処分利益	
441	.	基本建設資本	
461	.	政府補助基金	
.	4611	前期政府補助基金	
.	4612	登記政府補助基金	
466	.	固定資産を形成した基金	
		第 5 種: 売上	
511	.	商品販売及びサービス提供による売上	
.	5111	商品売上	
.	5112	製品売上	
.	5113	サービス売上	
.	5114	助成金収入	
.	5117	不動産売上	
.	5118	その他の売上	
515	.	財務活動による収益	
521	.	売上の控除	
	5211	販売割引	

	5212	商品値引	
	5213	売上戻り	
		第 6 種：生産営業費用	
611	.	仕入	
.	6111	原材料仕入	
.	6112	商品仕入	
621	.	直接原材料費	
622	.	直接労働費	
623	.	機械設備費	
.	6231	人件費	
.	6232	材料費	
.	6233	生産工具費	
.	6234	建設施行機械減価償却.	
.	6237	外注サービス費	
.	6238	その他の現金費用	
627	.	一般生産費用	
.	6271	工場の労働費用	
.	6272	材料費	
.	6273	生産器具費	
.	6274	固定資産減価償却費	
.	6277	外注サービス費	
.	6278	その他の現金費用	
631	.	製造原価	
632	.	製造原価(原材費、労務費など)	
635	.	財務活動費用	
641	.	販売費	
.	6411	労働費用	
.	6412	材料・包装費用	
.	6413	工具・備品費	
.	6414	固定資産減価償却	
.	6415	品質保証費	
.	6417	外注サービス費	
.	6418	その他の現金費用	
642		企業管理費	
	6421	管理従業員費用	
	6422	管理用材料費	
	6423	事務用消耗品費	
	6424	固定資産減価償却費	
	6425	税金、手数料、料金	
	6426	引当金費	
	6427	外注費	

	6428	その他の現金費用	
		第 7 種: その他の収入	
711		その他の収入	
		第 8 種: その他の費用	
811		その他の費用	
821		法人所得税	
	8211	現行法人所得税	
	8212	繰延法人所得税費用	
		第 9 種: 営業損益	
911		営業損益	

ハノイ鉄道一人有限会社
計画・財務部

ベトナム社会主義共和国
独立・自由・幸福

ハノイ、2015 年 月 日

2. 精算請求、前払い請求、前払金精算請求（第 16 条）

前払い請求書

御中： 総裁様
財務・会計責任者
〇〇部の責任者

私は、
部署：
前払いをいただきたい金額は、
文字で記入：/.
前払いの理由：

総裁の承認

財務会計責任者

部署の責任者

請求者

精算請求書

御中： 総裁様
財務・会計責任者
〇〇部の責任者

私は、
部署：

総裁と会計責任者に下記の内容通り精算をご請求致します。

No.	領収書 番号	内容	精算請求金額		
			商品の金 額	税金	合計
01					
02					
総計					

金額を文字で記入：

総裁の承認 財務会計責任者 部署の責任者 請求者

3. 会計プロセス

大分類	中分類	小分類	活動	活動の詳細内容	関連部署			処理頻度	資料
					財務会計部	社内の関連部署	社外の関連部署		
財務会計	会計	会計取引の記録	1 支払請求前	① 各部署は取引の後、取引先から請求書を受け取る。		各部署	取引先	即時	支払請求
			2 支払請求作成	② 検査業務担当者は請求書を検査し、関連する証憑書類（契約書、領収書、検収書、取引明細書など）を対照し、支払請求書を作成する。		各部署		即時	支払申請
			3 各部署の承認	③ 証憑書類及び支払請求書を一部にまとめ、部長の承認を取得する。		各部署		即時	全ての支払書類
				（承認が取得できない場合、各部署の担当者に返却する）					
				④ 承認された証憑書類及び支払書類を財務会計部へ送付する。		各部署		即時	
			4 会計審査	⑤ 会計部の書類管理担当者は証憑書類の内容を確認し、検査する。承認が得られなかった場合、請求部署へ返却する。		各部署		即時	
			5 会計証憑入力	⑥ 会計証憑入力	会計			即時	
			6 証憑書類調査	⑦ 必要だったら、入力した証憑書類を調査する。	会計			即時	
			7 証憑書類の保管	⑧ 会計書類及び取引確認書類を規定通りに各別ファイルに納め、保管する。	会計			即時	
			8 未承認証憑類の確認	⑨ 各部署の承認者及び会計担当者は未承認の証憑書類がないか確認をする。	会計	各部署		即時	

Appendix8-6-3-2-A

		証憑書類 の変更、 取消	1 入力した証憑書 類の変更・取消の 申請	①各部署の担当者は書類を検査し、証憑書 類の変更・取消の必要があれば、変更・取 消申請書を作成し、確認のため部長に提出 する。		各部署		即時	証憑書類 の変更・ 取消の 申請書
			2 入力した証憑書 類の変更・取消申 請書の承認	②各部署の承認者は変更・取消内容を確認 してから、承認する。		各部署		即時	
				③変更・取消申請書を財務会計部へ送付す る。		各部署		即時	
			3 入力した証憑書 類の変更・取消	④ 会計担当者は証憑書類の変更・取消を行 う。	会計	各部署		即時	
				⑤ 取消の場合、再実行するために、保管し ている取引確認書類を各部署の担当者へ返 却する。	会計			即時	
			4 証憑書類の調査	⑥ 証憑書類を調査し、請求内容を確認す る。	会計	各部署		即時	

固定資産規則

目次

I. 総則

1. 趣旨
2. 適用範囲、対象
3. 定義、用語、略語
4. 法的根拠、関連資料
5. 実施責任

II. 規則の内容

III. 書類の保管規定

IV. 付録

Iー総則

第1条：趣旨

この規則は、会計規則に基づき、固定資産の管理に必要な基本的事項を定めるものとする。

第2条：適用範囲、対象

1. 範囲：固定資産の会計事業、固定資産の管理・運用・保管に適用される。
2. 対象：財務会計部、各部門の長、固定資産の管理、運用に責任がある。

第3条：定義、用語、略語

1. 定義、用語

固定資産：

a. 有形固定資産とする基準

有形固定資産と認められる資産は次の 3 つの基準を満たさなければならない。

- 資産の利用により必ず経済的利益を獲得するもの。
- 使用年数は 1 年以上であるもの。
- 原価は確実に定められ、30,000,000 ドン以上の価値があるもの。

一つのシステムには多くの個別資産が含まれており、それぞれの資産の耐用年数が異なり、一部分が不足してもそのシステムは機能できるが、固定資産の管理・使用の要求により個別の資産を管理することが必要な場合で、固定資産の3基準を満たす場合は、その資産を個別の固定資産とする。

b. 無形固定資産とする基準

本条第1項における3基準を満たすが、有形固定資産を形成しない資産については、無形固定資産とする。

2. 略語

略語	解釈
TSCD	固定資産
TCKT	財務会計
UBND TP Ha Noi	ハノイ市人民委員会

第 4 条：法的根拠、関連資料

1. 法的根拠

- 固定資産の管理・運用・減価償却の制度の実施を案内する省令第 45/2013/TT-BTC 号。

- 企業への国家資本注入及び、国家の 100%資本保有企業の財務管理に関する政令第 71/2013/ND-CP 号。

2. 関連資料：

- ベトナム会計基準(VAS)

第 5 条：実施責任

1. 管理責任

a. 社長

政府の規定に従い、固定資産の利用・管理を確保できるよう社員に指示し、定期的又は臨時に HPC に報告する責任を負う。

b. 財務会計部長

固定資産に関する事務を総括し、定期的又は臨時に社長に資産の使用状況を報告する責任を負う。

c. 各部長 (HQ)

本社の各部長は、所管の資産の現状及び使用状況を明らかにし、定期的又は臨時に報告書を作成して財務会計部に送付するとともに、所管の課長に資産管理に関する事務について指示する責任を負う。

d. OU 長 (OU)

課長による所管の OU 資産管理業務の実施を監視する責任を負う。 .

e. 課長 (OU)

所属の部長と OU 長の監督を受け、所管課の固定資産について適正な配置・使用・維持を目指し、不用又は過剰な財産の調査その他保守上必要な事項を処理する。

f. 固定資産の取扱者

使用者は適切な方法と目的で固定資産を保管して、使用する責任を負う。

2. 弁償責任

- 故意又は重大な過失により、固定資産を滅失させ又は損傷させた場合には、関係者はその損害額を弁償しなければならない。
- 財務会計部長は、資産の滅失・損傷の関係者の責任分担に基づいて、弁償責任を決める。
- 弁償額は、滅失又は損傷当時の帳簿での価額とする。
- やむを得ない理由による滅失又は損傷の場合、関係者は賠償の責任を免れる。

Ⅱ. 規則の内容

1. 固定資産の管理

第6条：固定資産の分類

固定資産の分類は、勘定科目表による。

1. 有形固定資産

- 建物、構築物
- 設備機械
- 車両、伝達設備
- 工具、器具、備品
- リース資産

- 他の固定資産

2. 無形固定資産

- 土地、構築物の使用权
- のれん
- ソフトウェア
- 商標、地理的情報
- 特許権

- リース資産

3.建設仮勘定

第1項と第2項にある建設中の資産を含める。

4. 他の資産

第7条: 所有権の登録

必要な場合は、著作権、資産の使用権、のれん、特許権等について、現行法律の規定により、速やかに登録しなければならない。

第8条: 管理の原則

1. すべての固定資産は書類（固定資産の受渡記録書、契約、固定資産の購入領収書、その他の関連書類を含む。）が必要である。固定資産を分類し、その資産に番号をつける。そして、その固定資産の管理票を取りつける。固定資産を詳しくモニタリングし、固定資産台帳に反映する。
2. 固定資産は、取得原価、減価償却額、帳簿残高のそれぞれを管理しなければならない。
3. 未使用で、売却しようとするが、減価償却を終えていない固定資産については、規定どおり管理し、モニタリングし、保管し、減価償却する。
4. 減価償却を終えたが、事業で使用する固定資産については、通常の固定資産のように管理する。

第9条: 帳票

1. 財務会計部長は、固定資産の管理様式を定める。
2. 財務会計部長は、各部署の報告に基づいて、事業年度ごとに固定資産明細票を作成する。
3. 各部の部長は、固定資産台帳の作成の責任を有する。

4. 管理者は各固定資産に管理票を取りつける。ただし、管理票の取りつけが困難であると判断した場合は、実地と書類の資産番号を照合可能な方法を整えなければならない。
5. 台帳は、鉄道事業固定資産、関連事業固定資産、各事業関連固定資産、その他の資産に分けられる。.
6. 取得、喪失、移動という固定資産の変更があった場合、管理者は、台帳に記録して、報告を作成し、財務会計部に送付する。
7. 毎年、管理者は、実際と帳簿上の固定資産の数量と残高を照合して、報告を作成し、財務会計部に送付する。

第 10 条: 固定資産の取得、喪失、移動

1. 取得
 - a. 次の場合を含める
 - 固定資産の新設、購入又は交換
 - 固定資産の改良
 - 固定資産の受贈
 - b. 必要な書類
 - (1) 固定資産の新設、改良
 - プロジェクト又は工事の決算書類（通達 48/2010/ND-CP 号の規定と他の関連規定どおり実施）
 - 契約書
 - 領収書
 - 引渡記録
 - その他の書類（必要な場合）
 - (2) 資産の購入、交換、受贈
 - 領収書
 - 入庫票
 - 引渡記録
 - 検収記録（必要な場合）

- 資産についての説明（図面、設計、関連資料）
- 税関の書類（必要な場合）
- 購入の契約書（必要な場合）
- 関連資料

2. 喪失

a. 次の場合を含める

- 固定資産の譲渡又は交換
- 固定資産の廃棄、回収、売却
- 固定資産の亡失又は損傷

b. 固定資産の譲渡・売却は、国営企業への投資と政府が 100%出資する企業への財務管理についての政令 71/2013/ND-CP 号に定めるとおり実施する。

- 会社は、資産価額を維持するため公開かつ明確な方法により、破損、陳腐化、使用の必要性がない、または資金回収に使用できない状況にある固定資産を主体的に譲渡・売却できる。
- 鉄道事業に直接使用される資産を譲渡するとき、又は売却するときは、HPC の許可を得なければならない。
- 固定資産の売却・譲渡方法について、固定資産の売却・譲渡は、資産入札の組織や会社自身により、法律に規定された手続どおり公開的に行わなければならない。会計帳簿の残高が 1 億ドン以下の資産を譲渡する場合、社長は、入札か見積合せか、という方法を選択するが、市場価格を下回ってはならない。なお、市販されていない資産の場合、資産鑑定組織に見積を依頼して、価格を算定することができる。
- 資産の売却・譲渡の手続は、財務省の規定に従う。

3. 資産の移転

次の場合がある。

課と課の間の移転、部と部の間の移転、社内の保管場所の移動

第 11 条: 建設仮勘定

1. 定義

建設仮勘定は、固定資産の新設、増設又は改良等で、使用開始前の固定資産である。

2. 次の場合、建設仮勘定から固定資産に振り替える。

- 建設工事完了前に使用を開始した固定資産（使用を開始した部分に限る。）
- 建設工事が完了し、使用を開始する固定資産

3. 精算

建設仮勘定を固定資産に振り替える場合、規定どおり精算しなければならない。

資産を正確に精算する場合、いったん概算の金額を使い、その後正確な精算を行い、調整する。

4. 資産の引継ぎ

建設仮勘定の管理部署から他の部署へ引継ぎを行う場合、引継目録、資産取引レポート、その他必要書類を作成しなければならない。

第 12 条: 貸付、担保、抵当

1. 会社が資産の貸付・担保・抵当を行う場合、HPC の許可を得なければならない。
2. 貸付・担保・抵当は、効率的かつ資金の保持・増加ができるよう法律の規定どおり行い、会社の事業に影響を与えないように実施する。
3. 資産の貸付を行う場合、営業部が借主と契約を締結し、その契約についての責任を負う。

第 13 条: 固定資産の価値計算

取得価額は、固定資産を取得するために要したすべての費用である。

資産の取得価額の計算方法は、会計基準 3 号（有形固定資産）、4 号（無形固定資産）、通達 45/2013/TT-BTC とその他の現行規定に従う。

固定資産の価値計算は、固定資産の管理を担当する部署により行われ、財務会計部に確認した上で、固定資産台帳に記録する。

第 14 条: 固定資産の減価償却

- 減価償却の方法：定額法
- 耐用年数：通達 45/2013/TT-BTC 号の規定に従う。
- 通達 45/2013/TT-BTC 号に該当しない資産については、別の規定を作成し、DOF の承認を得る。
- 毎年、減価償却方法と耐用年数を見直す。
- リース資産について、現行規定どおり会社所有の固定資産と同様に減価償却を行う。リース開始時点で会社がリース資産を買わないと約束した場合、契約の期限により固定資産の減価償却を行う。

第 15 条: 資産の保険

1. 高価値の資産に対する保険付保は、会社の資本を保持するため、政令 71/2013/ND-CP 号に従い行う。
2. 保険の付保は、保険経営法と現行規定どおり行われる。

2. 固定資産の整理

第 16 条: 固定資産の整理原則

1. 有形と無形の固定資産は、次のように分類される。
 - 鉄道事業の固定資産
 - 関連事業の固定資産

- 各事業関連の固定資産

その中で、鉄道事業の固定資産を線別、関連事業を業種別に、それぞれ区分して整理する。

2. 建設仮勘定とその他の固定資産は、別にモニタリングし、整理する。

第 17 条: 鉄道事業の固定資産

1. 有形固定資産

資産別、資産グループ別に整理し、数量と価格によりモニタリングする。

資産の区分・整理は付録 1（添付）で詳細に規定される。

- 建物、構築物
- 設備機械
- 車両、伝導装置
- 工具、器具、備品
- その他の固定資産

2. 無形固定資産：資産別に区分し、価格によりモニタリングする。

第 18 条: 関連事業の固定資産

関連事業の固定資産の整理は、鉄道事業の整理に準ずる。

第 19 条: 各事業関連資産

各事業関連の固定資産の整理は、鉄道事業の整理に準ずる。

第 20 条: その他の固定資産

その他の固定資産は、鉄道事業、関連事業又は各事業関連のいずれにも属さない固定資産である。その整理は、財務会計部長が定める。

第 21 条: 建設仮勘定の整理

建設仮勘定は、鉄道事業、関連事業又は各事業関連に区分する。

その中で、鉄道事業の固定資産は線別に、関連事業の固定資産は業種別に、それぞれ区分する。

III - 書類の保管規定

当書類は会計書類とされ、会計法第 40 条及び会計書類の保管制度を公布する決定第 218/2000/QD-BTC 号の規定のとおり保管される。

IV – 別紙

1. 固定資産管理表の様式 (固定資産の種類別で分ける)

例: 情報システムの管理表

ハノイ市都市鉄道一人有限会社
8 – Ho Xuan Huong – Hai Ba Trung – Ha Noi

時刻
様式:

情報システムの管理表

20...年.....月.....日

順 番	資産コード	資産名	使用場所	使用部署	特徴・仕 様	部署	数量	現在の使用者	備考
1									
2									
3									

2. 固定資産の棚卸表の様式

ハノイ市都市鉄道一人有限会社

:

8 – Ho Xuan Huong – Hai Ba Trung – Ha Noi

固定資産の棚卸表

20...年.....月.....日

実施時間: -

実施場所:

実施者:

.....

.....

.....

順 番	資産コード	資産名	特徴・仕様	部 署	帳簿の 数量	棚卸の 数量	場所・位置	備考
1								
2								
3								

金銭取扱規則

目次

- I. 総則
 - 1. 趣旨
 - 2. 適用範囲、適用対象
 - 3. 定義、述語、略語
 - 4. 法的根拠、関連資料
 - 5. 施行責任者
- II. 規則内容
 - 1. 金銭の出納および保管
 - 2. 検査
- III. 書類の保管規則
- IV. 付録

I. 総則

第1条：趣旨

この規則は、出納事務を正確かつ安全、迅速に処理するため、会計規程に基づき、金銭の出納に必要な事務項目を定めるものとする。

第2条：適用範囲、適用対象

- 1. 適用範囲：金銭の出納と保管について適用する。
- 2. 適用対象：財務会計部員、駅の金銭出納業務に関連する各部長、社員

第3条：定義、述語、略語

- 1. 定義、述語

金銭とは、現金及び預金、未達現金をいう。

- 2. 略語：

略語	解釈
TCKT	財務会計
KTT	チーフアカウンタント

TGD	総裁
PTGD	副総裁

第4条: 法的根拠、関連資料

会計法及び関連する省令、通達

第5条: 実施責任者

1. 実施責任者

a. 会計課（HQの管理部）

- 部長（チーフアカウンタント）：法律の規定に従い、金銭の出納及び保管を正確に行う主担当者
- 決済担当の会計係員（出納業務担当者）：会社における金銭の保管と出納の責任を負う者
- 出納担当の会計係員：金銭出納の伝票の検査を行い、その検査の合理性と合法性について責任を持つという指示を受けた会計係員。

b. 総務課:

- 総務部の部長（本社の管理部）：OUの金銭出納及び管理の責任を負う。
- OU長（OU）：OUにおける金銭の管理及び金銭管理の要員配置の責任を負う。
- 金銭の出納及び保管の係員（OU）：金銭の出納・保管を行うように指定され、その出納と保管の責任を負う。

2. 会社に金銭の損害を与えた場合、財務会計部長の定める責任分担に基づいて、関係者は弁済の責任を負う。ただし、善良な管理者としての注意をもって管理をしていたと認定された場合は、その責を免れる。

II.－規則内容**1. キャッシュの出納、保管****第6条:** キャッシュの出納、領収書の支払、銀行への預金

1. 会社外部に対する支払要求は、その対象となる取引を行う社内の部門により実施される。
2. 早急に支払う取引は、優先的に処理しなければならない。

3. 支払は、原則として振込みにより行う。200 万 VND 以下の支払は、相談の上、現金で行うことができる。

4. プロセス：

- 会計係員は、金銭の収納又は支払の要求を受ける。
- 会計係員は、金銭の収納又は支払の内容をチェックする。（最大 3 日間）
- チーフアカウンタントは、承認する（最大 3 日間）
- 社長又は委任された副社長に対し、承認を申請する。（最大 2 日間）
- 会計係員は、適切な証ひょう書類を受けた後、収納若しくは支払の伝票又は銀行の振込依頼書を作成する。（最大 1 日）。
- チーフアカウンタント及び社長は、伝票又は振込依頼書を承認する。（最大 2 日間）
- 銀行振込により金銭を受け取る場合、財務会計部は、常に口座に振り込まれる収入金をチェックする。取引先が期限までに支払わなければ、財務会計部は「債務知らせ」を作成し、取引先に送付する。
- 出納担当において、伝票及び振込依頼書並びに証ひょう書類を保管する。

5. 金銭の収納/支払/前払/前払金返還の請求については、次の条件に達成しなければならない。

- 所管者（本部・部・課のリーダー又は社長若しくは委任された副社長）により承認されている。
- 対象と請求内容が適当でなければならない。
- 購入の申請書、支払/前払/前払金返還の請求書その他（見積書、領収書等）必要な書類を添付する。
- 正確に金額を計算しなければならない。

6. 精算/前払い金の返納の要求は、各部により作成され、請求書を受領してから 10 日以内、かつ支払期限の 10 日前までに、財務会計部に送る。

7. 現金で収納する場合、課長が収納要求を承認してから 2 日以内に、速やかに収納を行わなければならない。

第7条: 支払口座の登録

1. 口座振込みにより支払う場合、関係者は支払要求とともに支払口座の情報を財務会計部に送らなければならない。（初回の支払のみ）
2. 支払口座の内容を変更したときは、支払要求とともに口座変更についての情報を送らなければならない。

第8条: 営業収入の管理

1. 駅の収入管理：営業部により管理される。駅の収入金が銀行に直接入金される。
2. 関連事業の収入管理
 - 会計課は契約の内容毎、取引先毎に、収納の伝票とスケジュールを作る。
 - 担当の会計係員は、常にチェックし、毎月部長に報告する。
 - 取引先の支払が遅れる場合、営業部と協力して、取引先に速やかに支払を実施するように要求する。

第9条：領収書の発行と管理

1. 現行法律の規則に従い、領収書を印刷して、発行する。
2. 取引先から金銭を受け取る場合は、領収書を発行する。（領収書が必要ではない場合を除く。）
3. 財務会計部は、領収書の保管責任を負う。

第10条: 出納のモニタリング

1. チーフアカウンタントは、モニタリングの様式作成の責任を負う。
2. 出納員及び出納長は、様式により報告する。
3. 会計係員は、残高参照及び報告の責任を負う。
4. 報告時期
 - 駅の現金報告：毎日
 - 預金及び現金の報告：毎月

2. 検査

第11条: 検査

財務会計部長は、次の業務を定期的に、又は臨時に実施するか、及びその業務の実施者を指定する責任を負う。

- 現金を検査する。
- 駅の金銭管理を検査する。
- 出納長又は金銭取扱員が異動した場合、検査を行う。
- その他必要と認めた場合、検査を行う。

III－書類保管の規定

第 12 条：キャッシュの出納の会計資料は会計法第 40 条及び会計資料の管理制度の発行に関する決定第 218/2000/QD－BTC 号の規定の通りに保管する。

別保管：現金収入受領書、現金支出受領書、毎月の現金棚卸記録書

IV-付録

毎月の現金棚卸記録書のサンプル

現金棚卸記録書

本日 20...年...月...日...時に、ハノイ市都市鉄道一人有限会社の会計部において、
私たち：

ハノイ市都市鉄道一人有限会社の代表者：

1. 氏（出納担当の会計係員）
2. 氏（会計係員）

は、一緒に現金唯卸を実施した。結果は下記のように出た：

順番	金種	枚数（枚数）	金額（ドン）
1	500,000		
2	200,000		
3	100,000		
4	50,000		
5	20,000		
6	10,000		
7	5,000		
8	2,000		
9	1,000		
10	500		
11	200		
12.	その他の種類（外貨、金紙、小切手など）		
	総額		
	書類による金額		
	誤差		

誤差発生原因：

最終現金収入受領書：第 号 金額：

最終現金支出受領書：第 号 金額：

出納長

チーフアカウンタント

会計係員

予算規則

目次

I - 総則 1

1. 趣旨	1
2. 適用範囲、対象	1
3. 定義、用語、略語	2
4. 法的根拠、関連資料	2
5. 実施責任	2

II - 規則の内容

1. 予算システム	2
2. 予算の編成	3
3. 資金計画	4

III - 書類の保管規定

IV - 付録

I - 総則

第1条: 趣旨

この規則は、会計規程に基づき、予算の編成、統制に関する基本的且つ必要な事項を定める。

第2条：適用範囲、対象

1. 適用範囲：会計規則に基づき、予算の編成、実施及び統制に関する必要な事項を定める。

2.適用対象：財務会計部、各部長、予算編成に責任を負う社員。

第3条：定義、用語、略語

1. 定義、用語

予算とは一定の根拠に基づき価値を大体計算することをいう。

- 単価定額による計算
- 同様ケースの適用
- 価格指数方法（国家により公開される）

2. 略語

略語	解釈
TCKT	財務会計
TSCD	固定資産
TGD	総裁

第4条：法的根拠、関連資料

1. 法的根拠

- 会計法、関連する政令・省令

2. 関連資料：

- ベトナム会計基準（VAS）

第5条：実施責任

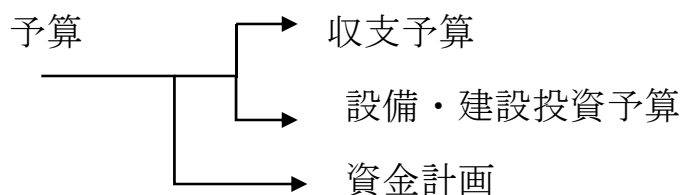
1. 各部には予算編成の責任者を置く。
2. 各部長は、予算のチェック及び承認並びに財務会計部への送付の責任を負う。
3. 財務会計部は予算のチェック及び編成並びに社長の承認を得るために提出する責任を負う。
4. 会計財務部長は、総括予算編成表の様式を規定する。

II - 規則の内容

1. 予算システム

第6条：予算システム

1. 予算システム：



2. 予算は運賃と非運賃に区分する必要がある。

第7条: 予算期間

1. 予算の期間は1月1日から12月31日までの事業年度である。
2. 収支予算は3か年の計画に基づいて予算を作成する（最初の年度について月単位で詳細に作成し、次の2年度分について年度の合計金額で作成する。）。
3. 設備・建設投資予算は5か年の計画に基づいて予算を作成する。（最初の年度について月単位で詳細に作成し、次の4年度分について、年度の合計金額で作成する。）

第8条: 予算編成の根拠

1. 予算は、会社の短期及び長期計画に基づいて作成される。
2. 収支予算は、事業活動の計画に基づいて作成される。
3. 建設・設備投資予算は、建設・設備投資計画に基づいて作成される。

2 - 予算の編成**第9条: 予算の編成と実施**

1. 企画プロジェクト部は、会社の短期の事業計画（毎年）と長期の計画（5か年）を作成する。
2. 社長は計画を承認する。
3. 財務会計部が規定した様式に基づいて、各部は詳細な項目で適切に予算を作成し、整理する。翌年度以降において、収支予算は前年の収支実績に基づいて作成する。

4. 各部長は担当部の予算をコントロールし、承認した上で、財務会計部に送る。
5. 財務会計部は、予算のチェック・評価・調整・他部との合意を行った上で、会社の予算を作成して、承認を得るために社長へ提出する。
6. 社長は予算を承認する。
7. 財務会計部は、実施部門への予算割り当ての責任を負う。
8. 予算の実施部門は、予算と実績を対照し、その差異（あれば）を分析した上で、月次報告を作成し、財務会計部に送付する。

第 10 条: 予算のモニタリング

財務会計部は、各部の報告に基づき、毎月、予算実績対照表を作成し、予算をモニタリングする。

第 11 条: 予算の変更

予算をモニタリングした結果、やむを得ない理由により変更が必要な場合、各部は財務会計部と協議の上、予算変更について社長の承認を得る。

3 - 資金計画

第 12 条: 資金計画の作成及び実施ステップ

1. 収支予算及び設備・建設投資予算に基づいて、企画プロジェクト部は資金計画を作成し、社長の承認を得る。
2. 承認された資金計画に基づいて、財務会計部は資金を効率的に運用するため、資金の管理と割り当ての責任を負う。
3. 資金を効率的に割り当てるため、各部は、毎月、当月及び次の3か月間の入出金予定を財務部に送る。

第 13 条: 資金計画の変更

重要な予算変更がある場合、企画プロジェクト部は資金計画を変更し、社長の承認を得なければならない。

第 14 条：資金計画のモニタリング

財務会計部は、各部の報告に基づき、毎月、資金繰予想実績対照表を作成し、資金計画案と実績との差異を分析する。

III – 書類の保管規定**第 15 条：書類の保管**

1. 当書類は会計書類とされ、会計法第 40 条及び会計書類の保管制度を公布する決定第 218/2000/QD-BTC 号の規定のとおり保管される。
2. 財務会計部以外の部署は業務遂行のため、各自原本を 1 通保管する。

IV - 付録**1. 項目別予算表の様式**

予算		部署				
項番	業務/項目	部署	数量	単価	合計	備考
総額						
備考：						

2. 年間予算様式（月による）

20…年の予算 経常支出	部署：												
項目	1 月	2 月	3 月	4 月	5 月	6 月	7 月	8 月	9 月	10 月	11 月	12 月	計
1. 売上高 / 収益													
1.1. 運賃収益													
1.2. 関連収益													
合計													
2. 費用													
2.1. 原材料・資材													
2.2. 直接人件費													
2.3. 運送営業費用													
2.4. その他の費用													
合計													
3. 固定費用													
3.1. 事務員の給料													
3.2. 事務所賃料													
3.3. 用役代（電気代、水道代、ヒーター）													
3.4. 建物の定期保守・修理・改造費用													
3.5. 清掃料													
3.6. ガソリン代 / 通勤手当													
3.7. 出張費													
3.8. 事務所の固定電話代													
3.9. 切手代、郵便料金													
3.10. インターネット代													
3.11. 携帯電話代													

Appendix8-6-3-3-A

3.12.インターネット伝送路賃借料													
3.13.ウェブサイト利用料又は管理・更新費													
3.14.宣言・広告費													
3.15.会議開催費用													
3.16.技術資料のための費用													
3.17.保険料													
3.18.会費													
3.19.講習費用													
3.20.コンピューター													
3.21.工場・オフィス賃料													
3.22.その他雑費													
3.23.定期保守													
3.24.弁護士費用													
3.25.その他コンサルタントサービス料													
3.26.5%予備発生費用													
合計													

3. 各予算内訳の様式（1つの項目に内訳がある場合に使用する）

20...年の予算 詳細表（添付）	部署：												
項目	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月	計
費用													
1.1. 原材料/資材													
1.1.1.													
1.1.2.													
....													
合計													

4. 設備投資予算の様式（年間）

20...年の予算 投資	部署：												
項目	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月	計
支出													
1. 設備 1													
2. 設備 2													
3. 設備 3													
....													
合計													

5.5 年予算の様式（常支出）

5 年の予算(2016-2020)		部署：				
経常支出						
項目		2016	2017	2018	2019	2020 計
1. 売上高 / 収益						
1.1. 運賃収益						
1.2. 関連収益						
合計						
2. 直接原価						
2.1. 原材料/資材						
2.2. 直接人件費						
2.3. 運送営業費用						
2.4. その他の費用						
合計						
3. 固定費用						
3.1. 事務員給与						
3.2. 事務所賃料						
3.3. 用役費（電気代、水道代、ヒーター）						
3.4. 建物の定期保守・修理・改造費用						
3.5. 清掃料						
3.6. ガソリン代/通勤手当						
3.7. 出張費						
3.8. 事務所の固定電話代						
3.9. 切手代、郵便料金						
3.10. インターネット代						
3.11. 携帯電話代						
3.12. インターネット伝送路賃借料						
3.13. ウェブサイト利用料又は管理・更新費						
3.14. 宣言・広告費						
3.15. 会議開催費用						
3.16. 技術資料のための費用						
3.17. 保険料						
3.18. 会費						
3.19. 講習費用						
3.20. コンピューター						
3.21. 工場・オフィス賃料						
3.22. その他雑費						
3.23. 定期保守						
3.24. 弁護士費用						
3.25. その他コンサルタントサービス料						
3.26. 5%予備発生費用						
合計						

6.5 年予算の様式（設備投資費用）

5 年の予算 (2016-2020) 投資	部署：					
項目	2016	2017	2018	2019	2020	計
支出						
1.設備 1						
2.設備 2						
3.設備 3						
...						
合計						

決算規則

目次

I – 総則

1. 趣旨
2. 適用範囲、対象
3. 定義、用語、略語
4. 法的根拠、関連資料
5. 実施責任

II – 規則の内容

III - 書類の保管規定

IV - 付録

I - 総則

第1条：趣旨

法律の規定に基づいて、決算と会計報告の作成に必要な手続を定める。

第2条：適用範囲、対象

1. 決算事務の範囲、内容
 1. 会計取引記録の基準
 2. 会計帳簿締め
 3. 決算整理
 4. 財務諸表の作成
 5. 財務報告
2. 適用対象
財務会計部

第3条：定義、用語、略語

1. 定義、用語
決算とは収入、費用、利潤、資産、資本に関する会計データ及び国家に対する企業

の責務をまとめることをいう。企業所得税務決算申告書、付加価値税務決算申告書（直接申告の場合）、会計バランスシート、経営活動の結果報告、キャッシュ・フロー計算書（財務報告）など、また単年度（365 日）の合計残高試算表（決定第 48 号により）をもって実施される。

2. 略語

略語	解釈
TCKT	財務会計
TGD	総裁

第 4 条：法的根拠、関連資料

- 国営企業・国外の投資金のある企業・プロジェクトに適用される基本的統計報告制度を公布する決定第 77/2010/QD-TTg 号
- 企業への国家資本注入及び 100% 国家資本企業の財務管理に関する政令第 71/2013/ND-CP 号
- 税務管理法の実施の細則を規定し、税務管理法の一部条項を改正・補足する政令第 83/2013/ND-CP 号

第 5 条：実施責任

1. 総裁

社員が政府の規定通り決算をするように指導する責任を負う。また、法律上決算の証票の合法性を確保し、定期的また臨時的に報告する責任がある。

2. 財務会計部長

証票の合法性を確保し、定期的また臨時的に決算を実施し、総裁に報告する。

II. 規則の内容

1. 会計取引の記録

第 6 条： 会計取引記録の基準

1. 会計取引の記録は発生主義に基づく。
2. 会計帳簿の記録はその経済・財務事務の発生時の順に従う。
3. 会計法と関連政令・通達における会計帳簿記録の規定に従う。

第 7 条： 会計帳簿

1. 総勘定元帳（General ledger）：一般仕訳帳（general journal）、元帳（ledger）

2. 詳細な元帳（detailed ledger）：補助元帳（subsidiary ledger）、会計伝票
3. 元帳と仕訳帳の様式・内容・記入方法は、決定 15/2006/QD-BTC 号による。

第 8 条: 会計伝票の作成

1. 勘定科目表に基づいて、会計伝票を作成する。
2. 会計取引記録の基準に従う。
3. 取引発生を証明する伝票に基づく。
4. 会計取引の記録に誤りがあった場合、省令 200/2014/TTBTC 号により修正する。

第 9 条: 補助元帳

補助元帳は、管理のために詳細なモニタリングが必要な会計対象に関し、経済・財務事務を記録するために使用される。詳細な元帳（detailed ledger）のデータは、仕訳帳と元帳に反映されていない各財産、資金、収入、費用を管理するための情報を提供する。

第 10 条: 総勘定元帳

元帳は、企業に適用する会計勘定科目制度に規定された会計勘定科目により各会計期間と年度における経済・財務事務を記録するために使用される。元帳の会計データは、企業の財産、資金、生産、経営の状況・結果を反映する。

第 11 条: 一般仕訳帳

一般仕訳帳は、各会計期間と年度における経済・財務事務を、その事務の時間の順及び相当する会計勘定に記録する。仕訳帳の会計データは、企業に利用される会計勘定科目における借方と貸方の発生額の合計を反映する。

第 12 条: 会計帳簿の整理

1. 会計伝票は、発行番号順に整理する。
2. 補助元帳は、勘定科目表の勘定科目順に整理する。ただし、以下の勘定科目については、次のとおり整理する
 - 鉄道事業固定資産：線別及び勘定科目別
 - 関連事業固定資産：業種別及び勘定科目別
 - 鉄道事業建設仮勘定：線区間別及び勘定科目別
 - 関連事業建設仮勘定：業種別及び勘定科目別
 - 関連事業営業収益：業種別及び勘定科目別
 - 関連事業営業費：業種別及び勘定科目別
3. 総勘定元帳は、勘定科目表の勘定科目順に整理する。
4. 合計残高試算表は、月別に整理する。

第 13 条：会計帳票の保存

会計帳票の保存規定は次のとおりである。

1. 会計帳簿の記録と財務報告作成に直接に使用されない会計帳票を含む財務会計部の管理用会計資料：最低 5 年。
2. 法律に規定されている場合を除いて、会計帳簿の記録と財務報告の作成に直接に使用される会計帳票：最低 10 年
3. 歴史的価値と経済・治安・国防に重要な意義のある会計資料：永年

2. 会計帳簿の締め

第 14 条：会計締めのタイミング

会計締めは、月末締め、四半期末締め及び期末締めとする。

第 15 条：決算整理

1. 決算整理は、原則として次の要領により行う。
 - 貯蔵品は、当該期末においてたな卸を行い、会計帳簿と現品とを照合し、たな卸残高と帳簿残高との差異を整理する。
 - 期末までに納品された物品又は完成した工事で検収又は検査を終了したものについては、当該期の会計取引として整理する。
 - 当該期に属する債権又は債務で、当該期末までに決済を行わなかったものについては、未払金又は未収金勘定に整理する。
 - 当該期に属する収益又は費用で未収又は未払の経過勘定については未収収益又は未払費用勘定に整理するものとし、翌期以後に属する収益又は費用で前受又は前払の経過勘定については、前受収益又は前払費用勘定に整理する。
 - 仮勘定（前払金、その他の流動資産仮払金、建設仮勘定仮出金、預り金等）に整理されたもので精算可能なものについては、当該勘定に振り替えて整理する。
 - 有形と無形の固定資産の償却は、間接法による。
 - 資産の損失が発生した場合の処理は、現行の法律(政令 71/2013/ND-CP 号の第 27 条 2 項)による。
 - 引当金は、VAS 基準 18 号による。
 - 鉄道事業及び関連事業の共通費用は鉄道事業及び関連事業の収入比率に配賦される。
 - 企業所得税法の規定通り前年度の欠損金の繰越控除をし、法律の規定通り科学・技術開発基金へ供出し、企業所得税を納付した後の残収益は下記のように分配される。
 - + 税引前利益から控除しなかった前年度の繰延損出金残高への補填
 - + 残りの収益は下記のように分配される。
- a) 開発投資基金に 30% 支出

- b) 表彰、福祉の基金に支出
- c) 企業管理職賞与基金に支出
- d) 本条の b 号の規定通りに表彰・福祉の基金供出する際において不足が生ずる場合、開発投資基金が控除され、その金額を表彰・福祉基金に補充することができる。ただし、その金額は年度の開発投資基金支出額を超えてはならない。
- e) 上記の a 号、b 号、c 号、d 号の規定の通りに支出された後、残りの収益は企業の調整・開発補助基金に納める。

2. 前項の決算整理を行う時期は、次の各号のとおりとする

前項の項目の決算整理は毎月末に行う。

第 16 条: 合計残高試算表の作成

合計残高試算表は総勘定元帳に基づいて、月末に作成される。

3. 報告

第 17 条: 財務報告システム

財務報告システムは、年間と年度中間の財務報告を含める。報告の様式は、省令第 200/2014/TT-BTC 号による。

1. 年間財務報告

- 会計バランスシート（様式第 B 01 – DN 号）
- 経営活動の結果報告（様式第 B 02 – DN 号）
- キャッシュ・フロー計算書(Cash Flow Statement)（様式第 B 03 – DN 号）
- 財務報告の説明書（様式第 B 09 – DN 号）

2. 年度中間の財務報告（概略式）

年度中間の概略財務報告は下記の項目を含む：

- 年度中間のバランスシート（様式第 B 01b – DN 号）
- 年度中間の経営活動結果報告（様式第 B 02b – DN 号）
- 年度中間キャッシュフロー計算書（様式第 B 03b – DN 号）
- 選択財務報告の説明書（様式第 B 09b – DN 号）

第 18 条: 統計報告

1. 決定第 77/2010/QĐ-TTg 号に従う。
2. 報告期間:

(1) 月間報告：次の項目を報告しなければならない。

- 活動分野別の純収入
- 活動分野別の提供した交通サービスの輸送量

(2) 年度中間の報告：従業員数、従業員の収入

(3) 年間報告：次の項目がある。

- 企業の識別情報
- 活動分野別収入、税金、政府へ納める費用、利益を含める企業の経営・生産活動の結果を反映する指標
- 従業員数、従業員の収入、企業が支払った社会保険・医療保険・失業保険・労働組合の経費
- 資金源別と投資項目別のその年度における実施投資資金
- 研究、技術開発、環境の処理・保護のための投資金
- 企業における IT 活用についての指標
- 企業のごみ処理と環境保護を反映する指標
- 企業の製品/生産量、規模、生産性を反映する指標

第 19 条：税務申告

1. 税金管理法、関連政令・省令における規定及び案内に従う。
2. 月間の付加価値税（VAT）の申告書
3. 月間の企業所得税（CIT）の申告書

第 20 条: 財務計画

1. 政令第 71/2013/ND-CP 号に従う。
2. 財政計画は、HPC、ハノイ市財務局に対し、毎年提出する。

III. 書類の保管規定

会計法第 40 条及び会計書類保管制度の導入に関する決定第 218/2000/QD-BTC 号の規定に従う。

IV. 付録

1. 報告の書類、提出期限、提出先

提出先

報告			第 1 四半期			第 2 四半期			第 3 四半期			第 4 四半期			
	種類	内容	1	2	3	4	5	6	7	8	9	10	11	12	1
VAS & 200/2014/TTBTC	年間 *1	年間財務報告													X (30d)
	四半期 *1	年度中間報告				X (20d)			X (20d)			X (20d)			
77/2010/QĐ-TTG	年間 *2	年間報告			x (31 th)										
	中間 *2	労働と収入の概算の年度中間報告						x (12 th)						x (12 th)	
	月 *2	月間報告		x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)	x (12 th)
71/2013/NĐ-CP	年間 *4	年間財務計画							x (31th)						
83/2013/NĐ-CP & 21/2012/QH13	月 *3	VAT		x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)	x (20d)
	四半期 *3	CIT			x (31d)	x (30d)			x (30d)			x (30d)			x (30d)
	年間 *3	CIT	会計年度終了後 90 日以内												

*1: ハノイ市の財務局、税関局、統計局、計画投資局、HPC

*2: ハノイ市の統計局

*3: ハノイ税関局

*4: HPC、ハノイ市の財務局

2. 書類保管分類様式

順番	書類種類	内容	記号
1	出金伝票	現金の支出	PCxxx-yyzz
2	入金伝票	現金の受領	PTxxx-yyzz
3	借方票	銀行口座の発生した借方の計上	BNxxx-yyzz
4	貸方票	銀行口座の発生した貸方の計上	BCxxx-yyzz
5	収入	発生した収入の計上	DTxxx-yyzz
6	会計票	発生した残存価額の計上	PKxxx-yyzz

注記: xxx – 伝票のシリアル番号

yy – 会計項目発生月

zz – 会計項目発生年

契約管理規程

目次

第1章：総則	2
第1条：目的.....	2
第2条：専門用語解釈	2
第3条：承認権限	2
第4条：契約責任者（契約担当部門）	3
第5条：契約の種類.....	3
第6条：契約申込者の調査	3
第7条：締結契約書の審査・提出	3
第8条：契約台帳	3
第2章 契約の締結	4
第9条：契約締結原則	4
第10条：契約の禁止	4
第3章 契約の履行	4
第11条：通知.....	4
第12条：相手方の債務履行の委任及び譲渡の禁止等	4
第13条：契約代金受領委任の禁止.....	4
第14条：延期及び履行遅滞	5
第15条：契約履行前現場検査.....	5
第16条：履行提供の届出及び検査.....	5
第17条 監督及び検査の委託.....	5
第18条 目的物の引渡し及び検収.....	6
第19条 契約代金の支払	6
第20条 支払期限.....	6
第21条 契約代金支払請求書.....	6
第22条 契約の前払い.....	7
第23条 契約の精算払.....	7
第24条 契約の決済	7

第 25 条 契約の規定により保険、保証.....	7
第 26 条 瑕疵担保責任	8
第 4 章 契約の解除	8
第 27 条 契約の解除	8
第 28 条 違約金等.....	9
第 29 条 契約の変更及び履行の中止	9
第 30 条 契約調整及び契約金額増減	9

第 1 章：総則

第 1 条：目的

この規程は会社が締結する売買、貸借、請負その他の契約の管理・履行に関する基本的な内容を定めることにより、契約業務の適正を期することを目的とする。

第 2 条：専門用語解釈

この規程における用語の定義は次の通りとする。

1. 工事とは物件の建造、製作、改造、修理等の工事をいう。
2. 物件とは現金及び有価証券以外の動産並びに不動産をいう。
3. 物品とは現金及び有価証券以外の動産で、商品以外のものをいう。
4. パートナーとは入札で落札したことが認められ、会社と契約を締結するコントラクターをいう。
5. 契約担当部門とは、契約の交渉及び締結を実施する部門（計画プロジェクト部及び営業広報部）をいう。
6. 契約履行部門とは契約履行を担当する社内の各部門をいう。
7. 入札事務とは契約の締結及び履行をするコントラクターを選択するプロセスをいう。

第 3 条：承認権限

1. 所有者は売買、賃貸、その他会社の直近財務報告書における総資産額の半額又は半額以上、或いは会社の定款の規定に定める金額未満の契約を承認する。
2. 社員総会は資産の売買や会社の直近財務報告書における総資産額の半額未満の資産の借用・貸借・賃貸契約を決定する。
3. 総裁は投資プロジェクトや売買、借用、貸出、賃借、賃貸、その他社員総会によって承認された会社の直近財務報告書における総資産額の 25% までの経済契約を決定する。

4. 社員総会は総裁に所管する資産投資プロジェクトに対する決定を委任する権限のある。
5. 総裁は所管する契約の承認を副総裁にしてもらうための委任状を署名する権限がある。
(会社の定款が承認された後訂正する)

第4条：契約責任者（契約担当部門）

1. 営業・PR 部長は都市鉄道の用に供する資材・設備機器購入の契約に対して入札に関する事務、並びに契約整備のために交渉、審査してもらうために提出、契約の締結・履行・解除の業務について責任を有する。
2. 計画・プロジェクト部長は事務所用の設備機器購入、投資、広告等の契約に対して入札に関する事務、並びに契約整備のために交渉、審査してもらうために提出、契約の締結・履行・解除の業務について責任を有する。
3. 契約担当部門は事業の内容によって入札手続き及び契約締結を完了した後パッケージ及び契約に関連する部門に契約の履行・管理を任せる。
4. 前項の規定にかかわらず、社員総会の会長及び総裁は特段の場合に関連部門に入札事務主催、並びに契約の交渉、締結のために提出し承認を得り、履行、解除を任せることができる。

第5条：契約の種類

契約の種類は契約担当部門によって選択され、事業の性質・要件及び特殊に応じて利用され、次に掲げるものである。

1. 総価契約
2. 固定単価による契約
3. 調整単価による契約
4. 時間による契約

実施の際、事業の性質及び内容によって国家から請求があり、或いは定めた契約書式がある場合、契約担当部門が実施したり利用したりするものとする。

第6条：契約申込者の調査

入札専門チーム及び契約担当部門は入札を通じて会社と契約を希望する者の資力、信用、技術、経験、設備等を調査するものとする。

第7条：締結契約書の審査・提出

相手方を選定するための入札、契約の交渉・完成に関する事務が完了した後、契約担当部門は、要件を満たした資力、信用、技術、経験、設備等を有すると認める者との契約書を審査し、提出する責任を持つ。

第8条：契約台帳

契約担当部門、契約履行管理部門は契約台帳を備え、契約の都度、契約

の目的により必要と認める事項を明確に整理しておかなければならない。

第2章 契約の締結

第9条：契約締結原則

1. 契約は随意、平等、好意、協力、法律及び社会道徳を違反しないことという原則で締結されること。
2. 契約は契約担当部門が規定通り取引先選定を完了し、当事者双方が契約協議を終了した後締結されるものとする。
3. 契約担当部門は、継続的又は反復的に売買、賃借、請負等の契約を行う場合その他特に必要と認めるときは、あらかじめ個々の契約に共通する条項を記載した基本契約書を取り交わしておくことができる。

第10条：契約の禁止

契約担当部門は次の各号にいずれかに該当する場合、相手方と契約を締結しないものとする。

1. 相手方が破産者、又は法律違反と認められる時
2. 契約代金が不相当だと認められ、協議の上合意できない時
3. 検査で相手方が提出した書類に記載した情報の通り必要な資力、経験、財務等を有しないことを認める時
4. その他法律及び所有者の規定に従うものとする

第3章 契約の履行

第11条：通知

契約担当部門は締結後契約の履行を確保するため、関係部門に必要な事項を通知するものとする。

第12条：相手方の債務履行の委任及び譲渡の禁止等

契約担当部門は契約の相手方が第三者に対し、締結した契約の内容の一部又は全部の履行を委任することをさせてはならない。ただし、あらかじめ書面をもって届出のあった場合で相手方が破産者で復権を得ない、又はやむを得ないと認めるときは、これを承諾することができる。

第13条：契約代金受領委任の禁止

契約担当部門は契約の相手方が第三者に対し、当該契約に基づく契約代金の請求及び受領を委任することをさせてはならない。ただし、あらかじめ書面をもって届出のあった場合でやむを得ないと認めるときは、これを承諾することができる。

第 14 条：延期及び履行遅滞

1. 契約履行部門は契約の相手方が約定期限までに債務を履行することができない場合は、その理由、債務履行の予定日等について、あらかじめ書面をもって届け出させなければならない。

2. 契約履行部門は、前項の理由が当事者双方の責めに帰することができない事由又は会社の責めに帰すべき事由であるときは、相当の期間を定めてその期限を延長することができる。

3. 契約履行部門は、第 1 項の理由が契約の相手方の責めに帰すべき事由であっても、会社の事業に著しい支障を来さないと認める場合に限り、契約を解除しないで、相当の期間、履行遅滞として取り扱うものとする。

4. 前項により履行遅滞の取扱いをした場合は、契約の相手方から延滞償金として金額を徴するものとする。延滞償金及び算出し方は契約に定められて、契約の種類によって違う。

第 15 条：契約履行前現場検査

1. 契約の履行前に、履行状況等の検査、材料の検査又は試験、立会い、工程の管理、安全の確保、契約の相手方が作成した図面の承諾、契約の相手方に対する必要な指示その他契約の適正な履行を確保するため必要な行為をする必要があるときは、契約履行部門（以下「OU の契約履行部門」という。）に、当該監督を行わせるものとする。

2. 契約履行部門は、契約の相手方に、その担当する業務に係る作業等が約定期限までに完成する見込みがないと認められるときは、理由を付して、直ちに、その旨を報告させるものとする。

第 16 条：履行提供の届出及び検査

1. 契約履行部門は、契約の相手方の業務実施進捗が遅れ、又は契約に記載した内容を不十分に実行する、又は契約通り業務を完了した場合は、その旨を書面をもって届け出させなければならない。

2. 契約履行部門は、前項の届出があった場合は、検査を担当する社員（以下「検査員」という。）に、速やかに検査させなければならない。

3. 契約履行部門は、検査が完了した場合は、検査員に完成調書又は検査調書を作成させなければならない。

4. 契約履行部門は、検査の結果、債務の履行の全部又は一部が進捗遅れ、契約に違反し、又は不当であると認めた場合は、契約の相手方に対し、その履行につき修補又は代品の提供を求めなければならない。この場合、契約の相手方から修補し、又は代品を提供した旨の届出を受けたときは、第 2 項の規定に基づき検査員に、速やかに検査させるものとする。

第 17 条 監督及び検査の委託

契約履行部門は、特に必要があるときは、社員以外の者に第 15 条の監

督及び第 16 条の検査を委託して行わせることができる。

第 18 条 目的物の引渡し及び検収

1. 契約履行部門は契約の相手方が完了した後、製品の品質を検査し、検収する責任を持つ。

2. 瑕疵のある目的物（契約の要求をまだ満たさない）に対して修理しなければならない。修理できない場合は排除すること。瑕疵を生じる側は修理・再検定、その他瑕疵修繕及び契約実施進捗に関する費用を全部負担するものとする。

3. 目的物の引渡し及び検収は契約の各種類及び詳細業務内容に対して適用する法規に従い実施されるものとする。

第 19 条 契約代金の支払

1. 契約履行部門は契約に定めた条文に基づき、契約の相手方と協力して支払の回数・時点・期限及び書類を正しく実施するものとする。

2. 財務会計部は、当事者双方が別の規定がある場合を除いて、合意した契約に記載した前払い金及び工事瑕疵保証金を引いた後、契約の相手方に対し支払いの毎回の金額を十分に支払いするものとする。

3. 最初から契約書に単価が記載されていない派生（契約以外）仕事の支払は履行前当事者双方が合意した契約補足合意通り実施すると共に関連法律法規に合わなければならない。

第 20 条 支払期限

支払期限は協議による。ただし、財務会計部が契約書に合意した通りの適正な契約代金支払請求書を受領した日から営業日 14 日間を超えないこととし、具体的に次の通り規定される。

1 契約履行管理部門は相手方から適正な契約代金支払請求書を十分に受領した日から営業日 7 日間以内で全ての関連手続きを完成し、財務会計部に支払請求書を提出しなければならない。

2 財務会計部は適正な契約代金支払請求書を十分に受領した日から営業日 7 日間以内で契約の相手方に対し支払う責任を持つ。

第 21 条 契約代金支払請求書

1. 契約履行部門は契約の相手方の作成した契約代金支払請求書が契約の種類、契約価額及び契約に記載した内容に合っていることを検査する責任を有する。

2. 契約代金請求書（書式（あれば）を含む）は契約書に明らかに記載され、OU の契約履行部の確認をもらわなければならない。

第 22 条 契約の前払い

1. 契約が有効になり、会社が前払い金の保証（あれば）をもらった後、契約履行部門は契約の相手方に対して規定通り前払いをするために案内するものとする。

2. 前払い金額は契約の種類及び事業の性質に応じて具体的に規定され、契約完備のための協議時、契約担当部門が前払い金のレベル（又は%）に関する規定を正しく適用しなければならない。

3. 前払金は支払の初回から回収し始め、毎回の回収金額は当事者双方が合意の上契約書に記載される。前払い金の回収は支払い金額が契約金額の 80% に達したまで終了するものとする。

第 23 条 契約の精算払

1. 財務会計部は契約の相手方が債務の全部履行を完了した時、相手方に対し案内、検査、精算払いをする責任を持つ。

2. 契約の相手方が作成した契約精算書類は契約の種類及び契約代金額に合わなければならない。契約精算書類の内容は合意して契約に記載したのとは合わなければならない。

第 24 条 契約の決済

1. 契約は次に掲げる場合に決済されるものとする。

- a) 当事者双方は締結した契約通り債務と債権を完了した時
- b) 契約は法律の規定により解除された時

2. 契約の決済は契約の当事者双方が債務と債権を完了した日、又は契約が第 1 項の b) により解除された日から 45 日間以内で完了させなければならない。ただし、規模が大きい契約に対しては 90 日間以内で決済しなければならない。

第 25 条 契約の規定により保険、保証

1. 保険

契約担当部門は契約の相手方に対しベトナム国の現行規定に従い各種の保険の購入を求める。その内容は契約書に具体的に規定される。

2. 保証

- a) 契約の相手方は契約での合意により工事及び備品の保証に責任を有する。保証業務は工事、備品等に関するベトナム国の規定通り実施されること。
 - b) 保証は協議により保証形態又はその他の形態で実施されることができ
る。
 - c) 保証期間は契約に具体的に規定され、工事及び備品の各種の要件に合
わなければならない。
3. 契約履行部門は契約の相手方の実施を検査し、報告するものとする。

第 26 条 瑕疵担保責任

1. 契約履行部門は、目的物の引渡しを受けた後、そのものに隠れたか
しがあることを発見し、又はそのかしによって損害を受けた場合は、契約の相手
方に対して、相当の期間を定めて代品の提供、若しくは損害賠償を請求し、又は
代品の提供と共に損害賠償を請求しなければならない。
2. 契約履行部門は、前項の場合であって、そのかしにより契約の目的を
達することができないと認めるときは、前項の規定にかかわらず、会社の総裁に
報告し、当該契約を解除することができる。
3. 契約履行部門は、第 1 項に規定する損害賠償等の請求又は前項に規定
する契約の解除は、目的物の引渡しを受けた後、1 年以内に行うものとする。た
だし、契約の性質又は目的によって異なる期間を約定することができる。

第 4 章 契約の解除

第 27 条 契約の解除

契約の解除は契約書に具体的に規定される。ただし、契約担当部門は、次
の各号のいずれかに該当する場合は、契約の全部又は一部を解除することがで
きる。

1. 契約の相手方が正当な事由によらないで、債務の全部若しくは一部を
履行しないとき又は約定期限までに債務の履行を完了する見込みがないとき。
2. 監督、検査等に際し、契約の相手方が会社の指示に従わないとき又は
その職務の執行を妨げ、若しくは不正な行為があったとき。
3. 契約の相手方が契約上の義務に違反し、その違反によって契約の目的
を達することができないと認められるとき。
4. 契約の相手方が、監督官庁から営業免許の取消し、営業停止等の処
分を受けたとき。
5. 契約の相手方が契約を締結する能力を有しない者となり、若しくは
失踪し、又は死亡したとき。

6. 契約の相手方が破産手続開始、再生手続開始若しくは更生手続開始の申立てをし、若しくは申立てを受けたとき又はその資産状態が著しく低下したと認められるとき。
7. 契約の相手方が正当な事由により契約の解除を申し出たとき。
8. 前各号に掲げる場合のほか、会社が特に必要があると認めたとき。

第 28 条 違約金等

1. 契約担当部門は、契約の相手方の責めに帰すべき事由に基づき契約の全部又は一部を解除した場合は、違約金を徴するものとする。この場合は違約金の割合が契約書に具体的に定められる。ただし、契約の一部を解除した場合は、その解除部分に相当する金額に対してのみ違約金を徴するものとする。
2. 契約担当部門は、会社の責めに帰すべき事由に基づき又は会社の都合により契約の全部又は一部を解除した場合であって、契約の相手方に損害を与えたときは、相当と認める補償をする旨の約定をすることができ、総裁又は担当副総裁に報告しなければならない。補償金は計算方法が契約書に具体的に規定される。

第 29 条 契約の変更及び履行の中止

1. 契約担当部門は、必要があると認める場合は、契約の内容を変更し、又は契約の相手方にその債務の履行を書面で一時中止させることができる。
- 2 契約担当部門は、前項の規定により契約の内容を変更し、又は債務の履行を一時中止させた場合であって、約定した契約金額又は履行期限によることが不適当となった場合は、当該金額を増減し、又は当該期限を伸縮することができる。
- 3 第 1 項の規定により、契約の内容を変更し、又は債務の履行を一時中止した場合であって、これにより契約の相手方に損失を与えたときは、契約の相手方に対して相当と認める補償をしなければならない。

第 30 条 契約調整及び契約金額増減

1. 契約金額増減及び契約調整の原則
 - a. 契約金額増減及び契約調整は締結した通り契約履行期間内のみで適用する。契約金額増減及び契約調整（調整後の契約金額）が承認されたパッケージの金額を上回らない場合、会社が調整を決定する権限があるが、承認されたパッケージの金額を上回る場合は所有者に報告し、許可をもらわなければならない。
 - b. 契約の各種に対して調整方法を具体的に規定するものとする。
2. 契約の業務量調整
 - a. 契約の業務量を調整するのは明らかに規定され、当事者双方の合意によること。

b. 最初から契約書に単価が記載されていなくて締結した契約以外の派生仕事は契約の当事者が履行前単価を合意しなければならない。

c. 法律法規の現行規定を適用するものとする。

3. 契約金額増減

a. 契約金額増減は固定単価による契約、調整単価による契約、時間による契約のみに対し適用する。契約書には、当事者は契約金額が増減できる場合並びに手順、範囲、方法及び調整根拠を合意の上具体的に記載しなければならない。契約金額増減方法は契約金額の種類及び契約の仕事の性質、並びに法律の規定に合わなければならない。

b. 契約金額増減は単価増減、業務量調整を通して実施され、契約に規定される。

4. 契約調整

a. 契約調整は当事者が契約書で合意した業務量調整、契約金額調整、履行進捗調整、その他の内容（あれば）を含む。

b. 契約調整が投資の目標を変更させない時又は承認されたパッケージの金額を上回らない場合は社員総会、総裁が決定することができるが、投資の目標を変化させ、又は承認されたパッケージの金額を上回った場合は所有者の許可を貰わなければならない。

5. 契約履行進捗調整

a. 契約書には、当事者は履行進捗が調整できる場合を合意して定めなければならない。進捗が約定した期限より遅れる場合は当事者が進捗遅れによる損害に対して責任を明確にしなければならない。

b. 契約の相手方から進捗調整の請求を貰った時、OU の契約履行部は調整事項及び調整する仕事内容について検査・記録書作成をし、契約の相手方に確認をもらわなければならない。

6. この条の第 2、3、4、5 項の規定の以外、契約の種類によってベトナム国の現行規定にも従うものとする。

入札契約事務規則

目次

第1章：総則	3
第1条. 目的及び運用対象	3
第2条. 運用対象	3
第3条. 責任分担	3
第4条. 運用法令	3
第5条. 言葉解説	3
第6条. コントラクタ・投資家の選定	4
第7条. 入札招聘書、要求書の交付の条件	4
第8条. 取引先の適格	4
第9条. 予定価格	5
第10条. 入札についての情報	5
第11条. 入札において使用する言語	5
第12条. 応札通貨	5
第13条. 入札保証	6
第14条. 入札取消	7
第15条. 入札取消時の責任	7
第16条. 請負業者選定計画	7
第17条. 入札説明書の交付	7
第18条. 入札書の提出	7
第19条. 入札書の引換え等の禁止	8
第20条. 開札	8
第21条. 入札の有効	8
第22条. 落札者の決定	8
第23条. 再度の入札	8
第24条. 入札書の保存	8
第25条. 請負業者選定手順	9
第2章 請負業者選定の形式	9

第 26 条	国際入札	9
第 27 条	一般競争入札	9
第 28 条	指名入札	9
第 29 条	直接委任	10
第 30 条	見積合せ競争／商品提案競争	11
第 31 条	直接購入	12
第 32 条	自己実施	13
第 33 条	特段の場合に請負業者選定	13
第 3 章	集中的な調達	13
第 34 条	集中的な調達の総則	13
第 35 条	枠組み合意	14
第 4 章	随時調達	14
第 36 条	適用条件	14
第 37 条	請負業者選定の開催	14
第 5 章	請負業者選定の方式	14
第 38 条	一段階ワンエンベロップ入札方式	14
第 39 条	一段階ツーエンベロップ入札方式	15
第 40 条	二段階ワンエンベロップ入札方式	15
第 41 条	二段階ツーエンベロップ入札方式	15
第 6 章	入札書・提案書の評価方法、落札の審査・承認	15
第 42 条	コンサルティング以外のサービス提供、物品調達、建設工事、混合パッケージに対する入札書の評価方法	15
第 43 条	コンサルティングサービス提供パッケージに対する入札書の評価方法	15
第 44 条	提案書の評価方法	15
第 45 条	コンサルティングサービス提供の入札に関する落札の審査、承認	16
第 46 条	コンサルティング以外のサービス提供、物品調達、建設工事、混合パッケージに対する落札の検討・承認	16
第 7 章	契約	17
第 47 条	契約の種類	17
第 48 条	契約の内容	18
第 49 条	契約の書類	19

第 50 条 契約締結の条件	19
第 51 条 選定された請負業者との契約	19
第 52 条 契約履行の保証	20
第 53 条 契約調整の原則	21

第 1 章：総則

第 1 条. 目的及び運用対象

この規程は、コントラクタ及び契約を全社で統一に運用するようにそれを選択するに對する必要な作業を定め、公平性・透明性及び会社予算の効率的マネジメントの目標を確保する。

第 2 条. 運用対象

社員総会、総裁、副総裁、HQ 及び OU の各部課並びにその他の直接関連メンバー

第 3 条. 責任分担

1. 営業・PR 部長は、都市鉄道の設備・資材の調達に関する入札作業、契約交渉と完成、審査取得のための提出、契約の締結・履行及び解除について議長を務める。

2. 計画・プロジェクト部長は、事務所用の設備機器購入、投資、広告等の調達に関する入札作業、契約交渉と完成、審査取得のための提出、契約の締結・履行及び解除について議長を務める。

3. 前項の規定にかかわらず、必要に応じ、社員総会会長・総裁は、入札作業、契約交渉と完成、審査取得のための提出、契約の締結・履行及び解除に関わる事項の担当を各部門に割り当てられることが出来る。なお、各部門は、各契約に関する仕様書、図面等の必要な書類を作成する。

第 4 条. 運用法令

この規程に定める基準の他、入札に関する業務を実施する際には、この規程がすべての項目を定めない場合は関連法令により実施する。

国により改正・追加・指導がある場合、その改正・追加・指導により実施する。

第 5 条. 言葉解説

この規程における以下の言葉は以下のように解説される。

1. OM 会社: ハノイ市都市鉄道一人有限会社

2. 所有者： ハノイ市人民委員会
3. HQ: OM 会社に所属する各部門
4. OU:路線運行ユニットに所属する各部課

第 6 条. コントラクタ・投資家の選定

入札作業を実施する過程において、主に担当することを委託された部門は、入札法第 12 条に定めた期限を守る。実務の性質による違いがある場合、主に担当する部門は、その担当の副総裁、総裁の検討・決定を受けるように報告しなければならない。

第 7 条. 入札招聘書、要求書の交付の条件

1. 請負業者の選定計画が承認されたこと
2. 入札招聘書、要求書が承認されたこと
3. 入札招聘通知、又は見積合せ競争招聘通知、又はショートリストが入札法の規定に基づいて掲載されたこと
4. パッケージの資金がパッケージの実施進捗に合わせてアレンジされたこと
5. 常時の調達、集中的な調達の場合、物品、サービス及び予算の内容・リストは権限のある者に承認されたこと
6. パッケージの実施進捗に合わせて工事用敷地の引渡が確保されたこと

第 8 条 取引先の適格

1. 取引先は次に掲げる要件を満たしただけで適格機関・団体として認められる。
 - a) 請負業者、投資家が事業を行っている国の権限のある機関が交付した設立、運営の登録書がある。
 - b) 独立的に会計を行う
 - c) 解散過程最中、破産、又は法律の規定により借入金を返済することができない状態にあることが認められない
 - d) 国家の入札ネットワークシステムに登録済み
 - d) ベトナム国会による入札法第 43/2013/QH43 号の第 6 条に定める通り入札の際の競争が確保できる
 - e) 入札参加禁止期間中の対象ではないと認められる
 - g) ショートリストが選定された場合、ショートリストの中に名前が載っている

h) 海外の請負業者については、ベトナムにて国際入札に参加するに当たりベトナム国内の請負業者と連携し、若しくはベトナム国内のサブ請負業者を使用しなければならない。ただし、国内請負業者がパッケージの仕事のいずれにも参加する必要な能力を有しない場合はこの限りではない。

2. 取引先は次に掲げる要件を満たすことにより、適格者として認められる。

a) 当該者が公民である国の法律規定により民事行為能力を十分に持っている者

b) 法律の規定により適正な専門証明書を持っている者

c) 法律の規定により合法的営業を登録した者

d) 刑事責任が訴追されていない者

d) 入札参加禁止期間中の対象ではない者

3. 前第 1 項及び第 2 項の規定により適格を持っている取引先は単独、又は JV の資格で入札の競争に参加することができる。合弁の場合は当事者間の協議書を作成し、JV のリーダーの責任、並びに各メンバーの共通責任及び個人責任を明確に定めなければならない。

第 9 条 予定価格

1. パッケージに直接関係のある部門は、当該物品等の価格を、関係する図面、仕様書、設計書等に基づき、算定（以下「予定価格」という）し、別に定める様式の予定価格調書及び予定価格内訳書（以下「予定価格書」という）を作成しなければならない。
2. 予定価格は総価、又は単価について定めるものとする。
3. 入札に当たり予定価格及び予定価格書は公表してはならない。

第 10 条 入札についての情報

担当部門は、2014 年 6 月 26 日付けの政令 63/2014/NĐ-CP の 7 条（入札に関する情報の提供・登録を規定する）及び 8 条（入札に関する情報の提供・登録の期限及び手続きを規定する）通り各ユニットに実施させるように教示する責任を有する。

第 11 条 入札において使用する言語

入札における言語は国内入札の場合ベトナム語を、国際入札の場合英語、又は英語及びベトナム語を使用するものとする。

第 12 条 応札通貨

担当部門は入札招聘書、要求書（一般競争入札及び指名入札の場合は入札招聘書で、直接委任の場合は要求書である）に明らかに定めるものとする。

第 13 条 入札保証

1. 入札保証は次に掲げる場合に適用する。
 - a) コンサルティング以外のサービス提供、物品調達、建設、混合のパッケージに対する一般競争、指名入札、見積合せ競争／商品提案競争
 - b) 投資者選定に対する一般競争入札及び直接委任
2. 請負業者は入札書、提案書に対する入札書提出締め切り時点の前に入札保証を実施しなければならない。ただし、2 段階入札の方式を採用する場合は請負業者が 2 段階目において入札保証を実施するものとする。
3. 入札保証金は入札招聘書、要求書に定められ、パッケージの規模及び性質によってパッケージの価格の 1%～3%になる。
4. 入札保証の有効期間は入札招聘書、要求書に定められ、入札書、提案書の有効期間に 30 日間を足す期間である。
5. 入札書提出締め切り時点後、入札書、提案書の有効期間を延長する場合、担当部は請負業者に対し入札保証の有効期間に応じて延長することを求める。この場合、請負業者は入札保証の有効期間に応じて延長しなければならない。請負業者が延長を断る場合は入札書、提案書が無効になり、排除されるものとする。その時担当部は会社のリーダーに報告し、請負業者から延長却下の書面を受領した日から 20 日間以内入札保証金を返還、又は入札保証を解除しなければならない。
6. JV の資格で入札競争に参加する場合、JV 内の各者が単独で入札保証を実施し、若しくは合意の上自分と JV の他の者に対し入札保証を実施することができる。入札保証金額は入札招聘書、要求書に記載した金額より低くてはならない。JV 内の者のいずれでもこの条の第 8 項に定める規定を違反する場合は JV 内の全部の者に対し入札保証金が返還されないものとする。
7. 会社（担当部）は選定されない請負業者に対し、入札招聘書、要求書に定める期限通り、また請負業者、投資家の選定結果が承認された日から 20 日間以内に入札保証金を返還、或いは入札保証を解除するものとする。選定された請負業者に対しては、請負業者が入札法の第 66 条の規定により契約履行保証方法を実施した後、入札保証金額が返還され、入札保証が解除されるものとする。
8. 次に掲げる場合は入札保証金が返還されない、又は入札保証が解除されないものとする。
 - a) 請負業者が入札書提出締め切り時点の後に、かつ、入札書、提案書の有効期限以内に入札書、提案書を撤退する場合
 - b) 請負業者が入札に関する法律を違反して、入札法の第 17 条の第 4 項の規定により入札をキャンセルしなければならないことを誘発する場合
 - c) 請負業者が入札法の第 66 条の規定により契約履行保証を実施しない場合

d) 請負業者がやむを得ない場合を除き、落札結果の通告を受領した日から 20 日間以内に契約整備をしない、又は整備実施を断る場合、若しくは契約を整備したが、契約締結を断る場合

第 14 条 入札取消

1. 全ての入札書、提案書は入札招聘書、要求書の要件を満たさない場合
2. 入札招聘書、要求書に記載された投資の目標、範囲を変更した場合
3. 入札招聘書、要求書は入札に関する法律の規定、又はその他の関連法律の規定を遵守しないことによって選定された請負業者、投資家がパッケージ、プロジェクト実施の要件を満たせないことにつながった場合
4. 請負業者、投資家選定結果の誤りにつながる入札活動に違法な介入をするために、賄賂渡し・受取・仲介、談合、不正、役職・権限の利用の証拠がある場合

第 15 条 入札取消時の責任

組織、個人は第 14 条（入札取消）の 3 項及び 4 項の規定により入札取消につながった入札に関する法律を違反した場合、関係者に対して費用を賠償し、法律に従って処分される。

第 16 条 請負業者選定計画

担当部門は、関係各部門に対して各部課の規模及び業務性質に合わせて請負業者選定計画の作成を教示する。

計画プロジェクト部は、入札計画を審査し、承認申請のために提出する責任を有する。

関連する各部門は、請負業者選定計画の作成に責任を有する。

請負業者選定計画の作成は原則、方法、内容、提出、審査、決裁に関して入札法の規定（第 III 章の第 33、34、35、36、37 条）により実施するものとする。

第 17 条 入札説明書の交付

一般競争入札の形式の場合、契約責任者は入札書を提出するために必要な全ての情報を記載した入札説明書を作成し、交付するものとする。

第 18 条 入札書の提出

- 1 契約責任者は、入札させる場合、入札者から必要事項を記入し、記名押印した入札書を封かんの上、提出させなければならない。

- 2 契約責任者は、前項の場合において、郵便又は代理人により入札書を提出させることができる。
- 3 契約責任者は、前項の規定により代理人により入札書を提出させる場合は、委任状を提出させなければならない。
(次の段階で引き続き検討される)

第 19 条 入札書の引換え等の禁止

1. 入札書提出締め切り時点の前に、請負業者は入札書を引換えることができる。
2. 開札時点以降は請負業者は入札書を引換えることができない。

第 20 条 開札

1. 契約責任者は第 18 条の規定による入札書が提出されたときは、全ての入札者を立ち合わせ、これを開札しなければならない。
2. 会社側は、パッケージに係わる部門を開札式に参加させる、又は権限のある機関（あれば）を招待する責任を持つ。
3. 開札式に参加する者は会社の許可を得なければならない、又は適正な書類を持参しなければならない。

第 21 条 入札の有効

入札の有効は入札招聘書及び要求書に明らかに規定される。入札の有効条件を変更する場合、担当部はその変更内容を総裁、又は副総裁に報告し、検討・決定の上書面をもって入札参加者に通告するものとする。

第 22 条 落札者の決定

1. 担当部は入札者の選定結果評価・審査会を実施した後、要件を満たした請負業者に対し落札決定を出して、請負業者の分類をするものとする。
2. 請負業者は契約協議作業を完了しただけでパッケージ実施契約を締結するものとする。

第 23 条 再度の入札

1. 開札した場合において、規定による落札者がいないとき、契約担当部は総裁、又は担当副総裁に報告し、直ちに再度の入札を行うものとする。
2. 契約担当部が再度の入札を行う場合は、予備審査があるパッケージであれば、最初の入札に既に参加した請負業者は予備審査に参加する必要があるが、最初の入札に参加しなかった請負業者は予備審査（あれば）に参加しなければならない。
3. 契約担当部は再度の入札を行う場合であっても、当初の予定価格その他の条件を変更してはならない。

第 24 条 入札書の保存

営業・PR 部長、計画・プロジェクト部長及び他の直接関連部は開札した入札書を関係書類と共に保存するものとする。

第 25 条 請負業者選定手順

1. この規則の第 2 章に従い実施するものとする。
2. 政府は詳細を規定している。

(請負業者選定形式に記載しており、後日に検討される)

第 2 章 請負業者選定の形式**第 26 条 国際入札**

下記の条件を満たした時実施するものとする。

1. ドナーから援助資金によるパッケージに関して、ドナーは国際入札を求める
2. 物品が国内生産できない又は生産されても技術、品質、価格の要求を満たせない物品調達パッケージである。ただし、常用物品であり、ベトナムに輸入され、販売された場合、国際入札が開催されない。

3. 国内請負業者が実施の要件を満たせないコンサルティングサービス、コンサルティング以外のサービス提供、建設工事、混合パッケージ。

(政府が入札法に詳細を規定した後引き続き検討する)

第 27 条 一般競争入札

1. 一般競争入札とは参加する入札者の数を限定しない請負業者選定形式である。
2. 一般競争入札の手順
 - a) 請負業者選定の準備
 - b) 請負業者選定の開催
 - c) 入札書の評価及び契約交渉
 - d) 請負業者選定結果の提出、審査、承認及び公表
 - d) 契約書完成、締結

第 28 条 指名入札

1. 指名入札は高度技術又は特殊な技術が必要なパッケージの要件を満たせる数が幾つかの請負業者しかいないパッケージに適用される。

2. 指名入札の手順
 - a) 請負業者選定の準備
 - b) 請負業者選定の開催
 - c) 入札書の評価及び契約交渉

- d) 請負業者選定結果の提出、審査、承認及び公表
- d) 契約書完成、締結

第 29 条 直接委任（特命随意契約）

1. 請負業者に対する直接委任は以下のケースに適用される。

a) 不可抗力の事故が起きた場合その被害を直ちに克復する又は適時に対応するために実施するパッケージ。

c) コンサルティングサービス、コンサルティング以外のサービスの提供のパッケージ、技術・著作権の一貫性を保つため他の請負業者からではなく、既に契約を履行した請負業者から物品調達が必要なパッケージ及び研究、試験的な性質のあるパッケージ及び知的財産権の購入パッケージ。

d) 作者を指名された工事建築設計又は作者が規則に従って十分な能力がある場合に選定された実現可能性調査報告書、建設設計作成のコンサルティングサービス提供パッケージ。著作段階から工事施行段階まで著作権と結びつく記念建造物、浮き彫り、豪華な絵、芸術品の建設工事パッケージ。

d) 土地収用のために、専門の機関が直接管理するインフラ構造施設の移設パッケージ。工事建設用の敷地を準備するために、爆弾、地雷、爆発物の処理パッケージ。

e) 公的商品、サービス提供パッケージ、価格が各時期における経済・社会条件に適合する政府の規定に基づく直接委任を適用される範囲内にあるパッケージ。

2. この条の第 1 項の c 号、d 号、d 号及び e 号に定める直接委任は以下の条件を十分に満たせる場合実施される。

- a) 承認された投資決定があること。ただし、プロジェクト準備のコンサルティングパッケージはこの限りではない。
- b) 承認された請負業者選定計画があること
- c) パッケージ実施進捗の要求に合わせて資金を用意されていること
- d) 規則により承認された見積もりがあること。ただし、EP、EC、EPC のパッケージ、ターンキーパッケージはこの限りではない。

d) 直接委任を実施する時間は要求書が承認された日から契約を締結する日まで 45 日間以内とされ、大規模かつ複雑なパッケージに関しては 90 日間以内とされる

e) 直接委任の指定を提案された請負業者は入札活動の国家管理機関の請負業者に関するデータベースに氏名が載せられること。

3. この条の 1 項に定める直接委任対象となり、またこの条項の 2 項に定める直接委任条件を満たすが、この規則の第 27 条（一般競争入札）、28 条（指名入札）、30 条（見積合せ競争）及び 31 条（直接購入）に定める他の請負業者の選定形式を適用できるパッケージに関しては、他の請負業者選定形式の適用を奨励する。

4. 投資家に対する直接委任は以下のケースに適用される。

a) 実施登録をした投資家は一社しかない。

b) 知的財産権、ビジネス・技術の機密又は資金のアレンジ関係で実施可能な投資家が一社しかない。

c) 計画を提案した投資家は政府の規定に従って実施可能であること、また最も効率的な実施の要求を満たせる。

5. 直接委任の場合、請負業者選定の手順は次の通りとする。

a) 通常のプロセスに従う直接委任は請負業者選定の準備、請負業者選定の開催、請負業者の提案書の評価及び提案協議、請負業者選定結果の提出・審査・承認及び公表、 契約書完成・締結というステップを含む。

b) 省略のプロセスに従う直接委任は契約 Draft の準備、請負業者への送付、契約交渉・完成、請負業者選定結果の提出・承認及び公表、 契約書締結というステップを含む。

第 30 条 見積合せ競争／商品提案競争

1. 見積合せ競争／商品提案競争は政府の規定に基づく範囲内に金額があるパッケージに適用され、以下のいずれかに該当する。

a) 通常の容易なコンサルティング以外サービス提供のパッケージ

b) 標準化された技術特性且つ同様の品質で市場に販売されている物品調達パッケージ

c) 施工設計図書が承認された容易な建設工事のパッケージ

2. 見積合せ競争／商品提案競争は以下の条件を満たした場合に実施される

a) 承認された請負業者選定計画がある

b) 規則に従って承認された見積がある

c) パッケージの実施進捗の要求に合わせて資金が用意された

3. 見積合せ競争／商品提案競争の場合、請負業者選定の手順は次の通りとする。

a) 通常のプロセスに従う見積合せ競争／商品提案競争は請負業者選定の準備、請負業者選定の開催、入札書の評価及び契約交渉、請負業者選定結果の提出・審査・承認及び公表、契約書完成・締結というステップを含む。

b) 省略のプロセスに従う見積合せ競争／商品提案競争は見積もり要求書の準備、請負業者への送付、請負業者の見積もり提出、見積もり評価及び契約交渉、請負業者選定結果の提出・承認及び公表、契約書の完成・締結というステップを含む。

第 31 条 直接購入

1. 直接購入は同じ調達計画、予算又は異なる調達計画、予算に属する同様の物品調達パッケージに適用される。

2. 直接購入は以下の条件を満たした場合に実施される。

a) 一般競争入札又は指名入札で落札し、以前のパッケージの実施契約を締結した請負業者。

b) 同様の内容、性質があるパッケージであり、規模が以前締結したパッケージより 130%小さい。

c) 直接購入が適用されたパッケージの業務の単価は以前契約を締結した同様のパッケージの相当業務の単価を超えてはならない。

d) 以前のパッケージの契約締結時から直接購入結果承認日までは 12 ヶ月を越えてはいけない。

3. 以前の契約を実施した請負業者が直接購入パッケージを継続的に実施することができない場合、能力、経験、技術及び以前の入札招聘書の価格、請負業者選定結果に関する要件を満たせば他の請負業者に対して直接購入を適用する。

4. 直接購入の場合、請負業者選定の手順は次の通りとする。

a) 請負業者選定の準備

- b) 請負業者選定の開催
- c) 請負業者の提案書の評価及び提案協議
- d) 請負業者選定結果の提出・審査・承認及び公表
- d) 契約書完成・締結

第 32 条 自己実施

1. 自己実施はパッケージの直接管理・使用組織がパッケージの要件を満たせる技術能力、財政力及び経験がある場合の計画、調達予算に属するパッケージに対して適用する。

- 2. 自己実施の場合、請負業者選定の手順は次の通りとする。
 - a) 自己実施案の準備及び契約ドラフトの作成
 - b) 自己実施案完成、契約の交渉・完成
 - c) 契約の締結

第 33 条 特段の場合に請負業者選定

この規則の第 27 条、第 28 条、第 29 条、第 30 条、第 31 条及び第 32 条に定める請負業者の選定形式を適用できない特殊、個別な条件があるパッケージである場合、所有者、社員総会の会長、総裁は協議の上、請負業者選定方法の決定をしなければならない。

第 3 章 集中的な調達

第 34 条 集中的な調達の総則

- 1. 集中的な調達は購入必要な物品、サービスが多量で種類が同様である場合に適用される。
- 2. 集中的な調達は以下のいずれかに実施されるものとする。
 - a) 会社（関係部）は調達ニーズを取りまとめ、請負業者の選定を行い、物品、サービス提供者として選定された請負業者と契約を直接に締結する。
 - b) 会社（関係部）は調達ニーズを取りまとめ、請負業者の選定を行い、選定された一社又は数社の請負業者と枠組みの文書を締結する。これを元に、調達ニーズがある機関は物品、サービス提供に選定された請負業者と直接契約を締結する。

3. 会社（関係部）は分担される任務又はニーズがある各機関と締結した契約を踏まえて請負業者の選定をする。

第 35 条 枠組み合意

1. 集中的な調達における枠組み合意とは会社及び選定された一社か多数の請負業者との間の長期的な合意であり、その中に個別の契約に基づく調達の根拠となる基準及び条件を含む。

2. 枠組み合意の使用期限は請負業者選定計画の中に規定されるが 3 年以内とされる。

第 4 章 随時調達

第 36 条 適用条件

以下の条件を満たせる場合物品、サービスに対する随時調達が適用される。

1. 随時調達資金を使用する
2. 会社、OU の随時活動を維持するために随時調達の物品、サービスのリストに属する物品、サービスである

第 37 条 請負業者選定の開催

1. 随時調達における請負業者選定は入札法の第 38 条、39 条、40 条、41 条、42 条及び 43 条の規定に従って実施される。

第 5 章 請負業者選定的方式

第 38 条 一段階ワンエンベロップ入札方式

1. 一段階ワンエンベロップ入札方式は以下の場合に適用される。
 - a) コンサルティング以外のサービス提供のパッケージ、小規模の物品調達・建設工事・混合パッケージに対する一般競争入札、指名入札

b) コンサルティング以外のサービス提供、物品調達、建設工事のパッケージに対する見積合せ競争

c) コンサルティングサービス、コンサルティング以外のサービス提供、物品調達、建設工事、混合パッケージに対する直接委任

d) 物品調達パッケージに対する直接購入

d) 投資家選定に対する直接委任

2. 請負業者、投資家は入札招聘書、要求書の要請に基づいて入札書、技術提案及び財務提案を含む提案書を納付する。

3. 開札は全ての入札書、提案書に対して一回限りに実施される。

第 39 条 一段階ツーエンベロップ入札方式

入札法の第 29 条の通りとする。

第 40 条 二段階ワンエンベロップ入札方式

入札法の第 30 条の通りとする。

第 41 条 二段階ツーエンベロップ入札方式

入札法の第 31 条の通りとする。

第 6 章 入札書・提案書の評価方法、落札の審査・承認

第 42 条 コンサルティング以外のサービス提供、物品調達、建設工事、混合パッケージに対する入札書の評価方法

入札法の第 39 条の通りとする。

5. 政府はこの条項の詳細を規定する。

(次の段階で引き続き検討する)

第 43 条 コンサルティングサービス提供パッケージに対する入札書の評価方法

入札法の第 40 条の通りとする。

第 44 条 提案書の評価方法

入札法の 41 条の通りとする。

第 45 条 コンサルティングサービス提供の入札に関する落札の審査、承認

1. 機関・団体であるコンサルティングパッケージを実施する請負業者は以下の条件を満たす場合、落札の検討・提案される。

a) 合法的な入札書、提案書がある

b) 要求を満たせる技術提案がある

c) 最低価格方式の場合は誤りを訂正、欠陥を調整した後、減価価値（あれば）を引く入札価格が最低である。定額方式及び技術に基づく方式の場合は技術点数が一番高い。技術及び価格の結合方式の場合は合計点数が一番高い。

d) 落札提示価格が承認されたパッケージの価格より下回る。承認されたパッケージの予定価格が承認されたパッケージの価格より下回るか上回る場合、この予定価格はパッケージの価格の代わりに落札の検討、承認の根拠となる。

2. 個人であるコンサルティングパッケージを実施する請負業者は以下の条件を満たす場合、落札の検討・提案される。

a) 最良の科学履歴書、技術提案書（あれば）があり、また 当該条文の要求を満たす。

b) 落札提示価格が承認されたパッケージの価格より下回る。承認されたパッケージの予定価格は承認されたパッケージの価格より下回る、又は上回る場合、この予定価格はパッケージの価格の代わりになり、落札の検討、承認の根拠とする。

3. 選定されない請負業者に対して請負業者選定結果の通知書の中に落札しなかった理由を明記しなければならない。

第 46 条 コンサルティング以外のサービス提供、物品調達、建設工事、混合パッケージに対する落札の検討・承認

1. コンサルティング以外のサービス提供、物品調達、建設工事、混合パッケージを実施する請負業者は以下の条件を満たす場合、落札の検討・提案される。

a) 合法的な入札書、提案書があること

b) 要求に応じる能力及び経験があること

- c) 要求を満たせる技術提案があること
- d) 不足部分は入札価格の 10%を超えないこと

d) 最低価格方式の場合は、誤りを訂正、欠陥を調整した後、減価価値（あれば）を引く入札価格が最低である。評価価格方式の場合は評価価格が最低である。技術及び価格の結合方式の場合は合計点数が一番高い。

e) 落札提示価格が承認されたパッケージの価格より下回る。承認されたパッケージの予定価格が承認されたパッケージの価格より下回るか上回る場合、この予定価格はパッケージの価格の代わりに落札の検討、承認の根拠となる。

2. 選定されない請負業者に対して請負業者選定結果の通知書の中に落札しなかった理由を明記しなければならない。

第 7 章 契約

第 47 条 契約の種類

1. 総価契約

a) 総価契約とは、履行期間全体において契約のあらゆる作業内容に対する価格が固定であるものをいう。総価契約に対する支払いは履行過程において複数回で、又は契約完成時点に一回で行われる。契約の義務が完成する時まで受注者に支払われる総金額が契約に記載されている金額と一致する。

b) 総価契約を採用する際、落札審査・承認の根拠になる入札パッケージの価格は契約履行過程において発生する可能性があるリスクの予防費用、通貨切り下げ予防費用を含まなければならない。入札価格は契約の履行過程において発生する可能性があるリスクの予防費用及び通貨切り下げ予防費用を含むこと。

c) 総価契約は基本の契約である。本条の第 2 項、第 3 項に規定されている契約種類の採用を決定する場合、請負業者選定計画の承認者はその契約の方が総価契約より適切であることを確保しなければならない。簡単なコンサルティングサービス、コンサルティング以外サービスを提供する入札パッケージ、小規模の物品調達、建設、混合の入札パッケージの場合は総価契約を採用すること。

d) 建設のパッケージの場合、契約の交渉、完成の過程において、契約履行部門及び落札者は承認された設計に基づき業務量の一覧表を再度確認し、落札者又は契約担当部門が業務量の一覧表と設計との不一致を見つけた場合、設計との統一性を確保するために業務量の調整の検討・決定を申請する。

d) 総価契約を採用する際、担当部及び直接関連部門は業務量の正確性に関する責任を持つ。

2. 固定単価の契約

固定単価の契約とは履行期間全体において契約のあらゆる作業内容に対する単価が固定であるものをいう。請負業者は規定により契約に記載されている固定単価に基づき実際に検収された業務量に相応する金額が支払われる。

3. 調整単価の契約

調整単価の契約とは契約のあらゆる作業内容に対する単価が契約の合意事項に準拠して調整可能とするものをいう。請負業者は規定により契約に記載されている単価、又は調整された単価に基づき実際に検収された業務量に相応する金額が支払われる。

4. 時間単位の契約

時間単位の契約とはコンサルティングサービス提供のパッケージに採用される契約である。契約価格は月、週、日、時の勤務時間及び報酬以外の費用に基づき算出される。請負業者に支払う金額は、勤務時間の実績及び契約に記載されている職務・業務毎に該当する賃金ランクに基づき計算される。

第 48 条 契約の内容

入札招聘書に添付する契約書は下記のものを含む。但し、これらに限定されるものではない。

1. 契約締結の根拠
2. 契約の当事者の代表
3. 契約での仕事実施内容（パッケージの名前のように名づける）
4. 契約履行の進捗・時間（開始時間、終了時間等）
5. 契約金額
6. 契約の当事者の責任
7. 契約の当事者の債権・債務
8. 契約の違反行為、賞罰
9. 目的物、目的物の検収・引渡し
10. 前払い、精算、決済
11. 係争解決
12. 履行条項
13. 契約の付録（あれば）

第 49 条 契約の書類

1. 契約の書類は以下のものを含む。
 - a) 契約書
 - b) 契約付録（仕事範囲、価格表、実施進捗（あれば）の詳細一覧表を含む）
 - c) 請負業者選定結果承認の決定書
2. 前 1 項に定める書類のほか、パッケージの規模、性質によって契約の書類には下記の書類のいずれかを含むことができる。
 - a) 契約完成書
 - b) 一般条件、個別条件を含む当事者間の契約条件に関する合意書
 - c) 選定された請負業者の入札書、提案書及びその入札書、提案書を明確にする書類
 - d) 入札招聘書、要求書及びその入札招聘書、要求書を訂正・補足する書類
 - d) 関連書類

3. 契約の範囲内に属する内容の変更があった場合、当事者が契約補足付録を締結しなければならない。

第 50 条 契約締結の条件

1. 締結時点で選定された請負業者の入札書類、入札提案書類が有効であること。
2. 締結時点で選定された請負業者がプロジェクトを実施するための技術・財政能力の要件を満たすことを確保すること。必要に応じて、担当部は請負業者の能力に関する情報を確認した上で、プロジェクトの実施要求を満たす場合のみ契約締結を実施するものとする。
3. 担当部（社内の他の部門）はプロジェクトの展開進捗を守るように、国家の出資金、実施敷地及びその他の必要な条件を確保しなければならない。

第 51 条 選定された請負業者との契約

1. 担当部は請負業者を選定できた後、当該請負業者に対してパッケージ実施契約を締結することを請求する。JV の請負業者の場合、JV への参加メンバー全員が直接に契約書に署名し、押印する（あれば）こと。当事者間で締結される契約は本規則の規定及び関連の法規を遵守するものとする。
2. 一つのパッケージは一つの契約、又は多数の契約により実施されることがある。一つの契約には入札法の第 62 条に定める契約の一つの種類、又は複数の種類

を採用することができる。複数の契約種類を採用する場合は、それぞれの詳細仕事の内容に応じて契約の書類を明らかに規定しなければならない。

3. 当事者間で締結される契約は入札招聘書、要求書、入札書、入札提案書、契約の交渉結果、請負業者選定結果承認決定書の内容に合わなければならない。

4. 契約金額は落札価格を上回ってはいけない。入札招聘書、要求書に記載されない仕事を追加して、契約金額が落札金額を上回るのに繋がった場合は契約金額が承認されたパッケージの価格、又は予定価格を上回ってはいけない。調達プロジェクト、予算が複数のパッケージを含む場合は契約の金額合計が承認された投資総額、調達予算を上回らないこと。

5. 政府は入札に関する契約の内容を規定する。

第 52 条 契約履行の保証

1. コンサルティングサービス提供請負業者、自己実施形式で選定された請負業者を除き、契約履行の保証は選定された請負業者に対して適用される。

2. 選定された請負業者は契約が有効になる時点までに契約履行の保証措置を実施しなければならない。

3. パッケージの規模、性質に基づき、契約履行の保証金は入札招聘書、要求書に規定され、落札価格の 2%～10% とする。

4. 契約履行保証の有効期間は契約の発効日から各当事者が契約の義務を完成する日、又は瑕疵担保義務の実施に入る日（瑕疵担保に関する規定があった場合）までとする。契約履行期間を延長する必要がある場合、契約履行保証の有効期間に合わせて延長することを請負業者に求めるものとする。

5. 以下の場合、契約の取引先が契約履行保証金を返還されない。

a) 契約が有効になっているが契約の履行を拒否する場合

b) 契約の合意事項を違反する場合

c) 自分の過失で契約履行進捗の遅れを発生させたが、契約履行保証の有効期間の延長を拒否する場合

第 53 条 契約調整の原則

1. 契約調整は契約書、契約の条件に関する合意書（あれば）に具体的に規定されること。
2. 契約調整は契約の有効期間内のみ適用される。
3. 契約金額の調整は固定単価の契約、調整単価の契約及び時間単位の契約のみに適用される。
4. 調整後の契約金額が承認されたパッケージの価格又は予定価格を超えてはいけない。調達プロジェクト、予算が複数のパッケージを含む場合は調整後の契約金額合計が承認された投資総額、調達予算を超えないことを確保しなければならない。
5. 調整単価の契約の場合、単価の調整は、価格を変える要素が発生する時点から実施され、契約書に記載されている進捗、又は本条第 6 項、第 7 項の規定に従って調整された進捗の通りに実施される業務分のみに適用される。
6. 契約履行進捗は以下の場合のみ調整される。
 - a) 契約の当事者の違反又は過誤に関係しない不可抗力の場合
 - b) 客観的な要求のため作業範囲、設計、施工措置の変更が発生し、契約履行進捗に影響を与える場合
 - c) 敷地の引渡しに契約の合意と一致せず、契約履行進捗に影響を与えるが、その原因は請負業者の過失ではない場合
7. 契約履行進捗の調整がプロジェクトの完成進捗を延長しない場合、契約の当事者が協議の上、調整を合意する。契約履行進捗の調整がプロジェクトの完成進捗を延長する場合、当事者は協議の上、合意するものとする。

入札対象外のサービス・物品調達規程

目次:

1. 目的、要求.....3

2. 適用対象・範囲.....3

2.1 適用対象.....3

3. 用語・略語の定義.....3

3.1 定義3

3.2 略語4

4. 関連する資料.....4

5. 責任.....4

5.1 総裁、現業企業社長、会社直轄センターの長：4

5.2 調達需要がある部門:4

5.3 調達部:.....4

5.4 計画・プロジェクト部.....5

5.5.財務・会計部：5

6. 手順.....5

7. 書類の保管..... 8

8. 付録..... 9

8.1 調達先一覧表の作成原則規定9

8.1.1 目的: 9

8.1.2 調達先一覧作成原則:..... 9

8.1.3 実施: 10

1. 目的、要求

- 物品・サービスを安定的に提供し品質、価格が良い供給源を確保し、大量購入のときのコストダウン、調達先の優遇政策を取得し、在庫削減、倉庫スペースを削減できる。
- 物品・サービス調達時、各部門、関連するユニットの責任を明確に分担し、作業共同関係を定める。
- 国の関連する法令を遵守する。物品・サービス調達時に発生したミスを制限し、紛争を防ぐ。
- 社内の監査環境、監査システムを成立できる。
- 調達の専門化、近代化をする。

2. 適用対象・範囲

- 範囲：社内で適用する。

2.1 適用対象

営業活動を支える入札の対象外になる調達物品・サービス（付随付録目次により）。

3. 用語・略語の定義

3.1 定義

- 3.1.1 **物品:**営業、管理、営業運転に必要とする 固定資産、工具・用具、原材料、部品、文房具である（入札対象外の投資プロジェクトの需要により出てきた固定資産も含まれる。）。
- 3.1.2 **サービス:** 本社の営業、管理、営業運転に必要とする無体物の商品である。(例：コンサルタントサービス、広告サービス、訓練サービス、保守・修繕・修理・交換サービスなど)
- 3.1.3 **計画にある物品・サービス調達：** 会社の営業活動計画、財務計画定期的に（四半期ごと、毎年）立案・承認される計画に基づく物品、サービス
- 3.1.4 **臨時的な 物品・サービス：** 計画外で発生する物品、サービス。営業・運行に使用され、承認が得られ不可欠なものである。
- 3.1.5 **会社の決定権限に属する物品、サービス：** 会社の各事務所に使用される物品・サービス、直轄センター、現業企業に支給する物品・サービス、会社の戦略に応じる集中管理物品・サービスのことである。

3.1.6 **提供者一覧:** 会社に属する各部門・現業企業に提供する物品・サービスの提供者に関する名称、住所、関連する情報であり、定期的に総裁あるいは委任された人に承認されたリスト

3.1.7 **調達部:** 総裁の分権決定によって物品・サービスの調達業務を任された部門である。調達部の権限以外の場合は、調達提案部門が調達業務を実施する。

3.2 略語

- 取締役社長: 総裁
- 部門: 会社に直轄する部門、センター、現業企業各所。
- 計画プロジェクト部: 計画・プロジェクト部門
- P. TCKT: 営業・PR 部門
- 調達部: 調達部門。

4. 関連する資料

- ハノイ鉄道一人有限会社の成立に関する HPC の 2014/11/27 日付決定第 6266/QĐ-UBND 号
- ハノイ鉄道一人有限会社の組織及び活動定款の制定に関する HPC の 2015/6/15 日付決定第 2694/QĐ-UBND 号。
- 調達の政策・監査手順に関する手引き資料。

5. 責任

5.1 総裁、現業企業社長、会社直轄センターの長:

- 物品、サービスの調達業務を調達部門に指定・分担する。
- 物品、サービスの提供者のリストを承認する。
- 物品・サービス調達契約を直接的に締結し、またはほかの人に委任し、提供者と契約を提出してもらう。

5.2 調達需要がある部門:

物品・サービスが部門の営業のためすぐ供給されるために調達要求の発生から引受にかけて、フォローしたり、監督したりする。同時に、調達の後発生する問題を解決するために、調達部に連絡する責任を負う。

5.3 調達部:

- 取締役社長が決めた調達枠範囲以内の調達提案を検討、承認。
- 調達部むけ調達枠を超えた品物の調達提案を取締役社長或いは委任された人に提出し承認してもらう。

- 調達先を選定するために、関連する部門を指導し、共同する。契約の交渉、提出、締結をし、調達を提案した部門と協力し、速やかに調達でき、物品・サービスの品質・価格が確保でき、調達後発生する問題を解決するため、調達先との連絡に責任を持つ。

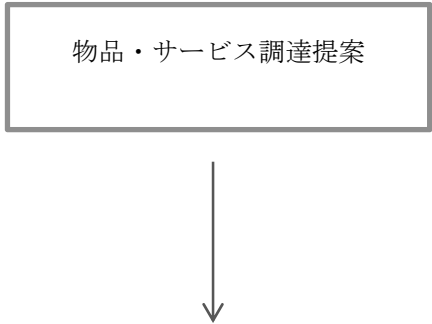
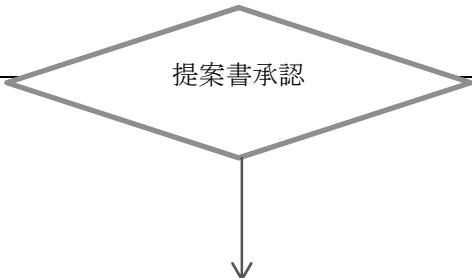
5.4 計画・プロジェクト部

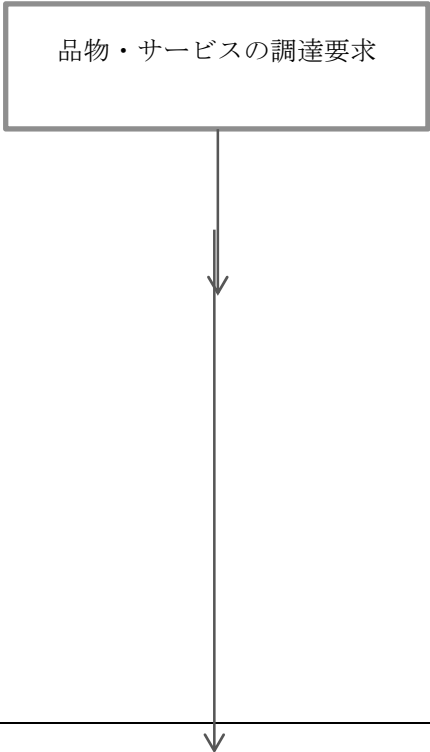
調達部が提案した調達先を審査、選定し、取締役社長或いは委任される人に提出し承認をしてもらう。取締役社長又は委任された者に契約交渉を助言し、そして規定により調達証憑を保存する。

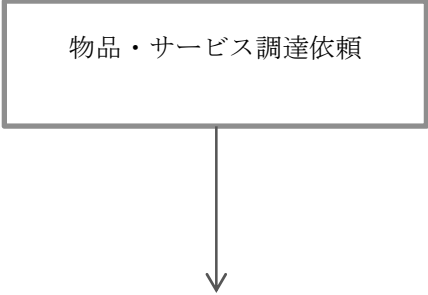
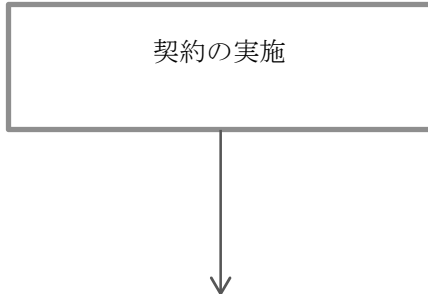
5.5.財務・会計部：

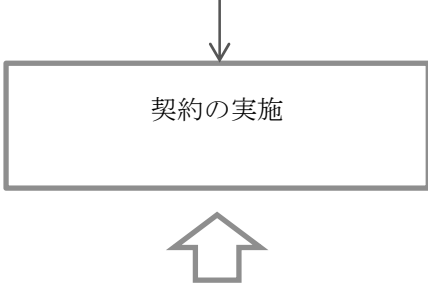
資金計画、清算・決済計画について助言し、社内のキャッシュフローを管理する。

6. 手順

ステップ	実施者	流れ図	説明	時間	様式
1	需 要 が あ る 各 部 門		需要がある部門は調達依頼書を作成し調達部へ送る。調達依頼は承認された計画に基づき、または緊急に発生する。緊急に発生する場合、発生した理由を書かなければならない。	- 市場に在庫がある物品・サービスの場合、需要発生提案書を作成する。 - 予約が必要になる物品・サービスの場合、取り寄せる時間から、使用する時間に間に合わせなければならない。	BM01
2	- 調達部		- 調達部向け調達枠にある物品、サービスの場合：調達部は調達需要、依頼書を検討し、サイン	依頼書をもらった日より1週間以内	

ステップ	実施者	流れ図	説明	時間	様式
	<ul style="list-style-type: none"> - 計画プロジェクト部 - 財務会計部 - 取締役社長 		<ul style="list-style-type: none"> - 調達部向け調達枠を超える物品・サービスの場合：調達部は調達需要を検討し、サインしてから調達依頼書を取締役社長或いは委任される人に提出し、承認してもらう。 		
3	<ul style="list-style-type: none"> - 調達部 - 提出部門 - 計画プロジェクト部 - 財務会計部 - 取締役社長 	 <pre> graph TD A[品物・サービスの調達要求] --> B[] </pre>	<p>承認された調達依頼書をもらうと、調達部は調達先一覧に基づき調達先を選定する：</p> <ul style="list-style-type: none"> - 二回目以上調達される物品・サービスの場合：調達部は調達一覧の中から一番良い調達先を 3 者選出し、見積依頼書を送付する。その基本的な内容は：数量、種類、規格、納期、納品条件、支払い方法、瑕疵担保条件など。 - 初回調達する物品・サービスの場合：調達部は依頼した部門と共同し、新調達先の探索をし、一番良い調達先を 3 者選出し、見積もり依頼書を送付する。 <p>新調達先の選定結果が出たら、調達先一覧に入力し、取締役社長又は委任者に提出し、承認してもらう。</p> <ul style="list-style-type: none"> - 見積もりに基づき、調達部は評価し、評価書に基づいて調達先を選択し、計画プロジェクト部の審査意見をもらった上で取締役社長又は委任された者に提出して承認を受ける。 		

ステップ	実施者	流れ図	説明	時間	様式
4	<ul style="list-style-type: none"> - 調達部 - 計画・プロジェクト部 - 財務会計部 - 提出部門 - 取締役社長 		<p>取締役社長又は委任者に承認された調達先選定申請書及び、承認された各部門の調達依頼に基づき：</p> <ul style="list-style-type: none"> - 調達部は計画プロジェクト部、営業PR部、パートナーとの経済契約を提案する各部門は取締役社長又は委任された者に提出し、署名してもらう。直接的・頻繁に使用される物品、サービスの場合、会社の政策に合わせ集中管理が必要である。調達部は基本契約を作成しなければならない。締結した基本契約に基づき、毎回調達契約の付録に署名するよう、調達部は調達先に連絡を取り、または調達依頼書を作成し、（契約の付録の締結はしない場合）調達時点に、経済的価格を市場価格と合わせる原則に基づき、早急に納品し、品質も確保され、大量調達の良い点を生かせる。 	調達先の選定結果書が承認されてから 1 週間以内。	BM02
5	<ul style="list-style-type: none"> - 調達部 - 需要がある部門 - 関連専門技術者 		<ul style="list-style-type: none"> - 調達契約が締結された後、調達部は財務会計部と共同し LC の開設手続きをし（輸入される商品で LC で支払わなければならない）、展開するために契約実施案内書や LC の実施案内書を作成し、関連する部門に通知する。同時に、調達先をフォローするために記録書を作成する。調達部、調達先および需要部門が物品・サービスの受渡、検収を実施する。 - 情報技術、部品物資、原材料、建設などの複雑な技術を持っている物品、サービスの場合、専門の技術者の目で、実際に品質を確認してもらわなければならない。 	契約の条件に応じる	BM03

ステップ	実施者	流れ図	説明	時間	様式
6	<ul style="list-style-type: none"> - 調達部 - 計画プロジェクト部 - 財務会計部 - 取締役社長 		<p>契約どおりに商品の受渡しが終了した後、調達部は相手に領収書を発行してもらう（国内購入の場合 1 ヶ月以内）同時に、関連するすべての書類をまとめ、契約決済申告書及び契約清算書を作成し、契約書と LC、関連する書類、前払い金額など財務会計部に送付し、チェックして決済承認をしてもらう。それから、取締役社長又は委任者に提出し、契約の決済、清算を承認してもらう。</p>	<p>物品・サービスの引渡し、検収し、清算書類を全部受取った後 1 週間以内</p>	

7. 書類の保管

順番	書類名	期間	部門	備考
1	<p>調達手順に関する原本の書類全体：</p> <ul style="list-style-type: none"> - 物品・サービス調達依頼書（調達計画書） - 調達先評価書 - 調達先選定申請書 - 経済契約又は注文書 - 信用状 (LC). - 検収記録書 - 清算書 - 領収書或いは輸入書類 - 決済申請書 - 振り込み書類或いは現金払い伝票 	<p>会計法第 40 条の規定通り保管する</p>	<p>計画プロジェクト部 財務会計部</p>	
2	<p>瑕疵保証書（原本）は使用者が仕入れ後問題・事故を解決するために調達部に連絡するとき使われるものである。</p>	<p>瑕疵保証書の期間が切れるまで</p>	<p>商品を使用する部門</p>	

順番	書類名	期間	部門	備考
3	<p>調達に関する書類の写し:</p> <ul style="list-style-type: none"> - 物品・サービス調達提案書 - 調達計画書 - 見積依頼書 - 見積書 - 調達先評価書 - 調達先選定申請書 - 経済契約書 - 検収記録書 - 清算記録書 - 瑕疵保証書 <p>調達部は仕入れ後発生する問題、事故を解決するために調達先に連絡する主要な責任を負う。</p>	契約清算日付から 1 年間	調達部	

8. 付録

8.1 調達先一覧表の作成原則規定

8.1.1 目的:

- 会社が付属する各部門向け物品・サービスの調達先一覧の作成業務の総合的な原則を定めること。
- 仕入れ元の既存データを確立し、物品・サービスの調達業務が円滑に実施でき、会社に属する各部門の営業活動にすぐ対応でき、調達に不正な行為を防ぐことができる。
- 調達要求の発生から物品・サービスの受取にかけて、調達の手続にかかる時間を最大限短縮すること。
- 調達業務に正確な情報を供給し、物品、サービスの在庫を最小化する。
- 物品の品質やアフターサービスが良く、顧客に対する適正な価格優遇制度を適用する調達先を選択できる。

8.1.2 調達先一覧作成原則:

- 調達需要がある各部門は各自調達先提案を作成し、調達部へ送付しなければならない。
- 潜在力がある調達先一覧には各種商品・サービスは最低 3 者の調達先が入らなければならない。

- 調達先に関する必要な情報は:
 - + 供給する数量・品質、市場における信頼性。
 - + 納期の対応能力。
 - + アフターサービス。
 - + 決済条件。
 - + 財務能力。
 - + 顧客情報（できれば）
 - + 調達先の品質管理のシステム情報。
- 調達先一覧は定期的に半年ごと所管者に承認されなければならない。
- 評価時期前、調達先はそれぞれの調達先との取引に関する報告書を作成する。総裁又は委任者に提出し、それを基づき検討し、承認してもらう。調達先の更新や取消提案も調達部により、その報告書に書かれる。

8.1.3 実施:

- 調達部は、調達需要がある部門にて調達先一覧に候補者として潜在力がある調達先一覧提案を作成するよう通知を送付する。
- 調達部はそれぞれ物品・サービスに分けて調達先一覧作成するために、すべての潜在力がある調達先一覧をまとめる。
- 調達部は調達需要がある部門を招待し、調達先の基準の評価、能力・信頼性比較の会議を主催する。それに基づき、それぞれの物品・サービスの調達先一覧を決める。
- 各部門が合意した調達先一覧を社長会または社長に提出し、検討・承認をしてもらう。
- 今期の正式な調達先一覧を物品・サービス調達ハンドブックとして調達需要がある部門に公表し発行する。
- 調達部はその承認された調達先一覧に基づき調達業務を実施する。（承認された調達先一覧にない調達先と取引するという特別な場合、調達部は総裁又は委任者の承認を取得しなければならない）

ハノイ都市鉄道一人有限会社

ベトナム社会主義共和国
独立－自由－幸福

(調達部)

第 /TTr-DSHN 号

ハノイ 20・・年 月 日

申請書

承認

御中

法的根拠：法律、通達、省令、

決定…に基づき

(部門) 総裁/(委任者)に提出させていただきます。下記の…調達提案を検討し、承認していただきます：

順 番	商品の種類、規格	生産 国	単位	数量	予測価値	納期予定
1						
2						
3						

業務を遂行できるように（上位職位）のご検討、ご協力お願い申し上げます。

上位職位の承認

調達部
(署名、氏名)担当者
(署名、氏名)

ハノイ都市鉄道一人有限会社

ベトナム社会主義共和国
独立 - 自由 - 幸福

(調達部)

第 /TTr-ĐSHN 号

ハノイ 20 . . 年 月 日

申請書

…物品・サービス調達先選定承認について

御中

入札対象外の物品・サービス調達手順に関する決定第…号に基づき
…の実際の需要、…の調達先の物品・サービス供給能力に基づき

.....
(部門)取締役社長/(委任者)に提出させていただきます。下記の…物品・サービス調達先の選定を検討し、承認させていただきます：

順 番	物品・サ ービス種 類	調達先名:..... 住所:..... TEL:.....	調達先名:..... 住所:..... TEL:.....	調達先名:..... 住所:..... TEL:.....	備 考
		評価基準総合	評価基準総合	評価基準総合	
1					
2					
3					

選定提案:

- 1. 調達先名:.....
- 2. 住所:.....
- 3. TEL:

選定理由:.....

上位職位の意見

評価部門

調達部

ハノイ都市鉄道一人有限会社

ベトナム社会主義共和国
独立 - 自由 - 幸福

(調達部)

検収、受渡記録書

第:...../BBNT,BG-DSHN 号

(.....について)

本日 20 年 月 日、 において

私たち:

I - 氏名

1. 引き渡し側:

.....氏、職位:.....

.....氏、職位:.....

2. 引き受け側

.....氏、職位:.....

.....氏、職位:.....

II - 内容

双方は検収、受渡を一緒に実施する。具体的には:

順 番	物品・サービ スの種類、規 格	生産国	単位	数量	状態	備考
1						
2						
3						

1. その他の注意 (ある場合) :.....

2. 引き受け側は業務の目的・要求に応じ 物品、サービスを保管し、使用する責任を負う。

III - 結論

- 双方は上記の内容を合意する。
- 本記録書はページが…枚あり、…通作成し、両側が法的価値が同じ各 1 通を保有する。

引渡側
(署名、氏名)引受側
(署名、氏名)

順 番	設 備	入札形式							承認者	備考
		国 際	一 般 競 争 入 札	指 名 入 札	見 積 合 せ 競 争	直 接 委 任	直 接 購 入	入 札 不 要		
1	車両	X								
1.1	台車									
1.2	牽引システム									
1.3	ブレーキシステム									
1.4	補助電源システム									
1.5	ビデオシステム									
1.6	列車の客室ドアシステム									
1.7	音声通信システム									
1.8	自動列車運転装置 ATO、自動列車運転安全保護装置 ATP									
1.9	無線通信システム									
2	レール									
2.1	まくらぎ									
3	信号通信システム									
3.1	リレー									
3.2	信号塔									
3.3	信号表示設備									
3.4	分岐器									
3.5	車軸カウンタ									
3.6	軌道回路									
3.7	避雷器と接地システム									
4	電気システム									
4.1	変電器									
4.2	高圧変電機									
4.3	下圧変電機									
4.4	スイッチ									
4.5	遮断機									
4.6	キャビネットの高電圧遮断器									
4.7	ブレーカ									
4.8	DC スイッチキャビネット									
5	自動券売機									
6	自動出改札システム									
7	エスカレーター									
8	エレベータ									
9	換気システム									
10	空調システム									
11	予防発電機									
12	OCC 制御システム									
13	照明システム									
14	給水システム									
15	消防システム									

16	監視カメラ									
17	ホームドア									
18	文房具									
19	事務室のための文房具							X		
20	労働保護物							X		
21	IC カード							X		

資材管理規則

目次

I - 総則

1. 趣旨
2. 適用範囲、対象
3. 定義、用語、略語
4. 法的根拠、関連資料
5. 実施責任

II - 規則内容

1. 資材の記録、区分
2. 出納及び保管
3. 供用
4. 処分

III - 書類の保管規定

IV - 付録

I - 総則

第1条：趣旨

この規則は資材の取得、出納、保管、供用及び処分（以下「資材管理」という。）に必要な基本的な事項を定めるものとする。

第2条：適用範囲、対象

- 1.適用範囲：会計・資材管理に関する事務に適用される。
2. 対象：各部門の長及び資材の管理・運用の責任を負う社員。

第3条 定義、用語、略語

1. 定義

- 資材とは、固定資産ではない動産で、金銭及び商品以外のものをいう。

- 取得とは、会社が会社以外から購入、寄贈等により資材を所有することをいう。

- 出納とは、資材を受け入れ、又は払い出すことをいう。

- 供用とは、資材をその用途に応じて使用させることをいう。

- データとは、電子的方式によって作成された記録をいう。

- 処分とは、もう使用しなくなる資材を売却し、又は廃棄することをいう。

- 亡失とは、資材を喪失することをいう。

- 損傷とは、耐用年数を超えた資材で生じる損傷及び摩耗減損の以外の資材の損傷をいう。

- 資材管理社員とは、財務会計部長、資材部長（OU）、HQ の各部門の長及び OU の各部長をいう。

- 資材出納員とは、資材部長（OU）をいう。

- 資材供用員とは、HQ の各部門の長及び OU の各部長をいう。

- 返戻とは、資材を使用する社員が資材供用員に使用する必要がなくなった資材を返納することをいう。

- 戻入とは、資材供用員が資材を資材部に戻し入れることをいう。

- 供用換えとは、供用中の資材を資材供用社員の間で供用転換することをいう。

- 貯蔵品とは、会社が事業の用に供するために取得した資材のうち、指定場所に保管し、必要に応じ供用可能な状態においておくもので、貯蔵品勘定に受け入れたものをいう。

- 決算品とは、取得後直ちに使用されるもの又は各部門に供用するために貯蔵品から払い出される資材をいう。

- 直決算品とは、会社が事業の用に供するために取得した資材で、取得後直ちに使用するものをいう。

- 非常用器材とは、事故・災害等の異常事態が発生した場合又はそのおそれがある場合における応急処置、復旧又は防護に必要な資材をいう。

- 予備品とは、検査又は修繕時、反復使用する目的で常備する資材をいう。

- 発生品とは、修繕工事又はその他の理由により発生した価値の小さい資材をいう。

- 撤去品とは、固定資産の除却により固定資産の構成部分の全部又は一部を取り外した場合の資材をいう。

- 支給材とは、工事等における請負業者に対し、支給する物品をいう。

2. 略語

略語	解釈
TCKT	財務会計
UBND TP Ha Noi	ハノイ市人民委員会
HQ	本社
OU	現業企業
TSCD	固定資産

第4条：法的根拠、関連資料

1. 法的根拠

会計法、関連する政令・省令

2. 関連資料

- ベトナム会計基準

第5条：実施責任

1. 管理に関する責任

a. 財務会計部長

資材の管理に関する事務を総括し、定期的に又は臨時に社長に状況を報告する責任を持つ。

b. 各部門の長（HQ）

HQ の各部門の長は所管する OU での予備品及び決算品について、自部の管理範囲内の資材の現状・状況を明確にし、定期的に又は臨時に報告書を作成して財務会計部に提出する責任を持つ。

c. 資材部長（OU）

資材センターでの資材を管理する責任を持つ。

d. 資材部員（OU）

資材部長の指導を受けて、各部門の業務・事務用の資材の合理手配維持及び資材の用途に応じる適切な使用を確保し、余分又は不用品の資材を調査し、事務を実施する際必要な事項を処理する責任を持つ。

e. 各部門の長（OU）

自部の管理範囲内の資材を管理し、資材使用員を監督し、定期的に又は臨時に報告書を作成して HQ の各部門の長に提出する責任を持つ。

f. 資材使用員

正しい方法及び正しい用途に従い資材の保管・使用をする責任を持つ。

2. 資材管理社員及び資材使用社員の弁償責任

- 所管する資材につき、故意又は重大な過失により亡失又は損傷した場合は、当事者はその損傷を弁償しなければならない。

- 弁償の責任を分担するのは損傷等を起こした当事者の責任確定により財務会計部長が決定するものとする。

- 弁償すべき額は、その資材の亡失又は損傷が発生した時点における資産の簿価である。

- 資材がやむを得ないで亡失又は損傷した場合は、当事者が責任を免除される。

3. 亡失、損傷等の報告

a. 資材の亡失又は損傷があった場合は、その原因を調査し、財務会計部長に資材亡失損傷報告書を提出しなければならない。

b. 資材部長は当該資材の追加等の措置を、財務会計部長は当該弁償に関する措置を採るものとする。

3. 検査責任

財務会計部長は、必要のある場合に資材の管理について臨時検査を行うことができる。

II. 規則の内容

1. 資材の記録及び区分

第6条：資材の整理

事業の用に供するために取得した資材は、貯蔵品勘定に整理しなければならない。

取得後直ちに使用されるもの及び貯蔵品から払い出された資材は、決算品として整理するものとする。

第7条：資材の区分

資材の用品区分、調達日数、単位、コード、品名は、品目コード表、資材名称表による。

資材の区分は次の通りとする。

資材の区分		該当事項
貯蔵品	新品（工事用品、運転用品、業務及び事務用品）	1. 貯蔵品勘定で購入した新品 2. 戻入品で新品のものうち、財務会計部長の指定する資材 3. 前2号及び直決算の場合を除いて取得した資材で、新品のものうち、財務会計部長の指定する資材
	再用品（工事用品、業務及び事務用品）	1. 貯蔵品勘定で購入した中古品 2. 戻入品で使用見込みのある中古品及び財務会計部長の指定する資材

		3. 前2号及び直決算の場合を除いて取得した資材のうち、財務会計部長の指定する資材
	不用品	1. 新品貯蔵又は再用品貯蔵から分類換えされた資材 2. 戻入品で財務会計部長の指定する資材
決算品		1. 貯蔵品から払い出した資材 2. 直決算で購入した資材

第8条：管理の原則

1. 資材を使用する必要な部門に対して適時に供用することができるように資材の管理、整理の適切性を確保するものとする。

2. 資材の出納、保管、供用の状況は常に更新され、要求により定期的に又は臨時に財務会計部長に報告するものとする。

- 報告内容は以下のものを含むとする。

+ 資材の出納状況

+ 保管状況

+ 資材使用状況

+ 貯蔵品の単価の変動

+ その他必要とする事項

3. 資材出納員は規定により資材を受け入れ、又は払い出すごとに記録しなければならない。

第9条 貯蔵品及び非常用器材の準備

1. 貯蔵品として準備する必要なものは次に掲げるものとする。

- 部において多量に必要とするもので、あらかじめ財務会計部長が指定するもの

- 各部門の長が一定の整理基準、標準在庫及び支給材基準等に基づき計画的に申請するもの

- その他財務会計部長が指定するもの
- 2. 財務会計部長は、前項に掲げる貯蔵品について、各部門の購入計画に基づき年度の購入計画を定めなければ成らない。
- 3. 各部門の長は非常用器材及び予備品として保有する資材の品目及び数量について、財務会計部長と協議して、定めるものとする。
- 4. 上述する書類は使用管理活用するため財務会計部長に提出されるものとする。

第10条 資材の取得

1. 各部門の長は、毎事業年度の資材購入計画を作成し、営業広報部へ提出するものとする。
2. 資材の購入については、営業広報部長が定めたフォーマットに従って作成した購入依頼書を営業広報部に送付して、営業広報部が規定により購入の作業を実施する。
3. 寄贈等による資材に対しては、適切な措置がとれるように財務会計部長に報告しなければならない。

2. 出納及び保管

第11条： 資材の出納

1. 資材出納員又は供用員は、検査に合格した資材を速やかに収納しなければならない。
2. 資材出納の時、資材出納員又は供用員が、押印付きで合法的な領収書、出納伝票、証票など情報のデータを十分にシステムに入力し、財務会計部に全ての書類を提出する必要がある。
3. データの修正又は消込が必要となる場合、資材出納員又は供用員が、様式により、データ修正消込要求書を作成し、財務会計部に提出する必要がある。

第12条： 貯蔵品の出納

貯蔵品の出納は出納要求伝票により、適切に行われる。

第13条： 貯蔵品の保管原則

貯蔵品の保管は供用しやすく常に処理しやすい事を確保しなければならない。

第 14 条：保管方法

- 資材出納員及び供用員は、貯蔵品を供用資材、修理若しくは加工用の資材、供用不可な資材に区分しなければならない。
- 種類及び使用目的により、資材を適切に整理すること。

第 15 条：保管場所の転換

現場で保管している貯蔵品の保管場所を転換する場合は、物品供用員は、規定により、貯蔵品保管場所転換書及び入出庫伝票を作成しないといけない。

第 16 条：棚卸し及び保管状況の報告

1. 資材出納員及び供用員は、指定される資材に対して、毎四半期末及び毎年末に棚卸しをして、財務会計部にデータを提出するものとする。
2. 資材出納員及び供用員は、資材の保管状況報告（受払残高表（月次・年次））を毎月末、年末に実施するものとし、毎四半期末及び毎年末に財務会計部に提出するものとする。
3. 前項の規定による報告は資材の分類及び用品区分に応じ、各品目ごとにその現在高及び保管の状況を明らかにしなければならない。

第 17 条：供用不適當品等の報告及び措置

1. 資材出納員及び供用員は修理、加工又は処分を要する資材があると認めた場合は、その旨を資材部長に報告しなければならない。
2. 資材部長は、前項の規定による報告により修理、加工又は処分を要する資材があると認めた場合は、必要な措置を採らなければならない。

第 18 条：資材価額算出

1. 取得価額確定

資材の価額は資材がその現在の所在及び状態にあるように購入費用、加工費用、その他の直接関係のある派生費用を含む価額に従い算出される。

2. 在庫の価額計算方法は移動平均法によるものとする。

3. 供用

第 19 条：共用

1. 資材出納員及び供用員は資材供用前に、他の部門からの供用請求書の適正を確認の上、問題なければ当該資材の払出しを行うものとする。

2. 供用の際、データ入力、出庫伝票作成、伝票収集をして、財務会計部に提出しなければならない。

3. 資材供用換えを行う場合は、供用換報告書を作成して、財務会計部に提出しなければならない。

第 20 条：決算品の整理

決算品は次表の通り区分、整理される。

工事材料	1. 修繕費、材料費及び備消耗品費に決算されたもの 2. 油脂費に決算されたもの
備品	備消耗品費に決算された工具、器具、備品、運搬具等で耐用年数が 1 年以上、取得価額が 1 個、又は 1 組につき、勘定科目表に基づく工具・器具・備品の価額の 1/2 以上のもの
被服類	被服費に決算されたもの
乗車券類	乗車券類に決算されたもの

第 21 条：修理、加工

資材供用員は、使用中の資材について修理又は加工を要する資材があると認めた場合は、修理又は加工依頼登録書により資材部長に請求しなければならない。資材部長は修理又は加工の措置を採らなければならない。

資材供用員は、固定資産に編入された資材であっても工具、器具、備品等については、前項の規定を準用することができる。

第 22 条：返戻

1. 資材を使用する社員は、その資材を使用する必要がなくなった場合は、速やかに資材供用員に返戻しなければならない。

2. 資材を倉庫に戻入する際、データを入力し、財務会計部長に報告しなければならない。

3. 現場で廃棄した不用資材については、資材廃棄報告書を作成し、財務会計部長に提出しなければならない。

4. 資材の処分

第 23 条：資材処分の決定

財務会計部長は、不用品のうち、供用することができない資材又は他に流用の見込みのない資材がある場合は、これらの資材について処分の決定をすることができる。

第 24 条：資材分類換え

財務会計部長は、貯蔵品の効率的な供用を図るため必要がある場合は、第 5 条に規定する貯蔵品の分類を換えることができる。その場合は、次に掲げる事項を明らかにしなければならない。

- 品目、数量及び価額
- 科目
- 分類換えを必要とする理由

第 25 条：資材売却

資材を売却する場合は、資材部は資材売却記録書に記入すること。その売却記録書には、次に掲げる事項を明らかにしなければならない。

- 品目、数量及び価額
- 時期、場所及び関係先
- その他必要な事項

第 26 条：資材の廃棄

廃棄を行う場合は、資材部は資材廃棄記録書に記入すること。その資材廃棄記録書には、次に掲げる事項を明らかにしなければならない。

- 品目、数量及び価額
- 廃棄の方法
- 売却することができない理由

III. 書類の保管規定

第 27 条：投資量は会計資料であり、会計法第 40 条、及び会計書類の保管制度を公布する決定第 218/2000/QD-BTC 号の規定通りに保管される。

IV - 付録

資材棚卸表の様式

ハノイ鉄道一人有限会社

8 番、Ho Xuan Huong、Hai Ba Trung、Ha Noi

資材棚卸記録書

20....年 ... 月.....日

棚卸時間：..... -

棚卸場所：

棚卸実施チーム：

.....
.....
.....

No.	資材コード	資材名	特徴/仕様	部署	帳簿上の数量	棚卸時の実数	場所/位置	備考
1								
2								
3								

ACTIVITY 6.3.5

会社の財務健全性維持のための方策

目次

第1章－研究の目標、範囲	1
1. 目標	1
2. 範囲	1
第2章－定義、用語及び略語	1
1. 定義	1
2. 略語	2
第3章－幾つかの都市における都市鉄道運行保守活動に対する政府の財務補助スキームの各事例	3
1. 台湾 (TRTC)	3
1.1. 活動目的：	3
1.2. 政府との契約：	3
1.3. 財務状態：	4
2. バンコク (BMCL)	5
2.1. 活動目的：	5
2.2. 政府との契約：	6
2.3. 財務状態：	6
3. シンガポール (SMRT)	7
3.1. 活動目的：	7
3.2. 政府との契約：	7
3.3. 財務分析：	9
4. マニラ (LRTA)	9
4.1. 活動目的：	9
4.2. 政府との契約	9
4.3. 財務分析	10

5. クアラルンプール	11
第3章 – 各措置提案	12
1. 補助金	12
1.1. SAPI で提案した補助金枠	12
1.2. TA プロジェクトで提案した補助金枠	13
1.2.1. 補助金に関する規定 :	13
1.2.2. 提案 :	13
2. 経済効果測定指標の使用 (KPIs)	14
2.1. 企業の収益率評価指標 : EBITDA (Earn before Interest, Tax, Depreciation, Amortilization – 税前利益、借入金の利息、及び原価償却)	15
2.2. 資産に対する純利益率 ROA	15
2.3. 持続性を推測する指標 = 債務/EBITDA	15
3. 収益、費用、予算の作成・管理	15
3.1. 予算	15
3.2. 収益	16
3.3. 費用	18
法的文書及び参考資料	19

第1章 – 研究の目標、範囲

1. 目標

- 類似の場合を分析し、経験を取得し、それからベトナムに適正なものを運用する。
- 会社の継続かつ持続可能な運行を確保するために営業計画や財務戦略を立てる。

2. 範囲

現在点に **SAPI** プロジェクト及び **TA** プロジェクトの仮定の範囲に基づき財務安定性の確保方策を提案する。

第2章 – 定義、用語及び略語

1. 定義

企業金融安定性は、リスクに対して安全な状態を保ち、流入金額及び流出金額のバランスや金融関係の安定性を維持し、企業の通貨資金の創造プロセス、配分及び使用過程において持続可能的に発展させることである。

企業金融安定性の内容は以下のものがある。

- 返済能力：返済能力は、企業が返済期限になった借入金（短期借入金、長期借入金の支払い期限）を償還する能力である。
- 生産経営効率：生産経営効率は企業が立てた目標の生産経営活動の結果を反映した内容である。生産経営効率は最も低コストで最大効率を致すため企業の資源の利用能力を表すものである。
- 財政均衡：企業の財政均衡は企業の流入資金と流出資金のバランスを調和することである。

企業に入る資金源（キャッシュフロー？）は商品・サービス販売や他の収入、財産売却、配当金・貸出金利及び顧客の返済等の源からである。¹

¹ 銀行学院の企業金融安定性に関する博士論文

2. 略語

順番	略語	解釈
1	SAPI	Special Assistance for Project Implementation (ハノイ 2 号線建設事業の案件実施支援プロジェクト)
2	TA	Technical Assistance (技術支援プロジェクト)
3	ĐSĐT	都市鉄道
4	TRTC	Taipei Rapid Transit Corporation (台湾運輸会社)
5	VHBD	運営・保守
6	BMCL	Bangkok Metro Company Ltd (バンコク電車会社)
7	MRTA	Mass Rapid Transit Authority of Thailand (タイの高速公共交通システム管理機関)
8	ĐSĐT	都市鉄道
9	E&M	Electrical & Mechanical (電気機械)
10	EBITDA	Earn before interest, tax, depreciation, amortization (税引前利益、借入金の利子、減価償却)
11	SMRT	Singapore Mass Rapid Transit (シンガポール鉄道会社)
12	LOA	License and Operating Agreement (運営に係る覚書)
13	LTA	Land Transport Authority (交通局)
14	RTSA	Rapid Transit Systems Act
15	CCL	Circle Line 線 (Singapore)
16	LRTA	Light Rail Transit Authority (マニラ鉄道運輸機関)
17	MTOI	Metro Transit Organization Inc (電車運輸組織)
18	SPNB	Syarikat Prasarana Negara Berhad (マレーシア・クアラルンプールのインフラに関する国営会社名)
19	SOE	State-Owned Enterprise (国営企業)
20	BOT	Built – Operate – Transfer (建設 – 運営 – 譲渡)
21	BOO	Built – Own – Operate (建設-所有-運営)
22	UBND TP	都市人民委員会
23	KPI	Key Performance Indicator (効果算定指数)
24	VAS	Vietnam Accounting Standards (ベトナム会計基準)
25	ROA	Return on total assets (資産に対する利益率)
26	TSCD	固定資産

第3章 – 幾つかの都市における都市鉄道運行保守活動に対する政府の財務補助スキームの各事例

本章では、以下の要点を分析する。

- 活動の目的
- 政府との契約
- 財務状況

公益か利益かという活動の目的に応じ、各国の政府はそれぞれの補助方法、各会社がそれぞれの運営方法があるため、各会社の財務状況がまちまちになるわけである。

1. 台湾 (TRTC)

1.1. 活動目的：

TRTC は利益を主要な目標とせず、安全性・信頼性を高め、やさしく、高品質な公共交通サービスを提供することを図っている。

会社の構成：政府がほとんどの資本金を保有する株式会社である：都市（73.75%）、政府（8.75%）、交通運輸省（17.4%）、残りの 0.36% は銀行の資本である。

1.2. 政府との契約：

+ 営業形態：2011 年に、TRTC Stock Share 株式会社に変更した。ほとんどの株式は国家が所有する。

+ 政府の財政支援：政府は全ての資産を提供し、財政支援を行う。会社は運行・保守のサービスを提供する。

会社向け政府の支援は以下のように 3 段階に分けられた。

- 最初 5 年間 (1996～2000): 資産の無償貸与

会社は鉄道システムがまだ完成されていない最初 5 年間で資産を無料で使用できる。

- 次の 10 年間 (2000～2010): 資産のリース

2000 年に、鉄道システムが完成されたと同時に、会社の経営が軌道に乗ったため、政府は契約を見直した。資産交換の費用および一年間の収入の 4%に基づき資産のリース料を計算する。そのリース料は安定的

かつ安全な運行を確保するため、機械・設備の交換を目的として市議会が設立した「台湾メトロの固定資産交換基金」へ入れる。

- 2011 年～現時点: 資産のリース

乗客が安定的に増加しているときに、政府は契約書を修正した。リース料は、資産交換の費用及び運行による収入の 2～4%（交渉、運営状況に応じ 2 年間で 1 回変える）＋運行による利益の 50%で計算されるものになる。

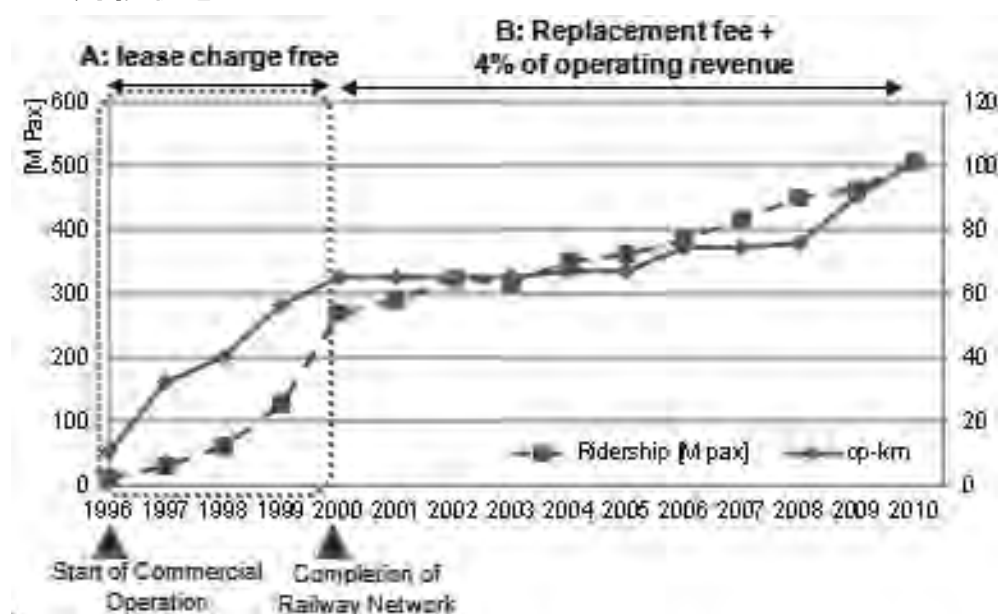
このように、最初の段階で会社に対する政府の補助は非常に大きかったとわかる。

＋資産の所有権：台北市に所有される

＋最初の資産の返済義務：台北市

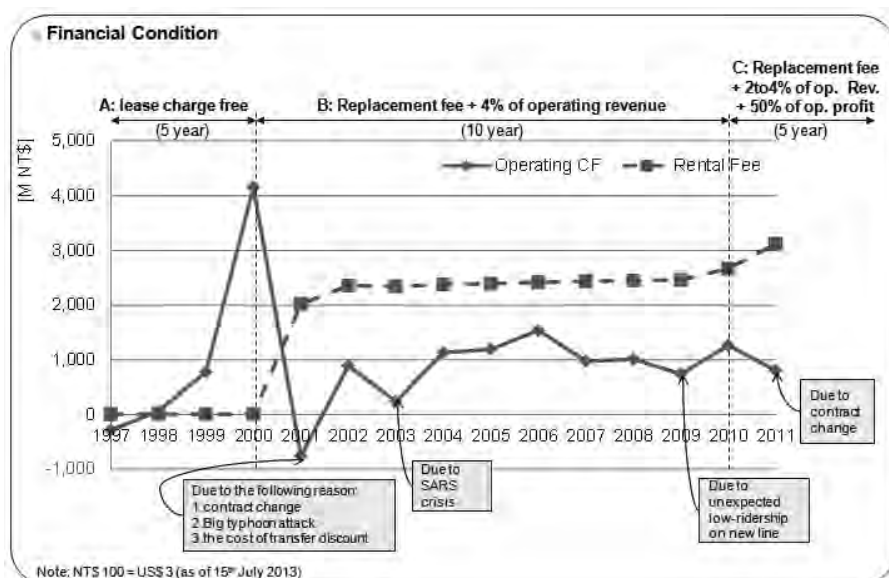
＋資産を更新する資金投下：会社

1.3. 財務状態：



- 乗客数が急激に増加する時点：2000 年

安全性・品質の高い公共運輸サービスを提供することを目標として、最初に鉄道運行に係る経験を貯蓄することに専念した。財務的に軌道に乗ってきたのは、都市鉄道ネットワークが完成された時点であった。



- リスク分析:

⇒ 2001 年: 契約、資産リース料金の修正、自然災害（台風）、乗り換え料金の値引き（台北市が設立したサービスであり、電車システムと他の公共交通システム、例えば MRT とバス、の連結性を高めるため、両方のサービスを使用する乗客が値引きを享受できる）⇒これにより会社の費用が上昇した。

⇒ 2003 年: SARS の流行のため乗客が減少

⇒ 2009 年: 新しい号線を開業したが、実際の乗客が少なく、期待に応じなかった。

結論:

+ 費用: 資産のリース料金に関する契約書の修正（時間の経過に伴ない高くなる）、自然災害、感染症流行

+ 収入: 政府の公共交通システムの統一化政策および乗客数が低いこと

2. バンコク (BMCL)

2.1. 活動目的:

交通渋滞を抑制し、環境を保護し、生活の品質を向上するため、安全性・信頼性が高く、相応しく継続的な公共電車システムを提供する。

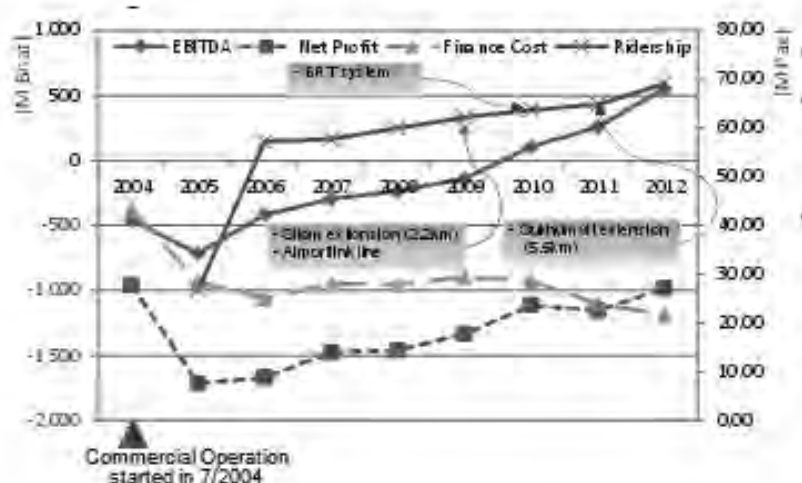
会社の構成：株式会社： MRTA 資本 (25%), Karnchang Public (24.61%), Bangkok Expresway Public (11.68%), 建設業界からの資本 (16.82%), 財務業界からの資本(7.23%) 及びその他の資本源(14.66%)

2.2. 政府との契約：

契約期間は 25 年間 (2004～2029)。契約書には、MRTA がインフラ設備を建設し、BMCL が資産を購入し、運行保守サービスを提供し、MRTA に対するインフラ設備のリース料金を払う責任を負うと定められた。同時に、契約が満了するときに、会社が E&M 資産を MRTA に引き渡さなければならないと規定した。

2.3. 財務状態：

インフラは政府に投下・所有される。その以外に、会社に対する財政支援がないとのことである。



政府から財政支援をあまり受けなかったため、開業当初から利益が得られず、赤字になった。EBITDA がプラスになったのはここ 2 年間だけである。

運行するため、BMCL が自腹で資産を購入した。主に銀行や株主から会社の収入の 60～70% も占めた利子で借入れ、費用が積み上がったわけである。

+ 資産所有権: インフラ: バンコク市、E&M: 会社

+ 初期資産の債務の返済義務: インフラ: バンコク市、E&M: 会社

+ 資産を更新する資金投下: 会社

- 乗客数が急増する時点: 都市鉄道システムを完成させた後の、Silom 線 (2.2km) の拡張と空港線の開業が行われた 2010 年、及び Sukhumvit (5.5km)の拡張が行われた 2011 年である。

- 困難:

+ 会社は資産を自腹で購入した。

+ ほとんどの機械設備は輸入されたものである。そのため、為替レートの変動に影響を受けた。

+ 政府の財政支援を受けなかった。

3. シンガポール (SMRT)

3.1. 活動目的:

便利且つ新鮮なサービスをもって、安全性・信頼性が高く、やさしい交通運輸サービスを提供することにより、乗客によく利用してもらうようになる。

=> 前述の各会社と異なり、SMRTは公益ではなく、利益を目的とした会社である。

会社の構成: 株式会社である。政府の所有するのは資本の 55% しか占めなく、残りは各投資組織 (26%) 及び民間 (19%) の資本である。

3.2. 政府との契約:

政府はインフラを提供し、財政支援を行う。会社は運行・保守サービスを提供する。

+ 最初の 11 年間 (1987 ~ 1997) : LOA(License and Operating Agreement): 会社は資産の投資を一斉せず、運行・保守サービスを提供する。

+ 1998 年 ~ 2028 年 : 資産リース料金は以下のように各段階に分けられる :

- 1998 年 4 月 ~ 2003 年 3 月: 毎年の純収入 (運賃) の 0.5%
- 2003 年 4 月 ~ 2011 年 3 月: 毎年の純収入 (運賃) の 1.0% - 0.5 ポイント増
- 2011 年 4 月 ~ 2012 年 3 月 : LTA により定められる。

- 2012 年 4 月から：RTS 法、または補助金に関する規定により定められる。

1997 年に、SMRT は簿価（10 年間で控除された価値）の 12 億ドルで電気機械資産を買い取るために、LTA から 4.8 億ドルの補助を受けた。インフラについては引き続き LTA に保有され、SMRT が名目金利で借り入れた。

LOA の資産に関する条項：

- 既設線の場合：

+ E&M: SMRT は事業用資産を更新する場合、LTA に補助を求めることができる。

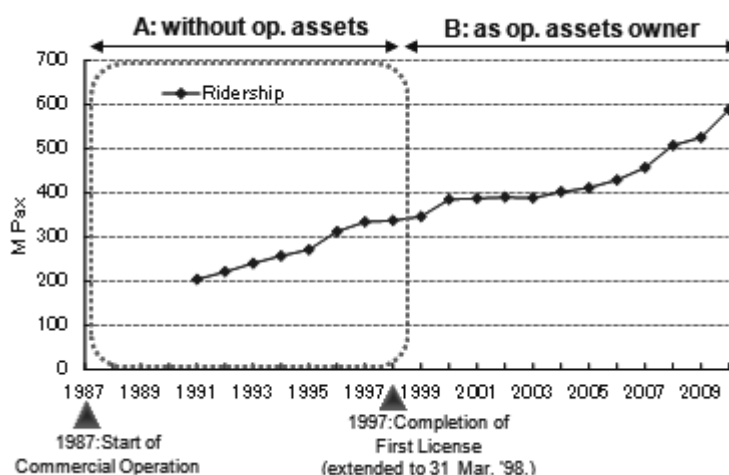
+ インフラ：LTA に所有され、SMRT に借り入れられた。名目金利はリース期間中、年度初頭に変更できると LTA に定められた。SMRT はインフラを別の契約により修理・保守するよう要求されている。

- 新しい CCL 線の場合（2009 年）：

+ E&M: MRT は 2029 年 5 月の簿価で新線の事業用資産を買い取った。

+ インフラ: 政府が提供する。

+ 優遇: SMRT は、3 千万シンガポールドルの金額、または本線から得られる税引前利益の 75% を都市の資産投資基金（CCL 線の機械設備、インフラの大規模修繕を含む資本的支出を補うための基金である）に拠出するように要求されている。



3.3. 財務分析：

- 資産保有権:

+ 最初 10 年間: LTA は全部の資産を所有する。

+ 1997 年以降: インフラは LTA が所有し、E&M は会社が所有する。

- 初期資産の債務の返済義務: インフラ及び E&M の一部は政府が返済する。会社は一部の資産を返済する。（CCL の新線では政府が支援しない）

- 資産を更新する資金の投下: 会社及び政府（LOA の資産に関する条項には、「SMRT は LTA に、事業用資産を更新する場合、支援を請求することができる。」と定められる）

- 乗客数が急増する時点: 1997 年ごろ。

基本的に、SMRT の乗客数は緩やかかつ着実に増加した。その理由として、政府が乗客を誘致できる合理的かつ良い政策をとったという点と、人口があまり多くない一方で安定的であるという点、政府から多くの財政的支援を享受したために、会社として営業に注力できたという点が挙げられる。

4. マニラ(LRTA)

4.1. 活動目的：

他の公共運輸機関と連携する都市鉄道運輸サービスを提供し、マニラ首都圏の地域に 安全性が高く国際標準に達成する運輸システムを構築する。=> サービス提供中心

会社の構成：100%国有資本の鉄道運輸機関（LRTA）。

4.2. 政府との契約

政府は一部の資産にお金を出し、財政支援を行うにすぎない。LRTA は残りの資産を購入し、運営・保守サービスを提供することになった。

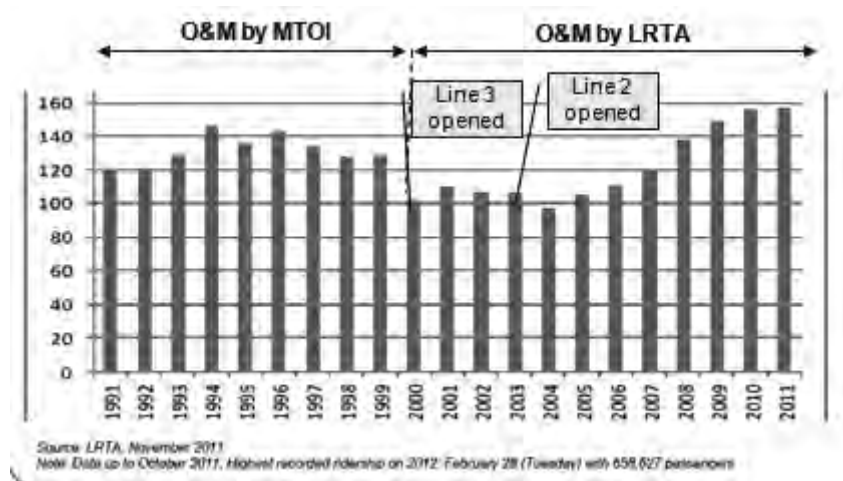
1991 年から 2000 年まで、各サービスは MTOI(Metro Transit Organization Inc)により実施されたが、2000 年から、LRTA が契約を更新せず、マニラにおける都市鉄道の運営・維持管理事業を直接に実施することにした。

運営には LRTA が直接実施し、保守事業は民間企業へ委託されている。

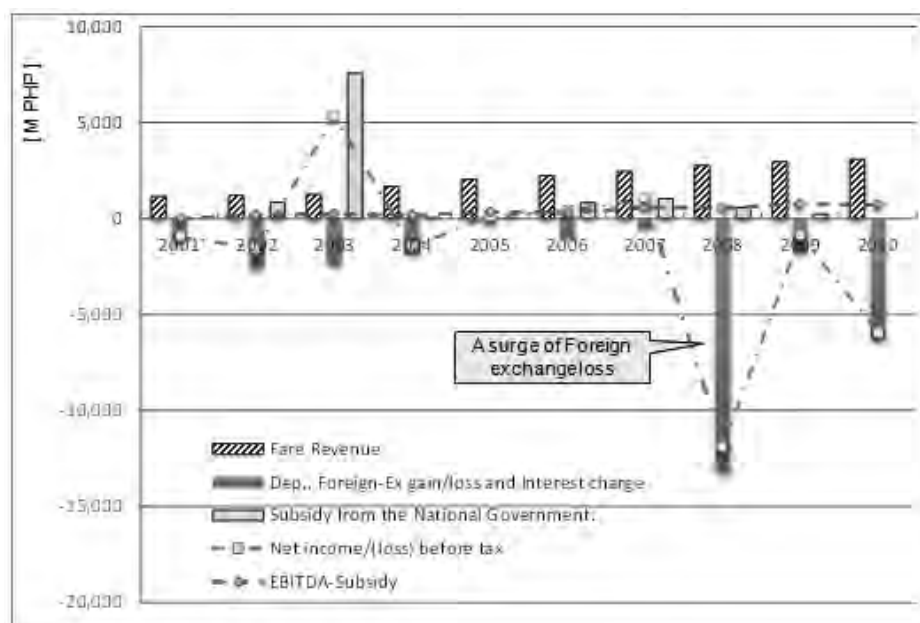
4.3. 財務分析

- 資産所有権: LRTA
- 初期資産の債務の返済義務: LRTA
- 資産を更新する資金投下: LRTA

- 乗客数が急増する時点: 都市鉄道システムが完成された後、かつ都市鉄道の運営・維持管理を LRTA が実施するようになった以降において、鉄道運営が軌道に乗ったのは 2004 年からである。



図を見ればわかるように、2000 年に乗客数の異常な激減が見られるが、この原因は二つある。一つは、7 月 25 日～8 月 2 日に発生した MTOI の労働者のストライキにより、LRTA が契約更新しなかったことにある。二つ目の原因は 2000 年 12 月 30 日に LRT 電車爆破テロ事件が行ったためである。



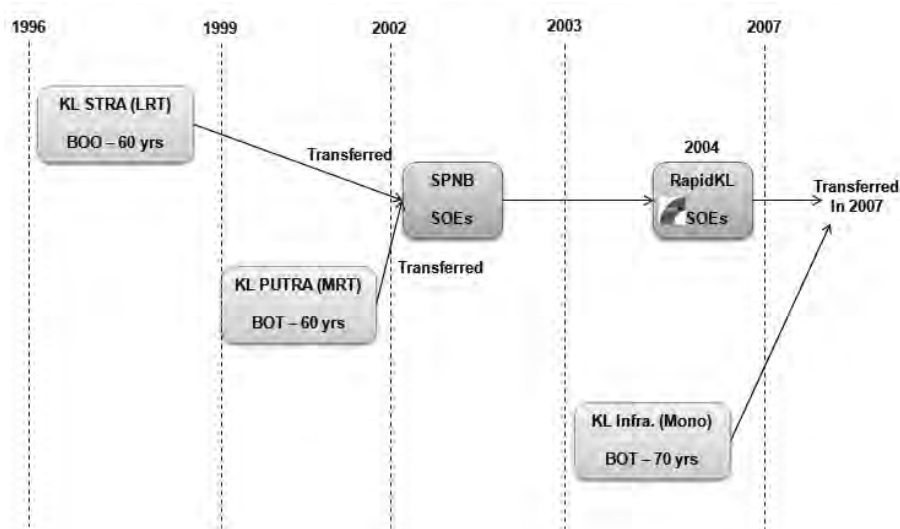
- 2号線の新設のため、2003年に財政支援は激増した。

- LRTA は継続して赤字を出し続けているが、開業後 10 年間でキャッシュフロー(EBITDA – subsidy)をプラスの値にできた。

- 困難：各プロジェクトのほとんどの資金は外貨建てであるため、2008年の通貨下落により、会社の利益が過去最低になった。

5. クアラルンプール

クアラルンプールの場合、これまでに運営主体が代わり続けたため、構成・財政の分析は非常に複雑となっている。



- 1997年に、最初の都市鉄道の運営・維持管理する STAR 会社が設立された。民間会社として 60 年間の BOO 契約形式であった。

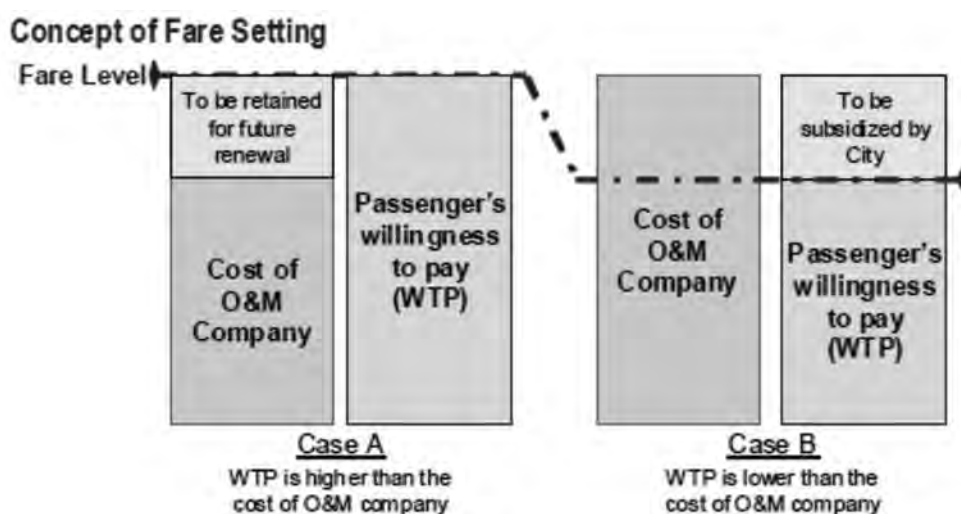
- 1999 年には、KL PUTRA が、60 年間の BOO 契約形式で活動する民間会社として設立された。
- 1997 年に発生したアジア通貨危機の影響により、2002 年に KL STAR は営業困難に、KL PUTRA も財政難となったため、SOE である SPNB に営業譲渡した。
- 2003 年に、SPNB は会社名を RapidKL と変更した。
- 同時期に、KL Infra という他の民間会社が設立され、モノレール事業の責任を負う。（70 年間の BOT 契約）
- 2007 年に、最初の民間会社と同じ原因で、KL Infra は RapidKL に吸収され、RapidKL は都市鉄道の運営・維持管理を統一的に行う機関となった。

第 4 章 – 各措置提案

1. 補助金

1.1. SAPI で提案した補助金枠

- 運賃水準は、乗客の支払意思額に基づく運賃水準及び、運営に係る費用累計の両方から算定される。乗客の支払意思額に基づく運賃水準が費用から計算された運賃より高い場合、乗客の支払可能性額に基づく運賃水準に設定し、両者の差額は将来の投資資金として留保する。
- 乗客の支払意思額に基づく運賃水準が費用から計算された運賃より低い場合、運賃を低いほうで設定し、ハノイ市は、会社への活動補助としてふさわしい補助金を出す。



1.2. TA プロジェクトで提案した補助金枠

運賃の設定および補助金枠はハノイ市人民委員会により設定される。

1.2.1. 補助金に関する規定：

公共財の補助金は、政府が発注した商品・サービスを生産・提供するために、商品・サービスの生産・提供者に宛てた政府が支出するべき財政補助であり、商品・サービスの1単位あたりの単位金額となる。

公共財の補助金額は、政府が定めた販売価格と政府が発注した商品・サービスを生産・提供するための生産・提供者の合理的な費用の差額である。

公共財の生産・提供の補助金は、政府が課された商品・サービスを生産・提供するため、商品・サービスの生産・提供者向け、国庫から支出した財政補助金である。

公共財の生産・提供の補助金額は、政府が定めた公共財使用者が支払う金額と、政府が課された公共財を生産・提供するための生産・提供者の合理的な費用の差額である。

公共財の生産・提供者の合理的な費用は、企業所得税法と関連する法律文書の規定の通り、公共財を生産・提供する活動に実際に発生した費用である。

1.2.2. 提案：

世界各国の経験を通し、持続的な運営を確保するため、政府の補助は重要かつ不可欠な役割を果たすと言えることが分かった。

a. 初期段階の補助

+ 運賃補助金：実際の運賃と HPC が定めた運賃の差額。

+ インフラ：ハノイ市が所有すべきである（減価償却軽減のため）。
会社は収入を増やすために利用権のみを持つ。

+ E&M 資産：現物出資形式として会社に移譲する予定。

提案理由：

資産が改善・交換される時期になったとき、会社の所有資産であれば、経営層は製品ライフサイクルに基づき正しい決定を下せるが、都市の所有資産であれば、会社は保守の負担を軽減するため、物理的耐用年数よりも早い時期に交換するように要求するかもしれない。一方、所有

者としてのハノイ市は投資費用を節約するために、資産をできるだけ長く使おうとするであろう。

b. 交換、新規投資の段階

+ 設備の交換及び新規投資に対する補助：都市鉄道の新しい車両や設備の改善・交換・新規投資をするため、HPC および中央国庫から優遇金利で借入れる。

+ 運賃の補助金：実際の運賃及び HPC が定めた運賃の差額。

補助金および補助はその時点の契約形態による。公共財を生産・サービスを提供することに関する政令第 130/2013/ND-CP 号の規定によれば、都市鉄道運輸サービスは品目 B - 入札方式又は注文方式で実施する公共財に分類される。しかし、新しい分野であり、前例が存在していなく、適用するのは困難である。そのため、TA プロジェクトでフェーズ別に契約形態を下記のように提案する。

2016～2021	計画付与方式
2022～2027	注文方式
2028 以後	入札方式

補助金 = 総費用 - 総収入

2. 経済効果測定指標の使用 (KPIs)

KPIs は運賃改定システム（タスク 2.1）に基づき開発すべきである。以下の例は東京メトロのケースによる。

Basis	KPIs	MRB's review points	Reporting requirements specified by MRB
VAS 28 and MRB Regulation	D/EBITDA	Whether O&M Co. is financially sustainable? = Can they repay the bank loan by the cash generated through their operation (EBITDA)?	Debt EBITDA
	EBITDA	Whether the fare business is profitable? = Did the fare business generate the cash? * Please refer to the segment revenue and expenses in the article 3 of 09/2009/ND-CP and the article 15 of VAS28.	EBITDA (Fare) ^{*1} EBITDA (Non-Fare) ^{*2}
MRB Regulation	ROA = EBITDA/Assets	Did the company convert their assets into profits efficiently? = Is there any inefficient lines? * Please refer to the segment assets in the article 15 of VAS28.	Line Assets

2.1. 企業の収益率評価指標：EBITDA (Earn before Interest, Tax, Depreciation, Amortilization – 減価償却前営業利益)

- = 税引利益 + 税金 + 借入金の利息 + 減価償却
- = 税引前利益 + 借入金の利息 + 減価償却
- = 収入 – 総費用 (売上原価、販売費用、管理費用) + 減価償却
(ベトナム会計基準によると、減価償却は総費用に直接計上されることから、調整のために追加しなければならない)
- 運賃事業が利益をもたらすかどうか確認できる。
- 運賃事業と関連事業の EBITDA 指標は別で計算したほうがいい (政令第 09/2009/ND-CP 号第 3 号及び VAS28 第 15 項)。
- 利点：資本構成や減価償却の影響を避けられる。

2.2. 資産に対する純利益率 ROA

$$ROA = EBIT / \text{資産}$$

この比率は資本金（資産）に対する利益を測定する。

現在、他の会社の ROA と比較することができない。ベトナムでは同様な営業形式を持つ会社がないためである。このため、3 線別の ROA 比率を計算してから、比較する。それに基づき、必要に応じた各線に対するふさわしい対応を取る。

2.3. 持続性を推測する指標 = 債務/EBITDA

この指標は企業の債務返済可能性を測定する：債務を税引前営業利益で割ることにより算定される。

⇒ 企業の財務の持続性を測定する：企業は営業活動により債務を返済できるか否かを明確にする。

3. 収益、費用、予算の作成・管理

3.1. 予算

予算の作成は、組織を運営するため必要な資源を確定する新会社にとって非常に重要な業務である。予算確保が難しい組織は、予算上限を設定する必要がある。活動の重要性はその活動向けの予算を通して明らかにする。予算があまり高すぎると、無駄な費用が発生し、ずさんな管

理につながる。逆に、あまり低すぎると、成果を制限し、期待効果にも影響を与える。

予算はコントロール・ツールとされ、実際と計画上の資源運用の差異を測定する標準とされる。それをもとにして、適時に調整することができる。

予算の作成にあたっては、各部署を共通な目標に向かわせるため、各部署との相談・協力を促す必要がある。

主要予算は以下 3 種である：

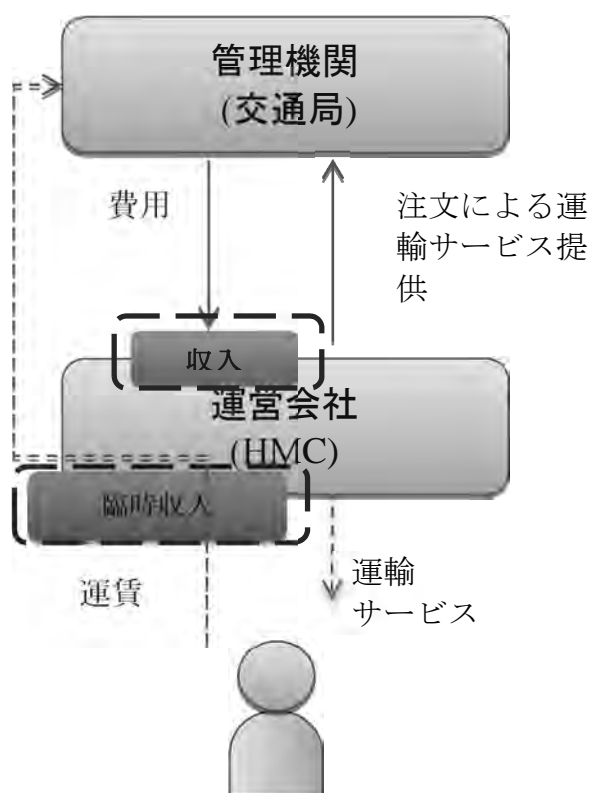
- 建設予算
- 運営予算
- 現金予算

3.2. 収益

3.2.1. 運賃収入

下記は TA プロジェクトの仮定による収入管理である。

運賃は、ハノイにおける在来バス・システムと同様に、交通局のもとで管理されると仮定する。このように、運賃による収入の所有権はハノイ市側になる。運賃による収入の記録は臨時的な記録であり、ハノイ市の承認を取得した上、収入を正式に記録する。



実際に、運賃による収入の記録はハノイ市と会社の契約内容による。一つの契約形態として、以下の様な流れが想定される。

<日次：チケット販売時>

Dr. 現金/ Cr.デポジット

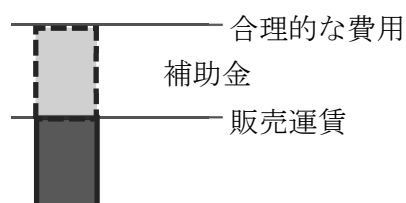
<月次：ハノイ市との精算時>

Dr. デポジット/ Cr.売上 * 現金部分

Dr. 現金(or 売掛)/Cr.売上 * 補助部分

3.2.2. 関連事業収益、補助収入

ハノイ市からの補助金支給を受けるためにははその額を報告する必要がある。



この際、HMC の関連事業(広告など)が大きい収益を得る場合には鉄道事業と切り分けて報告する必要がある。VAS28 では、全体収益の 10%

以上を占める事業は独立したセグメントでの開示が求められることから、補助金申請の際にも同様に厳密に除外する必要がある。

3.3. 費用

公的サービスの実際運賃、または合理的な費用は、財・サービスの一般的な価格決定方法を規定する省令第 25/2014/TT-BTC 号に従わなければならない：

$$\text{合理的な価格(実際運賃)} = \text{総費用} + \text{見込み利益} + \text{税金}$$

その内、

a. 総費用の中に、下記の費用を含む：

	費用科目	明細
	直接費	
	電気料金 (C _{VT})	使用量 [M kWh] x 単価 [VND/kWh]
	直接人件費 (C _{NC})	就業者数 x 給与 (ボーナスを含む).
	直接資産の減価償却費用 (C _{KH})	省令第 45/2013/TT-BTC 号
	その他の費用 (C _K)	あった場合
I	一般費用	
	一般費用 (C _{CM})	<ul style="list-style-type: none"> - 人件費 - 原材料費、固定資産の修理・保守費 - 工具、備品費 - 一般資産の減価償却費 - 用役費（電気料金、水道料金など）
	借入費(C _{TC})	あった場合
	販売費 (C _{BH})	<ul style="list-style-type: none"> - 乗車券販売業務員の賃金 - その他の費用
	管理費 (C _{QL})	<ul style="list-style-type: none"> - 賃金、管理の設備・道具、文房具、管理に対する減価償却 - 用役費(電気料金、水道料金など) - 所得税、費用引当金

b. 見込み利益

見込み利益は、法人所得税支払後に下記の内容を確保でき額でなければならない。

- 現行規定通りに、賞与資金、福利厚生資金を確保する。或いは：
- 企業が取り扱う別の商品・サービスの価格を確定した時の利益率（会計監査或いは決算報告のもの）に基づいた算定。

なお、関連事業を切り離して報告する場合には、財務省通達 25 の第 9 条が規定しているとおり、共通費の配賦が必要となる。以下は、東京メトロなどの日本の鉄道事業者が、鉄道と関連事業との配賦に用いている基準である。

厚生福利費	各事業又は各部門の専属人件費又は専属職員数の百分比
水道光熱費	各事業又は各部門の専属職員数又は床面積の百分比
案内宣伝費	各事業の専属営業収益の百分比(*)
一般管理費	各事業の専属営業費（減価償却費を除く）の百分比
その他	各事業の専属営業費の百分比
減価償却費	各事業関連固定資産の各事業への配賦額の百分比

(*通達 25 にあるとおり、都市鉄道事業の案内宣伝費は補助金算定には含まれない)

c. 税

VAT は、財務省通達 06/2012/TT-BTC に規定されているとおり、都市鉄道事業については非課税になるため、この項目は適用しない。

法的文書及び参考資料

1. 公共財の生産・供給に関する政令第 130/2013/ND-CP 号。
2. 固定資産の管理・運用・減価償却費に関する省令第 45/2013/TT-BTC 号
3. 公共財・サービスの価格確定方法を規定する省令第 25/2014/TT-BTC 号
4. 財務省通達 06/2012/TT-BTC

5. ベトナム会計基準 (VAS)
6. ハノイ市都市鉄道会社設立提案 (2014 年 10 月版)
7. 運賃政策報告 (更新版)
8. TA プロジェクトの財務会計チームの研究
9. <http://english.trtc.com.tw/>
10. <http://www.bangkokmetro.co.th/Index.aspx?Lang=En>
11. <http://www.smrt.com.sg/>
12. <http://www.lrta.gov.ph/>
13. <http://www.myrapid.com.my/>
14. 銀行学院の論文『ベトナム企業の財務健全性』
15. 日本の鉄道事業会計規則

会計プロセス

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
財務会計	会計	伝票起票	1 支払リクエスト前	① 取引後、各部は取引先から支払請求書を受領		各部	取引先	随時	支払請求書
			2 支払リクエスト作成	② 担当者は、支払請求書を検査して関連証憑書類(契約書、インボイス、検収書、取引明細表等)を照合し、支払リクエストを作成		各部		随時	支払リクエスト
			3 各部承認	③ 全ての関連証憑書類とともに支払リクエストを各部長へ送付し、承認を受ける		各部		随時	支払のための全ての必要な書類
				(承認却下の場合、各部担当者へ差し戻し)					
				④ 承認された支払リクエストを証憑書類とともに、財務会計部へ送付		各部		随時	
			4 会計審査	⑤ 会計部の書類監査担当者は、支払リクエスト及び証憑書類の内容を確認、検査し、承認却下の場合は要求部へ差し戻し	会計			随時	
			5 転記	⑥ 転記(システムに入力)	会計			随時	
			6 伝票照会	⑦ 必要に応じ、登録した伝票を照会	会計			随時	
			7 伝票保管	⑧ 伝票及び証憑書類を規定されている各台紙に添付し保管	会計			随時	
			8 未承認伝票の確認	⑨ 各部承認者及び会計担当者は、未承認伝票が存在しないか確認	会計	各部		随時	
		伝票変更・削除	1 転記済伝票変更・取消申請	① 各部担当者は、書類を検査した時、伝票を変更・取消する必要と認めた場合、変更・取消申請書を作成し、部長へ送付し申請を行う		各部		随時	伝票変更・取消申請書
			2 転記済伝票変更・取消申請の承認	② 各部承認者は、変更・取消内容を確認し、承認		各部		随時	
				③ 変更・取消申請書を財務会計部へ送付		各部		随時	
			3 転記済伝票の変更・取消	④ 会計担当者は、該当伝票に対し、変更又は取消を行う	会計	各部		随時	
				⑤ 取消の場合は、保存している証憑書類を各部担当者へ差し戻し、再度伝票起票を行ってもらう	会計			随時	
			4 伝票照会	⑥ 伝票を照会し、申請内容を確認	会計	各部		随時	

出納プロセス

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
財務会計	01 出納	01 入金管理(口座振替)	1 入金明細受信	①明細伝票、報告書を含む入出金明細データを銀行から受領	出納		銀行	日次	報告書、明細表
				②入金明細データを確認	出納			日次	
			2 入金仕訳作成	③入金仕訳を作成 《預金／仮受金》	出納			日次	預金／仮受金の仕訳帳
				④伝票、報告書を突合	出納			日次	
			3 債務対照	⑤一致したものは債権を消込	出納			日次	
				⑥ 不一致の場合、各部に問い合わせ	出納	(各部)		日次	
				⑦ お金を不足に支払う場合、不足分を未収金計上	出納			日次	債務対照表
				⑧ 不足分支払リクエストの記載	出納			日次	支払リクエスト
				⑨お金を過剰に支払われる場合、その過剰分を仮受金に記載し、関連部局に連絡し、取引先に連絡してもらって返金する		各部		日次	
				⑩返金した後、仮受金として記載した過剰分を消込	出納			日次	債務対照表
		入金管理(現金)		①納金伝票の合法性確認		各部	取引先	日次	納金伝票
				②納金伝票と現金を突合し、基金に入金を計上	出納			日次	基金帳簿
				③入金対象の債権を消込	出納			日次	
		02 出金管理(口座振替)	1 支払書類確認	①各部が財務会計部に支払口座の情報を共有する	出納			発生	支払口座の情報
				②十分性・正確性・社長の支払承認を得た事について支払リクエスト書類の合法性を確認	出納			日次	支払書類
				③必要に応じて、各部に問い合わせし確認	出納			日次	
			2 支払実行	④送金伝票を作成し振替手続きを行う	出納			日次	支出命令、送金伝票
				⑤帳票管理台帳に入力	出納			日次	管理台帳
		出金管理(現金)	1 支払書類確認	①十分性・正確性・社長の支払承認を得た事について支払リクエスト書類の合法性を確認	出納			日次	支払書類
				②必要に応じて、各部に問い合わせし確認	出納			日次	
			2 支払実行	③支出伝票を作成し、会計系に渡し、支出伝票に記載した人への送金を要求	出納	各部	取引先	日次	支出伝票
				④会計系から支出済を確認した支出伝票を受けた後、受金対象に対し債務を決済	出納			日次	基金帳簿

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
	-	現金管理	1 現金管理	①資金の入出表の対象及びソフトにより収支を監査(資金の最大が3億ドン、最低が200万ドン)	出納			日次	基金帳簿
				②入出金実際に基づき、預金口座から現金を引出	出納			日次	
				③引出伝票を記載し総裁の承認を得る	出納			日次	
				④現金資金に入金し台帳に記載	出納			日次	基金帳簿／報告書
		預金管理	1 預金管理	①銀行の口座明細表を監査	出納			日次	明細表
				②預金残高表を出力	出納			日次	残高表
				③預金残高表と通帳残高を突合し、残高確認、規定によりフォロー、報告	出納			日次	報告書(明細表も含む)
		釣銭管理	1 補充要求	①各駅は、補充要求を行い営業部に送付		各駅		随時	補充要求
				②営業部は、各駅の補充要求まとめ表を作成し、財務会計部に送付<釣銭/未払金>		営業		日次	補充要求まとめ表
				③財務会計部が銀行から現金を引出、各駅に補充する営業部に送付	出納	各駅		日次	
			2 補充	④営業部が各駅にお金を補充し、財務会計部に領収書を送付し決済してもらう(現金の入出金)	出納			日次	駅の現金入金伝票
			3 戻入	⑤各駅の前日分の集金を営業部が回収		営業		日次	納金伝票
				⑥営業部は、各駅から回収した現金を銀行に送金		営業		日次	銀行での納金伝票／各駅での納金集計表
				⑦財務部の担当者が規程によりフォローし報告書を作成				日次	報告書

資産管理プロセス

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
財務会計	06 資産管理	資産取得	1 資産受領(納品／工事完成)	①資産の受領又は工事の完成		各部	取引先	随時	
				②資産の検収又は工事の完成検査		各部	取引先	随時	
			2 耐用年数確認	③耐用年数の確認	資産	各部		随時	
			3 資産情報登録	④取得資産の情報を作成		各部		随時	
			4 各部承認	⑤入力内容を確認し、各部において承認		各部		随時	
				(却下の場合、各部担当者へ差し戻し、再度処理を求める)					
		資産移動		⑥承認された上、資産マスター登録		各部		随時	固定資産台帳
			5 帳票照会	⑦必要に応じ、登録した資産取引一覧を照会	資産	各部		随時	
			6 未転記資産取引の確認	⑧会計担当者は、未転記資産取引が存在しないか確認	資産	各部		月次	
			1 関係各部での協議	①部を跨る移動の場合、移動内容について事前協議を実施		各部		随時	
			2 移動情報登録	②移動元の各部担当者が移動情報を登録し、総裁の承認を申請		各部		随時	
			3 各部(移動元)承認	③入力内容を確認し、各部(移動元)において承認		各部		随時	
				(却下の場合、各部担当者へ差し戻し、再度処理を求める)					
			4 各部(移動先)確認	⑥各部(移動先)において、移動データの確認		各部		随時	
			5 帳票照会	⑦必要に応じ、移動する資産取引一覧を照会	資産	各部		随時	
		資産引渡	6 資産引渡	⑧移動元から移動先へ資産を引渡し		各部		随時	引渡書
			7 保守台帳引継	⑨対象資産の保守台帳を移動元から移動先へ引継ぎ		各部		随時	保守台帳
			8 財務会計部承認	④財務会計部において、入力内容を確認し、承認	資産			随時	
				⑤承認された上、資産振替転記処理の実行	資産			随時	
		資産除却	0 除却情報登録	①除却情報をシステム入力		各部		随時	
			1 各部承認	②入力内容を確認し、各部において承認		各部		随時	
				(却下の場合、各部担当者へ差し戻し、再度処理を求める)					
			2 財務会計部承認	③財務会計部において、入力内容を確認し、承認	資産			随時	
				(却下の場合、当該各部へ差し戻し、再度処理を求める)					
				④財務会計部は、会社のリーダーの承認を申請	資産			随時	
	建設仮勘定決算			⑤承認された上、廃棄伝票及び転記の処理を実行	資産			随時	
			3 帳票照会	⑥必要に応じ、除却する資産取引一覧を照会	資産	各部		随時	
		建設仮勘定簿記	1 工事原価分析	①建設仮勘定の残高・明細を確認し、工事原価分析		各部		随時	
			2 固定資産整理	②固定資産の整理を実施し、固定資産の項目及び取得価額を決定、会計部へ送付		各部		随時	
			3 資産の書類検査	③書類の内容を確認し、承認	資産	各部		随時	
				(却下の場合、各部へ差し戻し、再度処理を求める)		各部		随時	
			4 建設仮勘定簿記	④固定資産整理の内容に基づき、建設仮勘定簿記を実施					
			5 財務会計部承認	⑤財務会計部は、入力内容を確認し、承認	資産			随時	
				(却下の場合、各部担当者及び承認者へ差し戻し)					
		減価償却	6 固定資産台帳確認	⑥各部及び財務会計部は、固定資産台帳を確認	資産	各部		随時	
			1 減価償却実行	①減価償却計算の実施	資産			月末	
				②減価償却処理を実施し、償却結果による会計転記を実行	資産			月末	
			2 減価償却結果の確認	③減価償却明細により処理結果を確認し、承認	資産			月末	減価償却明細表

資材管理プロセス

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
財務会計	07 資材管理	01 資材調達	1 購買依頼	①図面、仕様書等を作成し、購買依頼を作成		各部		随時	購買依頼書
				②購買依頼の内容を確認し、各部長が承認		各部		随時	
				③営業広報部へ購買依頼を実施		各部		随時	
				④営業広報部において、購買依頼の内容を確認		営業広報部		随時	
			2 入札	⑤入札を実施し、契約の相手方を決定（詳細は、入札契約フロー『入札』を参照）		営業広報部	取引先	随時	
				⑥契約書案の作成（詳細は、入札契約フロー『契約』を参照）		営業広報部		随時	
			3 契約	⑦契約りん議の決裁（入札後、契約する相手と契約金額が決定し、契約書が用意できた段階で、承認者のOKをもらうための手続）		営業広報部		随時	
				⑧契約書の締結		営業広報部	取引先	随時	
				⑧取引先が、納品書とともに、資材を納品		各部	取引先	随時	納品書
				⑨納品された資材を検収		各部	取引先	随時	検収書
			4 検収	（不合格の場合は、取引先に修補又は代品の提供を命じる。）					
				⑩検収実績を入庫伝票に登録（入庫）し、各部において承認		各部		随時	入庫票
		- 請求支払	5 請求受領	⑪取引先から支払請求書を受領		各部	取引先	随時	支払請求書
				⑫検収関連資料に基づき、請求書の内容を確認し、各部において承認		各部		随時	
				⑬検収関連資料とともに、請求書を営業広報部へ送付		営業広報部		随時	
				⑭営業広報部で、検収内容及び請求内容を確認し、承認		営業広報部		随時	
			6 支払処理	⑮支払リクエストを作成し、営業広報部長の承認を受ける（詳細は、会計フロー『伝票起票』を参照）		営業広報部		随時	
				⑯支払リクエスト(全ての必要な伝票を含む)を財務会計部へ送付	会計	営業広報部		随時	
				⑰財務会計部において、伝票を検査、確認し、支払の承認を受ける	会計			随時	
				⑱財務会計部において、支払処理を実施（詳細は、現金管理フローを参照）	出納		取引先	随時	
		02 資材払出	1 在庫照会	①在庫状況を確認		各部		随時	
			2 要求	②倉出依頼書を作成		各部		随時	倉出依頼書
				③倉出依頼書について、各部において承認		各部		随時	
			3 倉出	④出庫票を起票し、倉出依頼書を添付し、要求する各部へ資材を送付	OU資材部	各部		随時	出庫票
				⑤各部は、資材と出庫票を受領		各部		随時	
		資材戻入	1 要求	①戻入依頼書を作成		各部		随時	
				②戻入依頼書について、各部において承認		各部		随時	
			2 戻入	③入庫票を起票し、戻入依頼書を添付し、資材を資材部へ送付		各部		随時	出庫票
				④資材と入庫票を受領	OU資材部	各部		随時	
				⑤ 会計部へ報告	会計部				

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
		資材売却	1 要求	①売却依頼書を作成	OU資材部			随時	売却依頼書
				②売却依頼書について、OU資材部において承認	OU資材部			随時	
				③ 社長の承認を申請	会計部				
		2 売却		③出庫票を起票し、売却依頼書を添付し、資材を売却先へ送付	OU資材部			随時	出庫票
				④売却先は、資材と出庫票を受領	OU資材部		取引先	随時	
		資材廃棄	1 要求	①資材廃棄依頼書を作成	OU資材部			随時	廃棄依頼書
				②廃棄依頼書について、OU資材部において承認	OU資材部			随時	
				③ 社長の承認を申請	会計部				
		2 廃棄		③入出庫票を起票し、資材廃棄依頼書を添付し、資材を廃棄先へ送付	OU資材部			随時	出庫票
				④廃棄先は、資材と出庫票を受領	OU資材部		取引先	随時	
		資材棚卸	1 棚卸対象資材の確定	①棚卸対象の資材品目を一覧表として作成	OU資材部			四半期	
			2 実地棚卸	②棚卸対象品目一覧を出力し、棚卸リストを作成	OU資材部			四半期	
				③棚卸リストに基づき、実地棚卸を実施	OU資材部			四半期	
				④実地棚卸結果の検数を入力	OU資材部			四半期	
			4 棚卸差異の確認	⑤実地棚卸一覧により、棚卸状況を確認	OU資材部			四半期	
				(対象に存在しない品目の有無／差異が発生している品目の有無)					
				⑥未対象品目又は棚卸差異品目がある場合、原因調査を実施	OU資材部			四半期	
			5 棚卸完了	⑦棚卸結果報告書を作成	OU資材部			四半期	
				⑧承認者は、実地棚卸一覧と報告書の内容を確認し、承認	OU資材部			四半期	
				⑨OU資材部は、棚卸結果報告書を財務会計部へ提出	資材管理			四半期	
				⑩財務会計部は、棚卸結果報告書の内容を確認し、承認 (必要に応じて再調査をOU資材部に依頼)	資材管理			四半期	
				⑪棚卸差異がある場合は、再検査、原因調査を要求して会計帳簿に転記を実施	資材管理			四半期	

予算プロセス

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
財務会計	04 予算	予算編成	1 各部門予算作成	① 各部予算担当者は、予算を作成。 収支予算について、5年分の収支予算を作成(翌年度分＝月次、2年度目・3年度目＝年次)。 投資予算について、5年分の投資予算を作成(翌年度分＝月次、2年度目～5年度目＝年次)		各部		1年	予算調書
				② 当年度分の予算を作成、更新		各部		6月	
				③ 予算額の説明資料を作成		各部		6月	
			2 各部門長による査定	④ 各部門長は、予算額を査定 (修正が必要な場合は、各部担当者が予算修正)		各部		6月	
				⑤ 財務会計部へ予算査定を依頼	予算	各部		6月	
		3 財務会計部による査定		⑥ 財務会計部は、予算を査定し、査定金額を各部予算責任者(各部門長)へ通知	予算	各部		6月	
				⑦ 各部予算責任者は、査定金額を各課へ配賦し、必要に応じて予算修正を指示	予算	各部		6月	
				⑧ 必要に応じて各部予算担当者は、予算を修正		各部		6月	
				⑨ 各部予算責任者は、予算修正結果を確認し、財務会計部へ報告	予算	各部		6月	
				⑩ 財務会計部は、各部修正結果と査定金額を対照し、予算を確定	予算			6月	
				⑪ 財務会計部は、会社のリーダーに報告し予算の承認を受けた上、各部予算責任者へ文書を送付	予算	各部		6月	
		予算執行管理	1 予算実績のモニタリング	① 財務会計部及び各部予算責任者は月次において予算と実績を、計画プロジェクト部は四半期において予算と実績をモニタリングする。	予算	計画プロジェクト部、各部		月次／四半期	
			2 課題対応検討及び実行	② 予算と実績の差異がある場合、計画プロジェクト部と各部で対策を検討	予算	計画プロジェクト部、各部		月次	
				③ 各部は対策を実行		各部		月次	
		3 予算修正		④ 計画プロジェクト部は、実行結果に基づき計画修正を指示		計画プロジェクト部		四半期	
				⑤ 財務会計部は、各部へ予算修正を指示	予算	各部		四半期	
				⑥ 各部は修正予算を作成し、財務会計部に取り纏め、報告してもらうために送付する		各部		四半期	
				⑦ 財務部は総裁の承認を申請	予算			四半期	

決算プロセス

大分類	中分類	小分類	アクティビティ	アクティビティ詳細	関係先			処理頻度	帳票
					財務会計部	社内関係先	社外関係先		
財務会計	05 決算	月次決算整理	1 会計期間締め	① 会計帳簿、各勘定の入力を制限 (会計期間をClose、先会計期間をOpen)	決算			月次	
			2 決算処理伝票の起票	②財務会計部が、決算処理伝票を起票 ③財務会計部は、決算整理仕訳を実行	決算			月次	決算処理伝票 決算整理仕訳
				④ 決算関連帳票の出力(B/S,P/L,合計残高試算表等)	決算			月次	B/S,P/L,合計残高試算表等
				⑤ 決算整理事項の確認	決算			月次	
			3 税務決算	⑥ 財務会計部は、税務報告書を作成	決算			月次	税務報告書
			4 会計期間締め(本締め)	⑦ すべての会計期間をClose	決算			月次	
			5 その他決算作業	⑧ 再振替対象となっている伝票を転記(翌月1日付)	決算			月次	
				⑨ 各種決算資料作成	決算			月次	
		四半期・半期決算整理	1 会計期間締め	① 会計帳簿、各勘定の入力を制限 (会計期間をClose、先会計期間をOpen)		各部		四半期	
			2 決算処理伝票の起票	②財務会計部が、決算処理伝票を起票 ③財務会計部は、決算整理仕訳を実行	決算	各部		四半期	決算処理伝票 決算整理仕訳
				④ 決算関連帳票の出力(B/S,P/L,合計残高試算表等)	決算			四半期	B/S,P/L,合計残高試算表等
				⑤ 決算整理事項の確認	決算			四半期	
			3 税務決算	⑥ 財務会計部は、税務報告書を作成	決算			四半期	税務報告書
			4 会計期間締め(本締め)	⑦ すべての会計期間をClose	決算			四半期	
			5 その他決算作業	⑧ 再振替対象となっている伝票を転記(翌月1日付)	決算			四半期	
				⑨ 各種決算資料作成	決算			四半期	
		年度末決算整理	1 会計期間締め	① 会計帳簿、各勘定の入力を制限 (会計期間をClose、先会計期間をOpen)		各部		年次	
			2 決算処理伝票の起票	②財務会計部が、決算処理伝票を起票 ③財務会計部は、決算整理仕訳を実行	決算	各部		年次	決算処理伝票 決算整理仕訳
				④ 決算関連帳票の出力(B/S,P/L,合計残高試算表等)	決算			年次	B/S,P/L,合計残高試算表等
				⑤ 決算整理事項の確認					
			3 税務決算	⑥ 財務会計部は、税務報告書を作成	決算			年次	税務報告書
			4 会計期間締め(本締め)	⑦ すべての会計期間をClose ⑧ 決算整理事項の確認					
				⑨ 次年度に対して、勘定残高の繰越処理を実施	決算			年次	
			5 年度繰越処理	⑩ 再振替対象となっている伝票を転記(翌月1日付)	決算			年次	
			6 その他決算作業	⑪ 各種決算資料作成	決算			年次	



ハノイ市人民委員会



国際協力機構

成果物報告

ハノイ市都市鉄道規制機関強化
及び運営会社設立支援プロジェクト

Act 6.4.2 : 共通運輸約款 (旅客運輸規程)

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ハノイ、2015 年 11 月

目 次

第 1 章：総則	4
第 1 条. 総則	4
第 2 条. 適用対象	4
第 3 条. 用語解釈・省略語	4
第 2 章：事業者の権限及び義務	4
第 4 条. 事業者の権利	5
第 5 条. 事業者の義務	5
第 3 章：旅客の権利責任	5
第 6 条. 旅客の権利	5
第 7 条. 旅客の責任	6
第 4 章：旅客運輸	6
第 8 条. 駅及び列車における禁止行為	6
第 9 条. 荷物	6
第 10 条. 禁止の荷物	7
第 11 条. 荷物の保管、検査	7
第 12 条. 運輸の制限又は停止	7
第 5 章：乗車券・IC カード	7
第 13 条. キロ程の端数計算法	7
第 14 条. 運賃計算方式	7
第 15 条. 距離及び経路	8
第 16 条. 旅客の分類及び相当運賃（旅客及び相当運賃）	8
第 17 条. 社会政策対象への運賃減免	8
第 18 条. 乗車券の種類	9
第 19 条. 乗車券購入時に旅客が提出する書類	9
第 20 条. 乗車券及び IC カードの改札	10
第 21 条. 制限事項	10
第 22 条. 乗車券発売	11

第 23 条. 乗車券の払戻し	11
第 24 条. IC カードに対する所有権	11
第 25 条. デポジット	11
第 26 条. チャージ	11
第 27 条. IC カード残額の確認	11
第 28 条. IC カード変更	12
第 29 条. 事業者への IC カード返却	12
第 30 条. 紛失 IC カード再発行	12
第 31 条. 障害 IC カード再発行	12
第 32 条. IC カードの無効となる場合	12
第 33 条. IC カードに関する事業者の免責事項	13
第 6 章：処理制裁（都市鉄道運輸における問題）	13
第 34 条. 乗車券の不所持及び不正使用の処理	13
第 35 条. 乗車券紛失の処理	13
第 36 条. 乗車券誤購入の処理	14
第 37 条. 禁止荷物を持ち込んだ時の処理	14
第 38 条. 同一駅で入出場する場合の取扱い	14
第 39 条. 列車の運行不能の場合の取扱い	14
第 40 条. 都市鉄道運営における保険に関する責任	15
第 41 条. 都市鉄道管理運行における紛争解決	15

第 1 章：総則

第 1 条．総則

本規程は、都市鉄道を運営する公共旅客運輸事業者と、都市鉄道を利用する旅客の権限義務のほか、旅客が都市鉄道を利用する際の運賃や乗車券、IC カード等に関する事項を定める。

第 2 条．適用対象

都市鉄道による旅客運輸を営業する事業者及び都市鉄道運輸サービスを使用する旅客である。

第 3 条．用語解釈・省略語

1. 用語解釈

- a. 「事業者」とは、ハノイ市における都市鉄道運輸を営業する組織個人をいう。
- b. 「サービス」とは、都市鉄道システムによる旅客運輸サービスをいう。
- c. 「乗車券」とは、旅客運輸契約を締結した証拠である。乗車券は、権限のある機関にて登録された様式により旅客運輸営業事業者によって発行される。乗車券は紙又は IC カードによる様式である。
- d. 「無記名 IC カード」とは、券面に使用者の名前を記録しない、持参人 1 名が使用する IC カードをいう。
- e. 「記名 IC カード」とは、券面に使用者の名前を記録し、カードに氏名を記録した本人のみが使用出来る IC カードをいう。
- f. 「チャージ」とは、カードに入金することをいう。
- g. 「デポジット」とは、事業者が利用者に IC カードを発行する時に、利用要求がない時にカードを返却することを条件に利用者から収受する金銭をいう。
- h. 「改札機等」とは、各駅における乗車券、IC カードの改札を行う機器をいう。
- i. 「最低運賃相当額」とは、乗車駅から隣接駅までの区間に対して適用される最も低額な運賃に相当する額をいう。
- j. 「券売機」とは、決まったところに設置し、事業者が管理する自動設備で、旅客からお金（ベトナムドン）を受けて、旅客に該当する価値、期限のあるカード（乗車券）を出す機能を持つ設備をいう。
- k. 「乗車券売場」とは、駅構内に設置され、事業者の係員が乗車券、カードを販売するところをいう。
- l. 「駅」とは、旅客が列車を乗り降りるところをいう。
- m. 「列車」とは、旅客運輸のための列車をいう。

2. 省略語

- a. DSDT とは、都市鉄道をいう。

第 2 章：事業者の権限及び義務

第4条. 事業者の権利

1. 乗車券を買う事、事業者の規定の遵守を乗客に要求する。
2. 安全性に疑問があると判断した場合、駅構内や列車内に持ち込まれる前に手荷物を検査する権利を持つ。
3. 次の各号のいずれかに該当する場合、荷物の持ち込み又は列車への乗車を断る権利を持つ。
 - a. 第1項の定めに反し、旅客が乗車券を購入しない場合
 - b. 旅客は本規程、旅客内規及び関連のある他の法律に従わない場合
 - c. 第9条の規定を超える荷物及び第10条に定めた物を持ち込もうとする場合
 - d. 10歳未満（年齢を確定できない場合、高さが1.32m未満）の小児が大人の随伴無しで乗車する場合
 - e. 行為を自制できない人や、酔っ払い、疫病にかかっている人が乗車しようとした場合（随伴し世話する人がいる場合を除く）
 - f. やむを得ない理由又は特別な業務のために、通常の旅客運輸ができない場合
4. 法律により他の権限を行う。

第5条. 事業者の義務

1. 権限のある機関が承認した運転計画（列車ダイヤ）どおりに運転を行うこと
2. 安全かつ快適で、安定的で定時性の高いのサービスを提供すること
3. 路線の駅名や位置、券売機及び乗車券売り場の位置、運賃等を、案内表示板によって知らせること
4. 駅に、旅客向けの誘導設備、表示板、乗降口、非常時の出口等を設置すること
5. 車両に、スピーカー、路程図、都市鉄道のネットワーク図、その他の設備等を設置すること
6. 旅客に時刻表、運賃、乗車の内規を知らせること
7. 事故やダイヤ乱れ等が発生した場合、事業者は駅で旅客に適時に知らせること
8. 旅客を丁寧に扱い、不自由者には駅の入出場、乗降時等に支援するスタッフを配置すること
9. 事業者の責による旅客の健康、生命、財産等の損壊への賠償、運賃の返済をすること
10. 必要に応じて、政府の規制機関が旅客を確認できるよう協力すること
11. 法律による他の義務を実施すること

第3章：旅客の権利責任

第6条. 旅客の権利

1. 事業者の内規・規定された旅客サービスの提供を受けられる
2. 次の場合に列車を利用する事を断る権利がある
 - a. 事業者が、生命・健康へ直接または間接に被害を与え、荷物を損傷又は紛失させる可能性がある安全運行規定違反を起した場合

- b. 列車運行が当初ダイヤより 5 分遅延しても、事業者が事前に旅客に知らせない場合
- 3. 旅客の健康・生命に影響する損害を事業者の技術ミスにより受けた場合、賠償を受ける。
- 4. 法律により、生命と健康に関する保険を受ける。
- 5. 法律による他の義務を実施する。

第 7 条. 旅客の責任

- 1. 事業者の規定どおり乗車券を買う。また、旅程の最後駅まで乗車券を所持する。
- 2. 乗車券を誤購入又は金額が不足するときは、正しい行程の乗車券に交換する又は乗車した行程に応じた運賃を十分に支払うものとする。
- 3. IC カードを必要としない時は、旅客が事業者 IC カードを返却する。
- 4. 乗車する旅客は次の条件を満たさなければならない。
 - a. 正規の乗車券を使用する（改札口を通す時に使用できるもの）
 - b. 事業者の規定や内規、駅や車内等の案内、駅員の案内に従う
 - c. 大人が随伴する 10 歳未満の小児（年齢を確定できない場合、身長が 1.32m 未満）
- 5. 改札時又は乗車中は、正規な乗車券、書類等を駅係員に提示する。

第 4 章：旅客運輸

第 8 条. 駅及び列車における禁止行為

駅構内及び列車において、旅客が以下の行為をすることを禁止する。

- 1. 列車運行の間に乗務員室に入って、運転士に話すこと
- 2. 事業者の許可を受けずに、販売する事（貨物営業）
- 3. スピーチ、伝道、チラシの配布
- 4. 所定場所以外での喫煙及び飲食、痰を吐くこと
- 5. 列車走行中に列車の外に手や足を出すこと
- 6. 列車走行中に列車の後に飛びつくこと
- 7. 提示物、広告、椅子又は他の機械、設備を破壊すること
- 8. 所定の箇所以外において、吸殻やゴミ、他の汚物等を捨てること
- 9. 大声で歌うことや話すこと、騒ぎを起こすこと
- 10. 赤裸、半赤裸など風紀に影響を与えること
- 11. 旅客を擾乱し、列車で業務を実施する係員に影響を与えること
- 12. 上記の行為以外、美観、治安秩序に影響を与えること

第 9 条. 荷物

以下の分類により、旅客は列車に荷物を持ち入ることができる。

- 1- 列車運行に影響を与えない荷物
- 2- 荷物一つ当たり、重量が 30kg 以下、3 辺の長さ（長さ・幅・高さ）が 190cm 以下。荷物は持ち運びできるものとする。

- 3- 第 1 項及び第 2 項を遵守することのほか、旅客は上記の荷物を 3 個以上持ち入ってはいけない。3 個以上持ち入る場合、サービス使用に相当する金額を支払わないといけない。
- 4- いかなる場合においても、駅員が荷物の検査、検討、持込の承諾をすることができる。

第 10 条. 禁止の荷物

第 9 条の規定にかかわらず、旅客は以下の種類の荷物を列車に持ち込むことができない。

1. 危険な荷物、爆弾、地雷及びガゾリン、油、ガスボンベなど爆発剤
2. 死体、遺骨
3. 動物（小鳥（ペットとしての鳥）など籠に入れる動物又は障がい者を支援する業務犬以外）
4. 清掃されていない又は異臭などにより他の旅客に面倒を与える荷物
5. 酸性など列車に損害を与える荷物
6. その他、係員が駅又は列車への持ち込みを許可しない荷物

第 11 条. 荷物の保管、検査

1. 旅客は列車に持ち込む荷物を自ら保管する責任を持つ。
2. 荷物に疑いがあれば、係員はその旅客に対し、荷物の容積、重量、中身の検査を要求することができる。

第 12 条. 運輸の制限又は停止

1. 事業者は列車運行に障害が発生したと認識した場合、以下のとおり運輸の制限又は停止をすることができる。
 - a. 旅客への乗車券の発売を制限し停止すること
 - b. 乗車区間、乗車経路、乗車する列車の制限
 - c. 荷物の高さ、容積、重量、個数、品目、持込区間又は持込みの列車の制限
2. 第 1 項により列車運行の制限又は停止する場合、上記の内容を関係する駅に知らせること。

第 5 章：乗車券・IC カード

第 13 条. キロ程の端数計算法

キロ程を用いて運賃・料金を計算する場合の 1 キロメートル未満の端数は、1 キロメートルに切り上げる。

第 14 条- 運賃計算方式

1. 運賃計算方式は以下のとおり。

$$\text{初乗り運賃} + \text{運輸距離の増運賃係数} \times (\text{距離 [km]}) = \text{VND}$$

2. 運賃を計算する際、1,000VND 未満の端数が発生する場合は、それを切り上げて 1,000VND 単位

で計算する。

3.各駅間の距離と、2A 号線（Cat linh－Ha Dong 間）の運賃は下表のとおり。

$$6000 + 600 \times 0.7 = 6.420\text{VND} = 7.000\text{VND}$$

(Left Bottom: Distance [km], Right Up: Fare [x VND1000])

Sta.1	7	8	8	9	9	11	11	12	12	14	14
0.7	Sta.2	7	8	9	9	10	11	12	12	13	14
1.6	0.9	Sta.3	8	8	9	9	10	11	12	12	13
2.7	2.0	1.1	Sta.4	8	8	9	9	11	11	12	12
3.9	3.2	2.3	1.2	Sta.5	8	8	9	9	11	11	12
5.0	4.3	3.4	2.3	1.1	Sta.6	8	8	9	9	11	11
6.4	5.7	4.8	3.7	2.5	1.4	Sta.7	8	8	9	9	11
7.5	6.8	5.9	4.8	3.6	2.5	1.1	Sta.8	8	8	9	9
8.8	8.1	7.2	6.1	4.9	3.8	2.4	1.3	Sta.9	8	8	9
10.0	9.3	8.4	7.3	6.1	5.0	3.6	2.5	1.2	Sta.10	8	8
11.4	10.7	9.8	8.7	7.5	6.4	5.0	3.9	2.6	1.4	Sta.11	8
12.5	11.8	10.9	9.8	8.6	7.5	6.1	5.0	3.7	2.5	1.1	Sta.12

(法律の規定により、HPC によって承認され、公表された後、調整する)

第 15 条. 距離及び経路

旅客運賃は、旅客の「実際に乗車する」経路及び発着の順序によって計算する

(法律の規定により、HPC によって承認され、公表された後、調整する)

第 16 条. 旅客の分類及び相当運賃（旅客及び相当運賃）

旅客の運賃は、以下のとおり年齢により分類する。

- 大人：12 歳以上の者。
- 小児：6 歳以上 12 歳未満の者、ただし 10 歳未満は大人の随伴が必要。小児の運賃は大人の運賃の半分である。
- 幼児：6 歳未満の者、大人が随伴する限り 2 名まで無料とし、2 名を超えた者は小児運賃を適用する。

(法律の規定により、HPC によって承認され、公表された後、調整する)

第 17 条. 社会政策対象への運賃減免

1. 社会政策対象は、下記の表のように運賃減免の制度を享受すること。

順	対象	運賃減免水準
a	革命活動を行った人、ベトナムの英雄母親、傷兵、傷兵として政策を享受する人、病兵、抗戦活動の時に敵によって捕まえられ、入牢され、追放された人、抗戦活動の時に化学毒素を中毒した人、枯葉剤の被害者	90%

b	60 歳以上の老人、障害者	50%
c	学生、大学生	30%

2. 運賃減免が二つ以上該当する社会政策対象の場合、最も高い割引のみ適応される。
3. 乗車券を購入する際、運賃減免対象は、規定対象の証明書及び個人書類を提示すること。

(法律の規定により、HPC によって承認され、公表された後、調整する)

第 18 条. 乗車券の種類

都市鉄道の運賃種類（一回乗車券、月間乗車券等）は以下のとおりである。

- ・一回乗車券
- ・100.000VND,200.000VND,500.000VND 乗車券
- ・1 日乗車券、3 日乗車券、月間乗車券
- ・ハノイネットワークにおける乗車券（Hanoi pass）
- ・団体乗車券
- ・優先一回乗車券（子供、老人、学生、兵士、障害者等）
- ・優先乗車券（子供、老人、学生、兵士、障害者、運転士等）

(法律の規定により、HPC によって承認され、公表された後、調整する)

第 19 条. 乗車券購入時に旅客が提出する書類

1. 割引乗車券を購入するとき、旅客が事業者提出する書類は、ボールペンで十分な項目を記載し、かつ、特に定めるものについて、これに証印を押すものとする。
2. 旅客は、第 1 項の書類の記載事項を訂正した場合は、その訂正箇所に証印を押す（又は略式署名）ものとする。
3. 第 1 項及び第 2 項を含め、書類が適正だと事業者が判断する限り、旅客の書類が認められる。
4. 割引証が無効となる場合及びこれを使用できない場合は以下のとおりである。なお、運賃割引証は無効として回収する。
 - a. 記載事項が不明となったものを使用したとき
 - b. 表示事項をぬり消し、又は改変したものを使用したとき
 - c. 有効期間を経過したものを使用したとき
 - d. 有効期間内であっても、使用資格を失った者が使用したとき
 - e. 記名人以外の者が使用したとき
5. 旅客運賃割引証は、次の各号のいずれかに該当するものは、使用することができない。
 - a. 発行者が記入しなければならない事項を記入していないもの
 - b. 発行者又は使用者が必要な箇所に押印していないもの

- c. 記入事項を訂正した場合で、これに相当の証印のないもの

第 20 条. 乗車券及び IC カードの改札

1. 乗車の目的で乗降場に入場し、又は乗降場から出場しようとするものは、所定の乗車券を所持して、係員の改札（自動改札装置による改札を含む。以下乗車券の改札及び引渡しについて同じ。）を受け、定められた場所から入出場しなければならない。
2. 旅客は、その所持する乗車券が効力を失い、若しくは不要となった場合又はその乗車券を使用する資格を失った場合は、当該乗車券を係員に引き渡すものとする。
3. 片道 1 回の乗車に限り有効なものとする。この場合、IC カード 1 枚をもって 1 人が使用することができる。
4. 入場後は、一回乗車券において当日限り有効とする。
5. 途中下車の取扱いはしない。
6. IC カード乗車券を使用して乗車するときは、改札機等による改札を受けて入場し、同一の IC カード乗車券により改札を受けて、出場しなければならない。
7. 出場時にカード残額が減額する運賃相当額に満たないときは、精算機等において不足額を支払い、出場するものとする

第 21 条. 制限事項

1. 1,000VND 未満は、旅客運賃を支払うことはできない。
2. 入場時に使用した IC カードを出場時に使用しなかった場合は、当該 IC カードで再び入場することはできない。
3. 次の各号のいずれかに該当するときは、IC カードを直接改札機等で使用できないことがある。
 - (a)入場時にカード残額が当該駅の最低運賃相当額に満たないとき。
 - (b)IC カードの破損、改札機等の故障又は、停電等により改札機等による IC カード乗車券の内容の読取りが不能となったとき。
 - (c)記名 IC カードにおいては、改札機等での入場若しくは出場、チャージの取扱いを行った日の翌日を起算日として、事業者が別に定める期間にこれらの取扱いが行われなかったとき。
4. 旅客は乗車以外の目的で、駅係員の許可がない限り、駅（改札口）に入出場することはできない。
5. 記名 IC カードは、当該記名 IC カードに記録された記名人本人以外が使用することはできない。
6. 偽造され、変造され、又は不正に作成された IC カード乗車券を使用することはできない。

第 22 条. 乗車券発売

1. 発売時間は、始発列車がその駅から出発する時刻の 15 分前から、終発列車の到着時刻までとする。
2. 乗車券は、乗車券売場で駅の係員により、又は駅の中に設置した自動券売機で発売する（決まった駅に限り発売する特定な乗車券の種類を除く）。

第 23 条. 乗車券の払戻し

旅客は、旅行開始前に乗車券が不要となった場合は、その乗車券の券片が入検前で、かつ、有効期間内又は有効日前であるときに限り、これを駅に差し出して既に支払った旅客運賃の払戻しを請求することができる。この場合、旅客は、手数料として〇〇〇ドンを支払うものとする。

（運賃が承認、公開された後に適切な金額を計算する）

第 24 条. IC カードに対する所有権

1. IC カードは事業者（又は HPC が定める機関）により旅客に発行される。旅客に IC カードを貸与する際、旅客から〇〇〇VND に相当するデポジットを収受する。旅客に使用需要がない時は、事業者に戻却し、IC カードに対する所有権は事業者が持つ。
2. IC カードが無効になる場合、又は旅客に IC カード使用权が無くなった場合など、旅客は IC カードが不要になる場合は事業者に戻却する。

（運賃が承認、公開された後に適切な金額を計算する）

第 25 条. デポジット

1. IC カードを旅客に発売するとき、事業者はデポジットとして〇〇〇ドンを受受する。
2. 旅客が事業者に戻却 IC カードするとき、事業者は第 24 条第 1 項のとおりデポジットを旅客に戻却する。
3. デポジットは運賃として使用できない。

（運賃が承認、公開された後に適切な金額を計算する）

第 26 条. チャージ

1. IC カードは券売機又は乗車券売り場、駅係員によりチャージすることができる。
2. IC カードを使用して乗車し、出場時にカード残額が減額する運賃相当額に満たない場合は、不足額精算機又は窓口、駅係員により金額をチャージすることができる。

第 27 条. IC カード残額の確認

1. IC カードの残額は、券売機により確認することができる；
2. IC カードの残額履歴の表示は、IC カード乗車券の処理を行う機器で最新のものから 20 件まで次の場合を除き確認することができる。
 - a. 出場処理がされていないとき

- b. 所定の機器による処理が完全に行われなかったとき

第 28 条. IC カード変更

旅客が無記名 IC カードを差し出して、記名 IC カードへの変更を申し出た場合は、事業者が IC カードの変更・給付をする。なお、記名 IC カードから無記名 IC カードへの変更はできない。

第 29 条. 事業者への IC カード返却

1. 旅客は IC カードが不要となり、事業者へ返却するとき、事業者は旅客に対し IC カードの残高を払い戻す。この場合、旅客は IC カード払戻し手数料として事業者へ 1 枚につき〇〇〇ドンを支払う。
(運賃が承認、公開された後に適切な金額を計算する)

2. 払戻しの際の IC カード残高、手数料及びデポジットは、以下のとおりである。

$D = A$ (IC カードの残高が 0 ドン)

$D = ((B - C) + A)$

A – デポジット

B – IC カードの残高

C – IC カード払戻し手数料

D – 旅客が受け取る金額

3. 旅客が記名 IC カードを払戻しする場合、旅客が規定により必要な書類を持参し事業者へ提出しないといけない。

第 30 条. 紛失 IC カード再発行

1. 記名 IC カードの記名人が当該記名 IC カードを紛失した場合、使用停止措置と再発行の取扱いを行う。この場合において、旅客はデポジット及び IC カード再発行手数料を支払うものとする。
2. 紛失再発行の取扱いを行った後に、紛失した記名 IC カードが発見された場合で、事業者が当該記名 IC カードにつきデポジットを収受している場合、デポジットの返却を行う。

第 31 条. 障害 IC カード再発行

1. IC カードが破損等によって所定の改札機、券売機で使えない場合は、再発行の取扱いを行う。
2. 前項の規定の以外、次の各号のいずれかに該当する場合は、理由のいかんを問わず再発行の取扱いを行わない。また、旅客にデポジットを返却しない。
 - a. 裏面に刻印されたカードの番号が判読できない場合
 - b. 旅客の故意又は重大な過失により IC カードが障害状態となり無効となった場合

第 32 条. IC カードの無効となる場合

1. IC カードは、次の各号のいずれかに該当する場合は、無効とする。
 - a. 旅行開始後の IC カードで再度入場した場合

- b. 係員の承諾なく改札機等による改札を受けずに入出場した場合
 - c. 記名 IC カードを記名人以外の者が使用した場合
 - d. 券面表示事項が不明となった記名 IC カードを使用した場合
 - e. 券面表示事項をぬり消し、又は改変して使用した場合
 - f. 偽造され、変造され、又は不正に作成された IC カードを使用した場合
 - g. 旅客の故意又は重大な過失により IC カードが障害状態となったと認められる場合
 - h. その他不正乗車の手段として使用した場合
2. 第 1 項の規定に該当した場合、発見した後に、事業者はその IC カードを回収し、使用した旅客は〇〇〇ドンを行政上の罰金として支払うものとする。
(運賃が承認、公開された後に適切な金額を計算する)

第 33 条. IC カードに関する事業者の免責事項

以下の場合において、旅客は事業者の要求により実施する責任を持つ。以下の理由による旅客の損害に対し、事業者が免責する。

- 1. IC カードの交換又は再発行
- 2. IC カード更新、又は事業者が必要と認める場合において、事業者が IC カード使用者に IC カードの交換又は類似対策の実施を要求する場合

第 6 章：処理制裁（都市鉄道運輸における問題）

第 34 条. 乗車券の不所持及び不正使用の処理

- 1. 以下の場合、旅客は違反とされ処理される。
 - a. 乗車券を持参せず、乗車する
 - b. 偽造の乗車券を使う
 - c. 記名 IC カードを記名人以外の者が使用した場合又は、記載した名前が修正された IC カードを使用した場合
- 2. 第 1 項により発見した場合、事業者は旅客に対し下記のとおり取り扱う。
 - a. 乗車券を持参せず乗車した場合、発駅から乗車した路程に相当する罰金を支払う。
 - b. 偽造の乗車券を使用した場合、その乗車券が押収され、旅客が〇ドンを罰金として支払う。
 - c. 記名 IC カードを記名人以外の者が使用した場合、又は記載した名前が修正された IC カードを使用した場合、その IC カードを押収する。
(運賃が承認、公開された後に適切な金額を計算する)

第 35 条. 乗車券紛失の処理

1. 旅客が、旅行開始後、乗車券、IC カードを紛失した場合であって、事業者の係員がその事実を認定することができないときは、旅客が第 34 条第 2 項 a より罰金を支払い、前途の乗車区間については、普通旅客運賃を収受する。

2. 事業者の係員がその事実を認定することができるときは、その全乗車区間に対する普通旅客運賃を収受する。

第 36 条. 乗車券誤購入の処理

1. 旅客が誤ってその希望する乗車券と異なる乗車券を購入した場合で、その誤購入の事由が駅名の同一、類似その他やむを得ないと認められ、かつ、事業者の係員がその事由を認めたときは、事業者が正当な乗車券に変更の取扱いをする。
2. 前項の場合は、既に収受した旅客運賃・料金と正当な旅客運賃・料金を比較し、不足額は収受し、過剰額は払戻しをする。

第 37 条. 禁止荷物を持ち込んだ時の処理

第 10 条に定めている禁止の荷物を持ち込んだ事を発見した場合、以下のように処理する。

1. 発駅における発見の場合、事業者が運輸の拒否または運輸の停止をする
2. 列車走行中に発見する場合、以下のように処理する。
 - a. 列車走行中に、持込禁止の危険物を発見した場合、停車駅又は近接の駅で降車させ、そこで引き続き処理する。
 - b. 持込禁止だが危険な荷物ではない場合、着駅まで運輸し、着駅で処理する。
3. 荷物を回収できる国家機関の命令を受けた場合、駅長はその件についての記録書を残し、回収命令を出した機関の代表者に引渡す。記録書のフォーマットは事業者が定める。記録書を残す他、場合によっては以下のように処理する。
 - a. 貨物が駅で回収される場合、受取る人が事業者へ通知し、解決をする。
 - b. 列車走行中の場合、着駅まで運輸され、第 2 項及び第 4 項 b により処理される。
4. 管轄機関が処理するほか、旅客又は荷物を送る者が第 1 項、第 2 項及び 3 項に違反した場合、以下の取り扱いとなる。
 - a. 事業者の規定により、その経路に運輸した全ての荷物、貨物に対する罰金を支払う。
 - b. この違反による損害を全て賠償する。
 - c. 発生費用（あれば）を支払う。

第 38 条. 同一駅で入出場する場合の取扱方

1. 旅客は、乗車券、IC カードを使用して入場した後、任意の駅まで乗車し、出場せずに再び旅行開始駅まで乗車して出場する場合は、実際乗車区間の普通旅客運賃を事業者へ支払わなければならない。
2. 旅客は、乗車券又は IC カードを使用して入場した後、乗車せずに同一駅で出場する場合は、当該入場駅の最低運賃相当額を支払わなければならない。

第 39 条. 列車の運行不能の場合の取扱方

旅客は、改札機等による改札を受けた後、列車が運行不能となった場合は、次の各号のいずれかの取扱いを選択の上請求することができる。

- (a) 発駅まで無賃送還をするとき：発駅までの乗車区間の運賃は収受しない。IC カード使用の

場合、発駅での出場時に IC カードの発駅情報の消去処理を行う。

- (b) 発駅に至る途中駅まで無賃送還したとき又は当該駅で旅行を中止したとき：発駅から途中駅又は当該駅までの片道普通旅客運賃相当額を支払う。

第 40 条. 都市鉄道運営における保険に関する責任

1. 都市鉄道運輸事業者は保険営業に関する法律の規定により民事責任の保険に加入しなければならない。
2. 旅客運輸事業者は、旅客に対する保険に加入しなければならない。その保険料は旅客運賃に加算される。
3. 乗車券、乗車に係る書類は、保険事件が発生する時に保険金を支払う証明になる。
4. 旅客に対する保険は保険営業に関する法律の規定により行う。

第 41 条. 都市鉄道管理運行における紛争解決

1. 旅客と都市鉄道運輸営業事業者に紛争が発生したあらゆる場合に、解決形式が下記のとおりである。
 - a)交渉・仲裁によること
 - b)仲裁者の解決を申し出る、又は裁判所に出訴すること
2. 紛争解決の手順、手続き等は、法律の規定により行うこと。



ハノイ市人民委員会



国際協力機構

**JICA が行う「ハノイ市都市鉄道の規制機関強化及び運営会社設立」支援
プロジェクト**

成果物
関連事業計画のドラフト

実施者：**Kieu Quang Huynh**

教示者：**Tanisaka**

ハノイ、2015 年9 月

目次

I – 根拠	3
II. 目的、目標	3
2.1 目的	3
2.2 目標	3
III – 方法	3
3.1 会社分析（Company）	4
3.2 競合分析（competitor）	5
3.3 駅ごとに対する市場・顧客（Customer）・住民の需要分析	6
IV – 内容	6
4.1 営業の形式	6
4.1.1 広告	6
4.1.1.1 車内、駅内における紙、Pano での広告	6
4.1.1.2 電子広告	7
4.1.2 敷地賃借（キオスク）	7
4.1.3 光ケーブル、インターネット・ワイファイ伝送路用空間賃借	8
4.2 営業場所	8
4.2.1 車内	8
4.2.2 駅内外	8
4.2.3 沿線	9
4.3 実施計画	9
4.4 実施組織	9
4.4.1 本社	9
4.4.2 現業企業（駅部）	10
4.5 財務計画	10
4.6 実施要員計画	10
V – 付録、様式	11

I – 根拠

- 2005/6/14 付 鉄道法第 35/2005QH11 号に基づき、
- 2014/11/26 付 企業法第 68/2014/QH13 号に基づき、
- 2014/11/25 付 不動産営業法第 66/2014/QH13 号に基づき、
- 2012/6/21 付 広告法第 16/2012/QH13 号に基づき、
- ハノイ鉄道一人有限会社設立についての 2014/11/27 付 HPC による決定書第 6266/QĐ-UBND 号に基づき、
- ハノイ鉄道一人有限会社の組織・活動定款の承認についての 2015/6/15 日付の HPC による決定書第 4694/QĐ-UBND 号に基づき、
- ハノイ鉄道一人有限会社の決定書第〇〇号により制定される財務規制に基づき、
- ハノイ鉄道一人有限会社の〇付 決定書第〇〇号で承認、制定される企業理念、
- ハノイ鉄道一人有限会社の〇付 決定書第〇〇号で承認、制定される長期ビジョン、
- ハノイ鉄道一人有限会社の〇付 決定書第〇〇号で承認、制定される 5 年営業計画。

II. 目的、目標

2.1 目的

- 都市鉄道の使用への旅客誘致
- 会社のその他の営業収入増加

2.2 目標

- 目標の価値：（2A 号線が未完成のため、確定できていない）
- 駅内外における店舗等の便利なサービスを提供することで都市鉄道サービスを使用する旅客の利便性を高めること。

III – 方法

会社の経営に直接影響を与える要素の分析。

3.1 会社分析

各駅、各路線エリアにおいて利便性の高いサービスを提供し、より多くの旅客を誘致することを目標として、会社は沿線及び駅の周辺で下記のような営業を行う。

広告営業：列車内外・駅内外

店舗営業：下記のように駅内外のスペースに適した店舗を建設・設置し、収益が期待でき、かつ利便性の高い業種を営業する。

物品店舗は、飲料・食料販売の他、文房具店などを営業する。

コンビニエンスストアは、飲料・食料、物品及び他のサービスを営業する。

駐車場、駐車場の営業：住民を都市鉄道利用に誘致するために、自転車、バイク、自動車等の他の交通機関を利用する旅客用の駐車スペースを整備することが必要である。

光ファイバー及びインターネット設置事業：沿線と駅。

各営業形式を運営する際のメリットとデメリットは、下記の表通りである。

メリット	デメリット
<ul style="list-style-type: none"> -多数の旅客が通過する。（駅構内及び列車内での広告） - 広告、店舗の営業で余剰スペースを利用できる。 - 住宅地、新都心及び学校・大学に近い駅が多い。 - 路上と比較して、旅客が安全に広告掲示を見、また買い物をすることができる。 - 移動の途上で、買いたい物を買える。 - スピーカー、画像、ポスター等、用途に合った広告を掲示することができる。 	<ul style="list-style-type: none"> -多くの旅客・乗客が携帯電話を使用するため、広告に注意を払わないおそれがある。
駅構内の店舗	
<ul style="list-style-type: none"> - 旅客は関連事業の潜在的顧客である。 - 鉄道事業と連携することができる。 - 雨が降っても旅客は雨に降られずに買い物をすることができる。 	<ul style="list-style-type: none"> - 2A号線の各駅には、スペースが少ないため、面積の大きい店舗が設置できない。 - 駅構内では少数の店舗しか設置できない。 - 高架橋の柱が道路の中央分離帯にあるため、高架下に店舗を設置するのが難しい。

3.2 競合分析

関連事業における主な競合は、民間飲食店・雑貨店、スーパー、沿線の広告看板である。

飲食店舗、物品店舗、コンビニについては、上記の分析どおりに、Cat Linh – Ha Dong の 2A 号線は、都心とその西南の Ha Dong 区とを結ぶ路線である。沿線に住宅地、商業施設、学校が多いため、物資の消費量も大きい。市民の需要を満たすために、沿線には多数の店舗があり、多様な商品が販売されている。これら利便性及び多様性は市民にとって利便性が高く、多く利用されている。

メリット	デメリット
<ul style="list-style-type: none"> - 店舗が多い - 品目が多様 - 購買が便利 - 適正な価格 - 文化、生活に適合している 	<ul style="list-style-type: none"> - 衛生的でない - 食品の生産地不明

スーパーについて: 沿線をまず調査・分析したところ、沿線に新たな開発地域が 7 つあり、人口の密度が相対的に高いことがわかった。これらの開発地域の住民や周辺住民の生活需要を満たすために、スーパーが設置されている。例えば、Van Phu 地区には Me Linh- Ha Dong スーパー、Quang Trung 通りに Haiway スーパー、Lang Viet Kieu 地域に Coopmart スーパーがある。

Media、Tran Anh 及び Nguyen Kim という家電量販店は Quang Trung 通にあるが、これらのスーパーは、都市鉄道の関連事業の競合ではなく、旅客誘致施設になり得る。（その他、今後の Royal、Hoa Binh、Thai Ha 及び Cat Linh という開発地区が挙げられる。）しかし、HMC の旅客のニーズに合った店舗を設置するために、各スーパーの長所及び短所を明確に分析する必要がある。このことにより、HMC が戦略上重視する点が明確になる。

メリット	デメリット
<ul style="list-style-type: none"> - 規模が大きく、多くの人を誘致する 	<ul style="list-style-type: none"> - 一般的な路面店舗より価格が高い - 市場や路面店舗での購買が一般市

- 販売品目が多様 - 人口の多い地域で営業している - 娯楽施設がある	民の習慣となっている。 - 購入目的物の種類が少なく・少量の場合はスーパーではかえって時間がかかる
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Quang Trung – Nguyen Trai 通りの沿線にある広告形式

メリット	デメリット
- あらゆる形式で広告できる - 広告の面積が大きい - 価格が適正 - 多くの人の目に触れる - バス路線、タクシーが走る通りである。	- 視覚的な広告に限定される - ターゲットを絞ることが難しい

3.3 駅ごとに対する市場・顧客・住民の需要分析

予測データによると、開業当初の一日の旅客数が 259,400 人回、ラッシュ時最大断面 13,400 人回、その後一日の流量が 925,300 人回まで増加する見込みである。したがって、2A 号線は、都心部ーハドン間の輸送需要に応えるものである。ハノイ市を南北に走るこの路線の沿線には、住宅地・オフィス・大学が多くあり、バスターミナル等ハドンにおける複数の重要な交通ポイントを繋げている。したがって、関連事業は、旅客の利便性向上に資するものであり、高い営業効果をもたらす事ができる。

都市鉄道 2A 号線の路線帳は 13,06Km、12 つの駅があるが、そのうち、終端駅である Cat Linh はハノイ都市建物開発会社と連携してビジネスセンターを建設することとなっている。その他の駅の特徴は **付録 2** の通り。

IV – 内容

4.1 営業の形式

4.1.1 広告営業

4.1.1.1 車内、駅内における紙媒体での広告営業

車内での広告営業とは、広告ポスター、パネルを列車の側面、旅客の安全性や利便性に影響がなく、視認性のよいところに貼り付けて車内での広告を行う。会社が広告のために場所を賃貸する（又は直営する）。これらの広告ポスターは、簡単に交換することができる（以下の写真 1 参照）。

(写真 1 : 車内での広告営業例)



(写真 2 : 東京メトロの駅内での広告営業例)



4.1.1.2 電子広告営業

電子広告営業とは、会社が自分で広告用設備（LED 画面）を設置して広告会社に貸し、又は能力・経験のある会社に投資実施・管理及び広告取引先探しを委託する。これらの LED 画面は、駅内で設置される（以下の写真 3 参照）

(写真 3 : *Beijingmetro* 駅における LED 画面での広告例)

4.1.2 スペース賃貸事業

スペース賃貸事業とは、会社が自分で店舗を建設、設置して賃貸し、又は実施を他の会社に委託することができるが、その敷地の使用が鉄道事業に影響を与えないことを保障しなければならない。（以下の写真をご参照）

(写真4：東京メトロの駅でのキオスク賃貸例)



METRO'S (Kiosk at Omote-sando Station)



4.1.3 光ケーブル、インターネット・ワイファイ伝送路用設置場所事業

会社は、光ケーブル等のインターネットの伝送路を設置する営業会社に橋脚下（又は上）の土地を賃貸するが、運行に影響を与えないことを保障しなければならない。

4.1.4 駐車場営業（沿線の不動産）：将来研究する。

4.2 営業場所

4.2.1 車内

車内広告営業：

- + 紙での広告（適切な場所に設置）
- + 画面での広告（適切な場所に設置）

4.2.2 駅内外

駅内の営業は、下記を含む。

- + キオスク（場所は、各駅を実地調査したうえで決定）。
- + 紙、パネルでの広告（場所は、各駅を実地調査したうえで決定）。
- + LEDでの広告（場所は、各駅を実地調査したうえで決定）。

駅外の営業は、下記を含む。

- + 広告
- + キオスク

4.2.3 沿線（駐車場、沿線において設備を設置）

沿線での営業は下記を含む。

+ 配線・配管（ケーブル、水道など）のために地下に埋設し、管理・運行・保守に影響しないように保障しなければならない。

+ 駐車場・停車場のための適切な場所を考慮して建設投資をする。

4.3 実施計画

上記の分析から導かれる実施計画は以下通りである。

No ・	内容	2016 年												備考
		第 1 四 半期			第 2 四 半期			第 3 四 半期			第 4 四半期			
		1	2	3	4	5	6	7	8	9	10	11	12	
I	広告													
1.1	車内広告													
	計画立案、承認													
	実施委任													
1.2	駅内広告													
	計画立案、承認													
	実施委任													
II	キオスク（店舗）													
	計画立案、承認													
	実施委任													
III	敷地賃貸（インフラ）													
	計画立案、承認													
	展開													翌年
IV	駐車場建設投資													
	計画立案、承認													
	展開													翌年

4.4 実施組織

4.4.1 本社

計画立案を実施し、その計画の承認を申請する。

実施オプションを承認してもらうために総裁に提出する。

実施の監査。

資金の配賦。

4.4.2 現業企業（駅部）

コントラクターと協力して実施

実施の監査。

実施結果の報告。

4.5 財務計画

計算単位：VND

No.	内容	2016 年				備考
		第 1 四 半期	第 2 四 半期	第 3 四 半期	第 4 四 半期	
A	収益					
I	広告					
	車内					
	駅内					
II	キオスク（店舗）					
III	敷地賃借					
IV	建設投資					
B	費用					
I	広告					
	車内					
	駅内					
II	キオスク（店舗）					
III	敷地賃借					
IV	建設投資					
C	税前の純収益					
D	税後の純収益					

（詳細は、2A 号線の開業後確定。）

4.6 実施要員計画

営業部は、実際の状況に基づき、要員を提案する。

V – 付録、様式

付録 1 : Cat Linh-Ha Dong 路線の日中及びラッシュ時間帯の各駅における旅客流量

付録 2 : 2A 号線 Cat Linh – Ha Dong の各駅の特徴、旅客及び旅客流量の分析

付録 3 : 各駅の建築特徴、面積

付録 4 : 関連事業営業中期計画

(申請書、決定書、方向所の書式は、後段階で作成する。)

付録 1

Cat Linh-Ha Dong 路線の日中及びラッシュ時間帯の各駅における旅客流量

No ・	駅間	日中		ラッシュ時間帯	
		ハノイ - ハードン	ハノイ - ハードン	ハノイ - ハードン	ハノイ - ハードン
1	Cat linh 駅 – La Thanh 駅	152797	151673	12223	12133
2	La Thanh 駅 – Thai Ha 駅	166789	167186	13343	13374
3	Thai Ha 駅 – Lang 駅	161182	161736	12894	12938
4	Lang 駅 - 国家大学駅	147100	146931	11768	11754
5	国家大学駅 – Vanh dai 3 駅	92372	92408	7389	7392
6	Vanh dai 3 駅 - Thanh Xuan 3 駅	67552	67600	5404	5360
7	Thanh Xuan 3 駅 – Ha Dong バスターミナル駅	69429	69475	5554	5558
8	Ha Dong バスターミナル 駅- Ha Dong 駅	70912	70959	5672	5676
9	Ha Dong 駅 - La Khe 駅	65391	65468	5231	5237
10	La Khe 駅 - Van Khe 駅	66934	67019	5354	5361
11	Van Khe 駅 – Ha Dong 新バ スターミナル駅	70453	70538	5636	5643
12	最大流量	166789	167186	13343	13374

(データは、2A 号線の基礎設計による。)

付録 2

2A 号線 Cat Linh – Ha Dong の各駅の特徴、旅客及び旅客流量の分析

No.	駅名	駅の周辺の特徴	旅客	2016 年の一日旅客流量 (人)	
				乗車	降車
1	Cat Linh	<ul style="list-style-type: none"> -建築資材店、飲食店、喫茶店 -ホテルが多い -オフィスビルが多い -文廟 -住宅が多い 	<ul style="list-style-type: none"> -周辺の住民：通勤客、学生、経営者 -観光客：大きなホテルから 	41987	42545
2	La Thanh	<ul style="list-style-type: none"> -喫茶店、衣料品店等の小規模営業 - 駅の周辺の住民が多い - 3 号線と接続する 	<ul style="list-style-type: none"> -周辺の住民 -通勤客 -学生、大学生 	209327	210830
3	Thai Ha	<ul style="list-style-type: none"> -事務所とマンションを併設した大規模ビル - Vinaconex、油等の本社が多い - ショッピングセンター - ロシア・ベトナム友好協会 -映画館 	<ul style="list-style-type: none"> -駅の周辺の住民 - 通勤客 - 買い物客 - 観光客 	36162	36342
4	Duong Lang	<ul style="list-style-type: none"> -共産党役員教育学校 -カラオケ店が多い -Nga Tu So 市場 -大きなショッピングセンター (Loteria の建物) -大規模なショッピングセンター・娯楽施設を併せる高級マンション 	<ul style="list-style-type: none"> 駅の周辺の住民 大学生 (通勤客) 買い物客 外国人 	35753	35160

No.	駅名	駅の周辺の特徴	旅客	2016年の一曰旅客流量（人）	
				乗車	降車
5	国家大学	<ul style="list-style-type: none"> - 国立大学 - 寮（学校寮及び学校以外家賃貸を含む） - 商工センター及びアパート・マンション - Thang Long タバコ生産工場、Thuong Dinh 靴生産会社 - 飲食店 	駅の周辺の住民 大学生（主な対象） 労働者、職員・役員	42725	42793
6	Vanh Dai 3	<ul style="list-style-type: none"> -百貨店 - Xay Dung 病院 - アパート - 靴会社、Rang Dong 魔法瓶会社、大学が多い - Pico プラザ（家電量販店） 	<ul style="list-style-type: none"> -駅の周辺の住民 -大学生 -買い物客 	35714	35725
7	Thanh Xuan 3	<ul style="list-style-type: none"> -ハノイ大学 - 美術短期大学、交通短期大学 - Phung Khoang 市場（大きな市場） - 各大学の寮 - アパート・マンションの地域 	<ul style="list-style-type: none"> -駅の周辺の住民 - 大学生 - 通勤客 	8722	8720
8	Ha Dong バスターミナル(旧)	<ul style="list-style-type: none"> - 建築大学、公安学院、郵政通信学院、学院 - 大規模な電気・電子機器ショッピングセンター（Nguyen Kim, Tran Anh, Coopmark）を併設するアパート地域 -Lang Viet Kieu、Van 	<ul style="list-style-type: none"> -駅の周辺（アパート・マンションを含む）の住民 -買い物客 - 通勤客 - 大学生 	7061	7061

No.	駅名	駅の周辺の特徴	旅客	2016年の一日旅客流量（人）	
				乗車	降車
		Quan マンション群			
9	Ha Dong	商工センター Ha Dong 市場 Le Quy Don 高校 Ha Dong 運動場 Ha Dong 病院	-駅の周辺の住民 -買い物客 - 通勤客 - 学生	14033	14063
10	La Khe	住民が大勢集まる地域であり、新しいアパート建設（2軒）	-駅の周辺の住民 -通勤客 -学生・大学生	6988	6996
11	Van Khe	-Nguyen Hue 高校 - Van Khe アパート（新規建築）	-駅の周辺の住民 -学生	5050	5020
12	Yen Nghia バスターミナル (Ha Dong 新バスターミナル)	- Yen Nghia バスターミナル（ハノイバスの停留所、北方行き バスのターミナル） - 経済短期大学 - Thanh Tay 大学	-駅の周辺の住民 -学生・大学生 -通勤客	70538	70453

(2A 号線の技術設計 No. HNHD-02-02-00-00-TDS-C（表 2-6）のデータによる)

付録 3

各駅の建築特徴・面積

No.	駅名	建築	面積	備考
1	Cat Linh	架空駅、島式ホーム		始点、3号線との中継ぎ
2	La Thanh	架空駅、相対式ホーム		
3	Thai Ha	架空駅、相対式ホーム		
4	Duong Lang	架空駅、相対式ホーム		
5	国家大学	架空駅、相対式ホーム		2号線との中継ぎ
6	Vanh Dai 3	架空駅、相対式ホーム		
7	Thanh Xuan 3	架空駅、相対式ホーム		
8	Ha Dong バスターミナル (旧)	架空駅、相対式ホーム		
9	Ha Dong	架空駅、相対式ホーム		
10	La Khe	架空駅、相対式ホーム		
11	Van Khe	架空駅、相対式ホーム		
12	Yen Nghia バスターミナル (Ha Dong 新バスターミナル)	架空駅、相対式ホーム (終点)		終点

(データは、2A 号線の基礎設計による。詳細は、後段階で確定する。)

付録 4

関連事業営業中期計画

No.	内容	2016 年												2017	2018	2019	2020	備考
		第 1 四 半期			第 2 四 半期			第 3 四 半期			第 4 四半期							
		1	2	3	4	5	6	7	8	9	10	11	12					
I	広告																	
1.1	車内広告																	
	計画立案、承認																	
	実施委任 管理																	
1.2	駅内広告																	
1.2.1	先行3 駅 (試行)																	
	計画立案、承認																	
	実施委任 管理																	
	検証																	
1.2.2	全駅																	
	計画立案・承認																	
	実施委任 管理																	
II	キオスク (店舗)																	
	計画立案、承認																	
	実施委任																	
III	敷地賃貸 (インフラ)																	
	計画立案、承認																	
	展開																	
IV	駐車場建設投資																	

No.	内容	2016 年												2017	2018	2019	2020	備考
		第 1 四 半期			第 2 四 半期			第 3 四 半期			第 4 四半期							
		1	2	3	4	5	6	7	8	9	10	11	12					
	計画立案、承認														→			
	展開															→		



ハノイ市人民委員会



国際協力機構

ACTIVITY 6.5.1

運転関係係員に関する規程

ハノイ市都市鉄道規制機関強化及び運営組織設立支援プロジェクト

実施者 : **Nguyễn Văn Bằng**

支援専門家: **Kohei Ushida**

ハノイ、2015 年 11 月

運転関係係員に関する規程

Hanoi Metro train operations staff office organization rules

【この規則（案）を考える上での前提条件】

ここで述べる各役職については、ハノイメトロの組織、及び各 OU の組織によって、名称が異なることが考えられます。また、階層についても OU 毎に異なることが考えられるため、ここでは次の表に基づいて職制の案を考えます。

将来、ハノイメトロでこれらに該当する役職名が決定したら、この職制（案）もその役職名に合わせて修正します。

		OCC staff	Train crew staff	Station staff	Rolling stock staff	構造物部保守区 staff 軌道部保守区 staff	電気区 staff
Hanoi Metro headquarters		列車運行部長		営業広報部長	車両部長	工務部長	電気部長
OU	Manager	OCC 長	乗務区長	駅長	検車区長	工務区長	電気区長
		OCC 副所長	乗務区副所長	副駅長	副検車区長	副工務区長	副電気区長
		指令長	助役	助役	助役	助役	助役
	Staff	指令	乗務員	駅員 (信号 Staff)	係員 (信号 Staff)	係員 (運転関係 Staff)	係員 (運転関係 Staff)

=====

第 1 章：総則

第 1 条：趣旨

このルールは、ハノイメトロで列車運転に直接関係する係員（以下「運転関係係員」と記す）の職務及び指揮命令系統を規定し、ハノイ市における都市鉄道の列車運行に関する組織及び個人の果たすべき義務を規定するものである。

第 2 条：調整範囲、適用対象

- これは、ハノイ市における都市鉄道列車運行に関係のある各組織・個人が実施しなければならない義務を規定する。
- この規則の適用対象は、ハノイ鉄道一人有限会社が管轄するハノイ市における都市鉄道各路線の運営に関係のある各組織・個人である。

第3条：法的根拠

- 1 鉄道法、
- 2 省令第05/2015/TT-BGTVT号「都市鉄道の運転に直接携わる係員の職制に係る規則」。
- 3 省令第21/2015/TT-BGTVT号「鉄道輸送において特別な性質のある仕事をする労働者に対する休憩時間に係る規則」。

第2章 列車運行部

第1節 総則

第4条：列車運行部の社員

会社には、次の列車運行部社員を置くものとする。各OUは、これらの職位の社員を配置し、運転関係係員として必要な職制を定め、運転取扱いが滞りなく遂行できるようにしなければならない。

〔本社〕

- ・列車運行部長

〔各OU〕

- ・Managerの階層に属し、列車運行部長の命令を受け、担当業務係員を指揮監督し、担当業務に関する責任を負う職位の者。
- ・Staffの階層に属し、Managerの階層の者の命令を受け、所属長が指定した担当業務を行う職位の者。

第2節 列車運行部

第5条：列車運行部長

列車運行部長は、所属係員を指揮監督し、列車の運転及び保安並びにOCCの運用に関する業務をとりまとめる。

第3節 OCC

第6条：OCCに関する職制の制定

各OUは、OCCの職制を、本節のように定めなければならない。

第7条：OCC 長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、OCCにはOCC長若しくはこれに相当する職位の者を置かなければならない。
- 2 OCC 長の職制として、列車運行部長の命令を受け、所属係員を指揮監督し、OCC に関する業務の責任を負うことを定めなければならない。

第8条：OCC 長以外で Manager の階層に属する職位の者

- 1 OCC 長以外で Manager の階層の者は、OCC 長の命令を受け、所属係員を指揮監督し、OCC 長が指定した担当業務を処理することを定めなければならない。
- 2 OCCには、Managerの階層の者が常駐していなければならない。
- 3 Managerの階層の者はOCC長が不在の時、担当業務についてOCC長の職務を代行することを定めなければならない。

第9条：Staff の階層に属する職位の者

- 1 Manager の階層の者の命令を受け、OCC 長が指定した担当業務に従事することを定めなければならない。
- 2 Manager の階層の者が不在の場合は、Staff の階層の者は担当業務について、Manager の職務を代行することを定めなければならない。

第4節 乗務区

第10条：乗務区に関する職制の制定

各 OU は、乗務区の職制を、本節のように定めなければならない。

第11条：乗務区長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、乗務区には乗務区長若しくはこれに相当する職位の者を置かなければならない。
- 2 乗務区長の職制として、列車運行部長の命令を受け、所属係員を指揮監督し、乗務管区に関する業務の責任を負うことを定めなければならない。
- 3 運転整理については、OCC長の命令に従うことを定めなければならない。

第12条：乗務区長以外で **Manager** の階層に属する職位の者

- 1 乗務区長以外で **Manager** の階層の者は、乗務区長の命令を受け、所属係員を指揮監督し、乗務区長が指定した担当業務を処理することを定めなければならない。
- 2 乗務区には、**Manager**の階層の者が常駐していなければならない。
- 3 **Manager**の階層の者は乗務区長が不在の時、担当業務について乗務区長の職務を代行することを定めなければならない。
- 4 運転免許を所持する **Manager** の階層の者は、必要により列車や車両の運転が行えることを定めなければならない。

第13条：乗務区で **Staff** の階層に属する職位の者

- 1 **Staff** の階層の者は、**Manager** の階層の者の命令及び指導を受け、列車及び車両の運転に関係する業務や、これらに付帯する業務を行うことを定めなければならない。
- 2 **Instructor** の資格を有する **Staff** は、見習 **Staff** の指導を行う職位であることを定めなければならない。
- 3 見習 **Staff** は、**Instructor Staff** の指導を受け、**Crew** に必要な知識及び技能を身に付けることを定めなければならない。
- 4 列車が駅間にあるときは、列車における安全補助係員または **OCC** 長の指示を受けることを定めなければならない。
- 5 列車が駅にあるときは、駅長または **OCC** 長の指示を受けることを定めなければならない。
- 6 車両が検車区にあるときは、検車区長の指示を受けることを定めなければならない。

第3章 営業広報部

第1節 総則

第14条：営業広報部の社員（運転関係係員）

各**OU**は、これらの職位の社員を配置し、運転関係係員として必要な職制を定め、運転取扱いが滞りなく遂行できるようにしなければならない。

〔駅〕

- ・ **Manager**の階層に属し、運転取扱いに関する業務はハノイメトロ運転ルールに従うと同時に**OCC**長の命令を受け、運転関係係員を指揮監督し、運転取扱いに関する担当業務の責任を負う職位の者。
- ・ **Staff**の階層に属し、**Manager**の階層の者の命令を受け、所属長が指定した運転取扱いに関する担当業務を行う職位の者。

第2節 駅

第15条：駅に関する職制の制定

各OUは、駅の運転関係係員の職制を、本節のように定めなければならない。

第16条：駅長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、駅には駅長若しくはこれに相当する職位の者を置かなければならない。
- 2 運転取扱いに関する駅長の職制として、所属係員を指揮監督し、駅の運転取扱いに関する業務の責任を負うことを定めなければならない。
- 3 運転整理については、OCC長の命令に従うことを定めなければならない。

第17条：駅長以外で Manager の階層に属する職位の者

- 1 駅長以外で Manager の階層の者は、駅長の命令を受け、所属係員を指揮監督し、駅長が指定した担当業務を処理することを定めなければならない。
- 2 駅には、Managerの階層の者が常駐していなければならない。
- 3 Managerの階層の者は駅長が不在の時、担当業務について駅長の職務を代行することを定めなければならない。

第18条：駅で Staff の階層に属する職位の者

Staffの階層に属し、運転取扱いに関する担当業務を行う職位の者は、Managerの階層の者の命令及び指導を受け、駅の運転取扱いに関する業務や、これらに付帯する業務を行うことを定めなければならない。

第4章 車両部

第1節 総則

第19条：車両部の社員（運転関係係員）

各OUは、これらの職位の社員を配置し、運転関係係員として必要な職制を定め、運転取扱いが滞りなく遂行できるようにしなければならない。

〔検車区〕

- ・ Managerの階層に属し、運転取扱いに関する業務はハノイメトロ運転ルールに従うと

同時にOCC長の命令を受け、運転関係係員を指揮監督し、運転取扱いに関する担当業務の責任を負う職位の者。

- ・ Staffの階層に属し、Managerの階層の者の命令を受け、所属長が指定した運転取扱いに関する担当業務を行う職位の者。

第2節 検車区

第20条：検車区に関する職制の制定

各OUは、検車区の運転関係係員の職制を、本節のように定めなければならない。

第21条：検車区長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、検車区には検車区長若しくはこれに相当する職位の者を置かなければならない。
- 2 運転取扱いに関する検車区長の職制として、所属係員を指揮監督し、検車区の運転取扱いに関する業務の責任を負うことを定めなければならない。
- 3 災害または事故発生時の緊急処置については、OCC長の命令に従うことを定めなければならない。

第22条：検車区長以外でManagerの階層に属する職位の者

- 1 検車区長以外でManagerの階層の者は、検車区長の命令を受け、所属係員を指揮監督し、検車区長が指定した担当業務を処理することを定めなければならない。
- 2 検車区には、Managerの階層の者が常駐していなければならない。
- 3 Managerの階層の者は検車区長が不在の時、担当業務について検車区長の職務を代行することを定めなければならない。

第23条：検車区でStaffの階層に属する職位の者

Staffの階層に属し、運転取扱いに関する担当業務を行う職位の者は、Managerの階層の者の命令及び指導を受け、検車区の運転取扱いに関する業務や、これらに付帯する業務を行うことを定めなければならない。

第5章 構造物部

第1節 総則

第24条：構造物部の社員（運転関係係員）

各OUは、これらの職位の社員を配置し、運転関係係員として必要な職制を定め、運転取扱いが滞りなく遂行できるようにしなければならない。

〔構造物部関係の保守区〕

- ・ **Manager**の階層に属し、運転取扱いに関する業務はハノイメトロ運転ルールに従うと同時にOCC長の命令を受け、運転関係係員を指揮監督し、運転取扱いに関する担当業務の責任を負う職位の者。
- ・ **Staff**の階層に属し、**Manager**の階層の者の命令を受け、所属長が指定した運転取扱いに関する担当業務を行う職位の者。

第2節 構造物部関係の保守区

第25条：構造物部関係の保守区に関する職制の制定

各OUは、構造物部関係の保守区の運転関係係員の職制を、本節のように定めなければならない。

第26条：区長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、構造物部関係の保守区には区長若しくはこれに相当する職位の者を置かなければならない。
- 2 運転取扱いに関する区長の職制として、所属係員を指揮監督し、区の運転取扱いに関する業務の責任を負うことを定めなければならない。
- 3 災害または事故発生時の緊急処置については、OCC長の命令に従うことを定めなければならない。

第27条：区長以外で **Manager** の階層に属する職位の者

- 1 区長以外で **Manager** の階層の者は、区長の命令を受け、所属係員を指揮監督し、区長が指定した担当業務を処理することを定めなければならない。
- 2 区には、**Manager**の階層の者が常駐していなければならない。
- 3 **Manager**の階層の者は区長が不在の時、担当業務について区長の職務を代行することを定めなければならない。

第28条：構造物部関係の保守区で**Staff**の階層に属する職位の者

Staffの階層に属し、運転取扱いに関する担当業務を行う職位の者は、**Manager**の階層の者

の命令及び指導を受け、区の運転規則に関係する各種の手続きや取扱い、これらに付帯する業務を行うことを定めなければならない。

第6章 軌道部

第1節 総則

第29条：軌道部の社員（運転関係係員）

各OUは、これらの職位の社員を配置し、運転関係係員として必要な職制を定め、運転取扱いが滞りなく遂行できるようにしなければならない。

〔軌道部関係の保守区〕

- ・ **Manager**の階層に属し、運転取扱いに関する業務はハノイメトロ運転ルールに従うと同時にOCC長の命令を受け、運転関係係員を指揮監督し、運転取扱いに関する担当業務の責任を負う職位の者。
- ・ **Staff**の階層に属し、**Manager**の階層の者の命令を受け、所属長が指定した運転取扱いに関する担当業務を行う職位の者。

第2節 軌道部関係の保守区

第30条：軌道部関係の保守区に関する職制の制定

各OUは、軌道部関係の保守区の運転関係係員の職制を、本節のように定めなければならない。

第31条：区長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、軌道部関係の保守区には区長若しくはこれに相当する職位の者を置かなければならない。
- 2 運転取扱いに関する区長の職制として、所属係員を指揮監督し、区の運転取扱いに関する業務の責任を負うことを定めなければならない。
- 3 災害または事故発生時の緊急処置については、OCC長の命令に従うことを定めなければならない。

第32条：区長以外で **Manager** の階層に属する職位の者

- 1 区長以外で **Manager** の階層の者は、区長の命令を受け、所属係員を指揮監督し、区長が指定した担当業務を処理することを定めなければならない。

- 2 区には、**Manager**の階層の者が常駐していなければならない。
- 3 **Manager**の階層の者は区長が不在の時、担当業務について区長の職務を代行することを定めなければならない。

第33条：軌道部関係の保守区でStaffの階層に属する職位の者

Staffの階層に属し、運転取扱いに関する担当業務を行う職位の者は、**Manager**の階層の者の命令及び指導を受け、区の運転規則に関係する各種の手続きや取扱い、これらに付帯する業務を行うことを定めなければならない。

第7章 電気部

第1節 総則

第34条：電気部関係の保守区の社員（運転関係係員）

各OUは、これらの職位の社員を配置し、運転関係係員として必要な職制を定め、運転取扱いが滞りなく遂行できるようにしなければならない。

〔電気部関係の保守区〕

- ・ **Manager**の階層に属し、運転取扱いに関する業務はハノイメトロ運転ルールに従うと同時にOCC長の命令を受け、運転関係係員を指揮監督し、運転取扱いに関する担当業務の責任を負う職位の者。
- ・ **Staff**の階層に属し、**Manager**の階層の者の命令を受け、所属長が指定した運転取扱いに関する担当業務を行う職位の者。

第2節 電気部関係の保守区

第35条：電気部関係の保守区に関する職制の制定

各OUは、電気部関係の保守区の運転関係係員の職制を、本節のように定めなければならない。

第36条：区長

- 1 ハノイメトロ運転ルールに基づく運転取扱いを行うにあたり、電気部関係の保守区には区長若しくはこれに相当する職位の者を置かななければならない。
- 2 運転取扱いに関する区長の職制として、所属係員を指揮監督し、区の運転取扱いに関する業務の責任を負うことを定めなければならない。

- 3 災害または事故発生時の緊急処置については、OCC長の命令に従うことを定めなければならない。

第37条：区長以外で Manager の階層に属する職位の者

- 1 区長以外で Manager の階層の者は、区長の命令を受け、所属係員を指揮監督し、区長が指定した担当業務を処理することを定めなければならない。
- 2 区には、Managerの階層の者が常駐していなければならない。
- 3 Managerの階層の者は区長が不在の時、担当業務について区長の職務を代行することを定めなければならない。

第38条：電気部関係の保守区で Staff の階層に属する職位の者

Staffの階層に属し、運転取扱いに関する担当業務を行う職位の者は、Managerの階層の者の命令及び指導を受け、区の運転規則に関係する各種の手続きや取扱い、これらに付帯する業務を行うことを定めなければならない。

第8章．実施組織

第39条．各部門の責任

1. 列車運行部（本社）：
 - a. この規則には改正する必要がある場合、総裁に助言を出す。
 - b. 各ユニット・各路線の運転関係部門が承認された計画、規程、手順通りに実施していることを監査する。
2. 列車運転関係業務実施各部門
 - a. 運転関係業務を実施する係員全員は、この規則を順守しなければならない、また旅客、列車に対する安全確保の責任を有する。
 - b. 安全且つ効果的な列車運転を保障するために、承認された列車運行計画に基づき自分の部門の業務実施計画を作成する。

第40条．規則の改正・変更手続き

ハノイ鉄道一人有限会社のこの規則の改正・変更は、総裁決裁で行う。



ハノイ市人民委員会



国際協力機構

ACTIVITY 6.5.1

ハノイメトロ 列車運行部門の機能任務規則

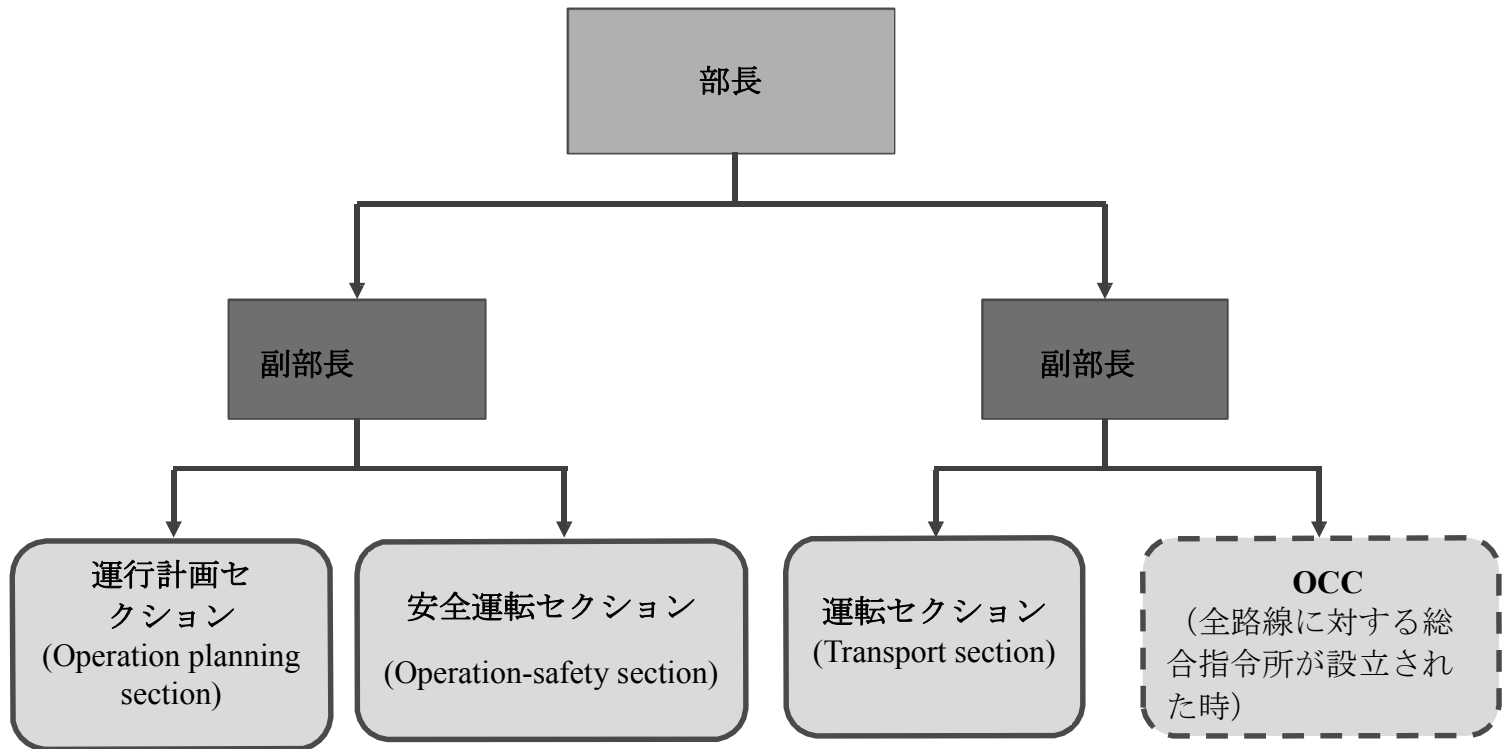
ハノイ市都市鉄道規制機関強化及び運営組織設立支援プロジェクト

実施者 : **Nguyễn Văn Bằng**

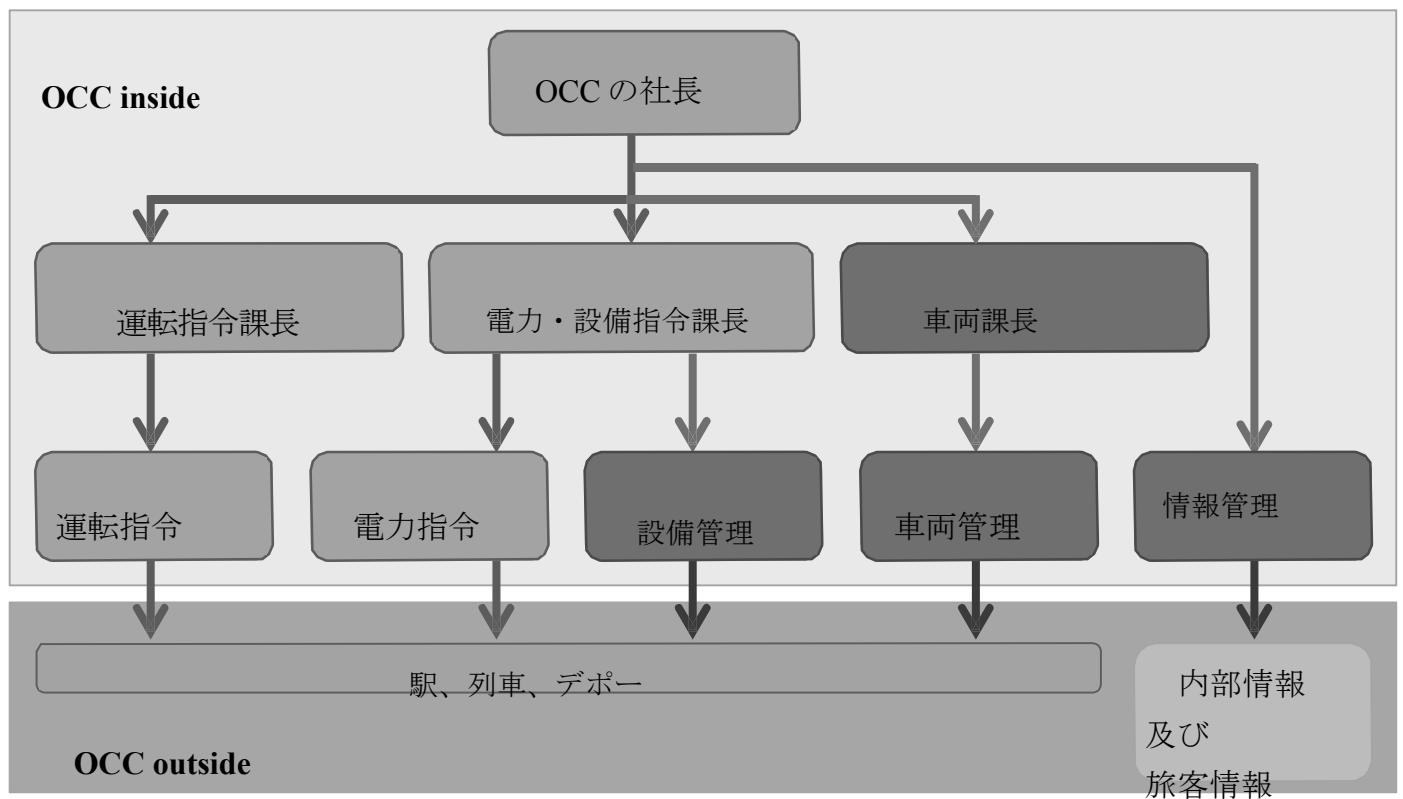
支援専門家: **Kohei Ushida**

ハノイ、2015 年 11 月

1. 列車運行部（HQ）の組織図



2. OCC の組織図



列車運行部（HQ）の機能・任務

I. 機能：

列車運行の指令、管理に関する機能について助言、実施し、運転上の安全且つ定時及び営業上の効果を確保する。

II. 任務：

A. 運行計画セクション（operation planning section）

1. 全ての路線に対して列車運行計画を作成する。
2. 全ての路線に対して列車運行計画を調査、研究、改善する。
3. 教育計画、教育規定を作成し、運転士及び運転関係係員を監督し試験を実施する。
4. 輸送施設に関する計画を作成する。

B. 運転セクション（transport section）

5. 列車の運転及び取扱いの規定に関する業務を実施する。
6. 各路線の間の列車運転係員を配置、トランスファーする。
7. 管轄内の業務について関係各機関へ通知、報告などをする。
8. 各路線の指令センターの直接管理、監査、評価する。
現業企業及び関連企業と協力して列車運行に関するトラブルを対処する。
9. 全路線に対する総合指令所（OCC）の設立を研究する。

C. 安全運転セクション（operation-safety section）

10. 各現業企業が実施する運転を監査、評価、管理する。
11. 運転関係係員の資質を検査する。
12. 運転関係係員に対する規定・規準に関するマニュアルを作成する。
13. トラブルを未然防止するために安全装置（ATC: Automatic Train Control）の新設・改造計画を作成する。
14. 災害、鉄道輸送障害等の未然防止、調査、報告をする。

現業企業に直属する運転管理事務室の 機能・任務

I) 機能：

運転管理事務室は、HMC で作られた列車ダイヤ及び規則・規程を順守して列車運転業務を直接に実施する責任を有する。

II) 任務：

A. 乗務チーム（運転士、列車における安全補助係員）

1. 列車運転業務を直接に実施する。
2. 列車運転維持及び車内秩序確保をする。
3. 災害、鉄道輸送障害等の未然防止、調査、報告に関する業務。
4. 車内設備監査に関する業務を実施する。

B. 監督・補助チーム

5. 乗務区のオフィスを直接に管理する。
6. OU の各課の要員計画、要員教育計画の作成に協力する。
7. 輸送障害や災害等が発生した時に直接に緊急対処する。
8. 列車運行計画を調整する。（OCC の指示により、又は輸送障害、災害等があった場合）
9. 輸送、電力、設備の指示に関する業務を実施する。
10. 輸送障害について本社へ情報を報告、提供し、その輸送障害が一定規模を超えた場合に本社及び関連各部署と協力して対応措置を出す。
11. 関連する書類及び帳票の整理及び保存業務をする。
12. 運行計画及び運行計画の改善案を研究、提案する。



ハノイ市人民委員会



国際協力機構

ACTIVITY 6.5.3

ハノイメトロ運転士養成規則

ハノイ市都市鉄道規制機関強化及び運営組織設立支援プロジェクト

実施者 : **Nguyễn Văn Bằng**

支援専門家: **Kohei Ushida**

ハノイ、2015 年 11 月

目 次

第1章 総則

第1条：目的

第2条：調整範囲、適用対象

第3条：法的根拠

第2章 登用試験

第4条：受験資格

第5条：登用試験

第6条：受講資格

第3章 雑則

第7条：各現業企業の責任

第8条：規則の改正・変更手続き

運転士養成規則

第1章 総則

第1条：目的

この規則は、運転士の養成に関する事項及び運転士としての必要な技能を定め、輸送の安全確保を図ることを目的として制定される。

第2条．調整範囲、適用対象

- 1．この規則は、省令第〇〇/20**/**-*****号「鉄道運転試験、免許証の発行、再発行、取消の管理に係る規則」の規定に合わせて、ハノイ鉄道一人有限会社の運転士養成に関する内容を定める。
- 2．この規則の適用対象は、ハノイ鉄道一人有限会社が管轄するハノイ市における都市鉄道各路線の運営に関係のある各組織・個人である。

第3条．法的根拠

この規則は、下記の法令の規定を順守する。

- 1．鉄道法第 35/2005/QH11 号、
- 2．省令第.../2015/TT-BGTVT 号「鉄道運転試験、免許証の発行、再発行、取消の管理に係る規則」、
- 3．省令第 05/2015/TT-BGTVT 号「都市鉄道の運転に直接携わる係員の職制に係る規則」。

第2章 登用試験

第4条：受験資格

列車運転士登用試験の受験資格を有する者は、省令第05/2015/TT-BGTVT号「都市鉄道の運転に直接携わる係員の職制に係る規則」の第4条第2項 a)～c)に定める要件を満たすものとする。

第5条：登用試験

1 登用試験は第1次試験及び第2次試験とし、次の各検査等を実施する。

(1) 1次試験

検査項目	実施担当者	合格基準
健康検査	専門の医師	医療省が定めた健康上の条件を満たしていること

(2) 2次試験

検査項目	実施担当者	合格基準
学科試験	関係部の担当者	面接と併せて総合的に判断する
面接	関係部の担当者	学科試験と併せて総合的に判断する

2 1次試験が不合格であった者は、2次試験を受けることができない。

第6条：受講資格

研修生として講習を受講できる者は、第5条の登用試験に合格し、列車運転士見習として養成を実施する機関に入所を命じられた者とする。

第3章 雑則

第7条：各現業企業の責任

1. 各現業企業は、運転士の年間計画の作成及び本社への報告の責任を有する。

第8条：規則の改正・変更手続き

この規則の改正・変更は、ハノイ鉄道一人有限会社の総裁決裁で行う。



ハノイ市人民委員会



国際協力機構

ACTIVITY 6.5.3

運転士管理規則

ハノイ市都市鉄道規制機関強化及び運営組織設立支援プロジェクト

実施者 : **Nguyễn Văn Bằng**

支援専門家: **Kohei Ushida**

ハノイ、2015 年 11 月

目 次

第1章 総則	2
第1条：目的	2
第2条：調整範囲、適用対象	2
第3条．法的根拠	2
第2章 教育管理	2
第4条：フォローアップ教育	2
第5条：定期的な教育	3
第6条：必要に応じて行う教育	3
第7条：転属教育	3
第8条：教育の実施状況の管理	3
第3章 日常の管理	4
第9条：運転士の心身状況の管理	4
第10条：運転士の乗務前の管理	4
第11条：運転士の作業状況の管理	4
第12条：運転士の勤務状況の管理	4
第13条：運転免許証の管理	5
第4章 雑則	5
第14条：各現業企業の責任	5
第15条：規則の改正・変更手続き	5

運転士管理規則

第1章 総則

第1条：目的

ハノイ鉄道一人有限会社の各現業企業に所属する列車運転士として必要な知識及び技能の維持と輸送の安全確保を図ることを目的とする。

第2条：調整範囲、適用対象

- 1.この規則は、省令第〇〇/20**/**-*****号「鉄道運転試験、免許証の発行、再発行、取消の管理に係る規則」の規定に合わせて、ハノイ鉄道一人有限会社の運転士管理に関する内容を定める。
- 2.この規則の適用対象は、ハノイ鉄道一人有限会社が管轄する都市鉄道各路線の運営に係りのある各組織・個人である。

第3条. 法的根拠

この規則は、下記の法令の規定を順守する。

- 1.鉄道法第35/2005/QH11号、
- 2.省令第.../2015/TT-BGTVT号「鉄道運転試験、免許証の発行、再発行、取消の管理に係る規則」、
- 3.省令第05/2015/TT-BGTVT号「都市鉄道の運転に直接携わる係員の職制に係る規則」、
- 4.省令第21/2015/TT-BGTVT号「鉄道輸送において特別な性質のある仕事をする労働者に対する休憩時間に係る規則」。

第2章 教育管理

第4条：フォローアップ教育

- 1 各OUは、省令第.../2015/TT-BGTVT号「鉄道運転試験、免許証の発行、再発行、取消の管理に係る規則」に基づき新規に免許の交付を受けた運転士に対し、1年以内にフォローアップ教育を実施し、運転士に必要な知識及び技能の定着に努めなければならない。
- 2 前項の教育の効果確認の結果、運転士に必要な知識及び技能が不足している者に対しては、必要な補習教育を行った後でなければ乗務させてはならない。

第5条：定期的な教育

- 1 各OUは、運転士に対して定期的な教育を実施し、運転士に必要な知識及び技能の維持に努めなければならない。
- 2 前項の教育については、年間の教育計画を作成し、対象となる全ての運転士が受講できるよう管理しなければならない。
- 3 定期的に実施する教育は、次の内容について行うものとする。
 - (1) 運転法規
 - (2) 車両の取扱いや故障時の処置
 - (3) 事故の処置

第6条：必要に応じて行う教育

- 1 各OUは、必要に応じて運転士に対して教育を実施し、運転士に必要な知識及び技能の維持に努めなければならない。
- 2 前項の教育については、年間の教育計画に含まない。また、対象となる全ての運転士が受講するよう管理しなければならない。
- 3 「必要に応じて行う教育」とは、次のような場合に実施する。
 - (1) 規則や取扱いが変更になり、全ての対象者への周知と理解が必要な場合。
 - (2) 新規に発行された通達に対し、全ての対象者への周知と理解が必要な場合。
 - (3) その他、特別に周知が必要な事項が生じ、全ての対象者への周知と理解が必要な場合。

第7条：転属教育

- 1 各OUは、他のOUから転属してきた運転士に対し、必要な教育訓練を実施しなければならない。
- 2 前項の教育を行い、当該の運転士が転属先の路線を運転するのに必要な知識及び技能を保持していることを確認した後でなければ、単独で乗務させてはならない。

第8条：教育の実施状況の管理

- 1 各OUは、第4条から第7条に挙げた各教育の実施状況について、記録しておかなければならない。
- 2 各OUはこれらの記録について、ハノイメトロ本社及び規制機関から請求があった場合、速やかに提出できるよう管理する責任を負う。
- 3 各OUは最低10年間、これらの記録を保存しなければならない。

第3章 日常の管理

第9条：運転士の心身状況の管理

- 1 各OUは、所属する運転士の心身状況を把握し、列車の乗務が可能な条件を満たしていない者を乗務させないよう管理する責任を負う。
- 2 運転士の心身状況については、No.5/2015/TT-BGTVT省令「都市鉄道の運転に直接携わる係員の職制に係る規則」に定められた医療省が定めた健康上の条件に加え、乗務前の目視や運転士の申告による異常の有無についても確認しなければならない。

第10条：運転士の乗務前の管理

- 1 各OUは、所属する運転士が乗務する前に、安全な列車運行に必要な通達や注意事項について正確に把握しているか、確認する責任を負う。
- 2 各OUは、所属する運転士が列車運行に関する作業に就く前に、作業に従事するのに問題が無い心身状態であるかどうかを確認する責任を負う。

第11条：運転士の作業状況の管理

- 1 各OUは、所属する運転士が手順に定められた適正な作業を安全確実に実施しているか、定期的に確認しなければならない。
- 2 運転士が定められた作業を適正に実施していないことを確認した場合、各OUは当該の運転士が適正な作業を実施するよう、指導する責任を負う。
- 3 各OUは、運転士の作業状況及び指導内容について記録し、ハノイメトロ本社及び規制機関から請求があった場合、速やかに提出できるよう管理する責任を負う。

第12条：運転士の勤務状況の管理

- 1 各OUは、運転士の勤務状況及び勤務時間を管理しなければならない。
- 2 各OUは、運転士が関係する法令や規則等に定められた基準を超えて勤務に従事しないよう、管理する責任を負う。

第13条：運転免許証の管理

- 1 各OUは、所属する運転士の免許証について、省令第.../2015/TT-BGTVT号「鉄道運転試験、免許証の発行、再発行、取消の管理に係る規則」に定められた条件に違反しない

いよう、適正な管理を行う責任を負う。

2 省令に定められた管理すべき条件とは、次の通りである。

(1) 免許証の効力期間が切れていないこと。

(2) 運転士の職位を12ヶ月以上務めない者が職務に戻る場合は、省令に基づく申請手続き、免許試験及び免許証発行を行い、有効な免許証を所持していること。

(3) 免許証の記載事項が、実際に乗務する路線や列車に対して有効であること。

(4) 免許証の記載事項の変更が生じた者の場合、省令に基づく記載事項変更の手続きを終えていること。

(5) 運転士が免許証を無くしたりき損していないこと。

3 各OUは、正当な免許証を所持しない運転士が乗務しないよう、管理する責任を負う。

第4章 雑則

第14条：各現業企業の責任

1 各現業企業は、この規則に定められた条件を満たさなければならない。

2 必要に応じて運転士管理状況を本社及び規制機関へ報告する責任を有する。

第15条：規則の改正・変更手続き

この規則の改正・変更は、ハノイ鉄道一人有限会社の総裁決裁で行う。



ハノイ市人民委員会



国際協力機構

車両保全規則

ハノイ市における都市鉄道規制機関強化・
運営組織設立プロジェクト

実施者：Ngo Van Bang

JICA TA 専門家：栗原

ハノイ市、2015年11月

ハノイ鉄道一人有限会社

車両保全規則

番号: QDK-.....

公布回数:.....

年月日:.....

ハノイ鉄道一人有限 会社	車両保全規則	番号: QT-..... 公布回数:.... 年月日:.....
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資料改正履歴

年月日	箇所	改正内容	備考

資料配布

1. 部署の長	<input type="checkbox"/>	10. C 部署	<input type="checkbox"/>
2. 副 部署長	<input type="checkbox"/>	11. D 部署	<input type="checkbox"/>
3. 副 部署長	<input type="checkbox"/>	12. E 部署	<input type="checkbox"/>
4. 副 部署長	<input type="checkbox"/>	13. F 部署	<input type="checkbox"/>
5. A 部署	<input type="checkbox"/>	15. I 部署	<input type="checkbox"/>
6. B 部署	<input type="checkbox"/>	16. 社長会の秘書	<input type="checkbox"/>

	作成	検査	承認
氏名			
職位			
サイン			

車両保全規則

ハノイ鉄道一人有限会社による 2015/○月/○日付の
決定書 /201 /QD- 号の添付として公布)

第1章 総則

- 1 条. 目的
- 2 条. 適用範囲及び対象
- 3 条. 定義
- 4 条. 法的根拠・関連資料
- 5 条. 実施責任
- 6 条. 事故及び輸送障害に関する規程の遵守
- 7 条. 保全現場
- 8 条. 車両保全の要件
- 9 条. 保全要員

第2章. 車両保全の規程

- 10 条. 保全の分類
- 11 条. 定期保全周期
- 12 条. 基準日
- 13 条. 各定期保全種類の項目・内容・方法の規程
- 14 条. 巡回
- 15 条. 臨時保全の規程
- 16 条. 保全における清掃、部品の亀裂、欠陥の検査
- 17 条. 台車枠検査
- 18 条. 車輪・車軸の検査要件
- 19 条. ブレーキシステム
- 20 条. 集電装置 (collector, pantograph)、主電動機
- 21 条. 車内信号装置
- 22 条. ばね・緩衝装置の検査
- 23 条. 連結装置の検査
- 24 条. 制御回路の機器検査
- 25 条. 駆動装置
- 26 条. 標識・車内外放送装置
- 27 条. その他主要システム
- 28 条. 車体の防水性能に関する要件
- 29 条. 絶縁検査の要件
- 30 条. 安全装置の要件

第3章 修理・取り換えの規程

- 31 条. 装置の材料・部品の取り換えに係わる規程
- 32 条. 油・グリース使用に関する規程
- 33 条. 車両の消耗部品・装置の取替えに関する規程
- 34 条. 車両溶接修理規程
- 35 条. 保全用の設備の規程
- 36 条. 予備品に関する規程
- 37 条. 車両連結の規程
- 38 条. 騒音の規程
- 39 条. 標識、安全対策
- 40 条. 保守後の要求
- 41 条. 使用休止の車両に対する予防対策

42 条. 試運転の規程

第 4 章 実施組織

43 条. 各部署の責任

44 条. 保全計画

45 条. 保全記録

46 条. 保全責任

47 条. 規程変更・追加

1 章：総則

1条. 目的

車両保全規則とは、保全作業終了後には車両に対して定められている品質基準を達成し、そして旅客運送サービス及び安全運転のために装置の動作を安定に確保するため、車両の技術性能を維持し、運行品質を確保し、環境を保護するような車両保全作業の規程である。

2条. 適用範囲及び対象

- 1) この規程は、車両保全に関する管理・実施の要件、HMC における車両保全に係わる機関、個人の責任を定めている。
- 2) この規程は、HMC における車両の管理・保全に関するユニット・個人に適用される。省令の改正により、その省令及び本規程の差異が生じた場合、省令の規程を遵守すること。

3条. 定義

1. 定義

- a. 車両保全とは、使用期間において設計通りに車両の通常かつ安全な運行を保証・維持するような作業の総称である。
- b. 車両保全プロセスは、車両の検査・修理・保守の作業を実施する手順・内容・指導を定めるものである。
- c. 車両の検査：車両の損傷の兆候を発見し、必要に応じ修理できるために、目視もしくは専用設備を使い、車両の状況を評価することである。
- d. 保守とは、車両が設計通り性能を発揮するように、車両に対し定期的の実施する作業（監視、軽微な故障の修理、装置の維持管理）である
- e. 修理とは、車両が安全に機能することを確保するために、車両の使用中の故障を復旧する活動である。
- f. 技術基準：車両・車両の検査プロセス中における仕様・要件の規程である。
- g. 測定：車両の各部分の仕様を表す物理量の数値を確定し、車両・列車の各技術要件に対照する根拠にすることである。
- h. 欠陥検出：車両を分解せず、超音波、電磁力などを使い、車両の各部分の亀裂、欠陥を検査する方法である。
- i. 更新：主電動機・台車・ブレーキシシステム、連結器といった重要な部分に関し、当初設計と異なる仕様・性能若しくは構造への変更である。
- j. 目視検査：五感若しくは直接的な感触により実施する装置の異常、運転条件に関する検査である。
- k. 保全周期：車両の定期保全を引き続き行う 2 回の間の期間である。
- l. 車両保全予算：実施計画の業務量、単価及び基準によって作成する車両保全のための費用である。
- m. 保全計画：保全業務を完了できるように要員計画、作業（検査・保守・修理・更新・新車購入）計画、予算計画のことである。

2. 略語：

- n. Công ty TNHH MTV: 一人有限会社
- o. GCH：台車
- p. KGCH：台車枠
- q. SIV (Static inverter)：静止型インバータ
- r. ATO (Automatic train operation)：自動列車運転装置

4条. 法的根拠・関連資料

- 1) 法令根拠
 - 鉄道法第 35/2005/QH11 号
 - 鉄道交通手段の品質・技術安全の検査並びに環境保護に係わる、省令第 02/2009 号、通達 第 36/2011 号。その他関連規程。
- 2) 資料
 - 都市鉄道運行・保全に関する共通規程（案）
 - 鉄道土木の管理・保全を規定する 2013 年 8 月 16 日付けの省令第 20/2013/TT-BGTVT 号
 - 都市鉄道の運転に直接携わる係員の職制を規定する 2015 年 3 月 30 日付けの省令第 05/2015/TT-BGTVT 号。
 - 2A 号線（Cat Linh-Ha Dong）の基礎設計
 - 3 号線（Nhon-Hanoi 駅）の基礎設計
 - 2 号線（Nam Thang Long-Tran Hung Dao）の基礎設計
 - 2A 号線、3 号線の車両の技術要求
 - 東京メトロにおける車両保全規程
 - 2A 号線の車両保全技術
 - 2A 号線の保全要員の教育計画・資料
 - 土木構造物の品質管理及び保全についての 2015/5/12 日付の政令第 114/2004 号、第 46/2015/NĐ-CP 号
 - 鉄道土木の管理及び保全を規定する 2013 年 8 月 16 日付けの省令第 20/2013/TT-BGTVT 号
 - 鉄道運営に関する規準第 08/2011 号
 - 鉄道運営に関する基準第 08/2005 号
 - ベトナム鉄道の客車の小修理、大修理手順

5条. 実施責任

- 1) 総裁若しくは委任を受けた者が本規程の内容の承認・改正・追加を行う。
- 2) 本社の車両管理保全課が規程の作成・改正・追加を主体的に助言する。
- 3) 保全実施課（センター）が、規程により実施し、規程を完成するために改正・追加する必要がある内容を報告する。

6条. 事故及び輸送障害に関する規程の遵守

事故、輸送障害が発生した後、車両を保全することは国、会社による事故、輸送障害、災害の対策規程に関する規程を遵守しなければならない。

7条. 保全現場

- 1) 車両保全は、車両保全活動の品質検査・技術安全に関する要件、鉄道交通手段の環境保護の要件を満たし、施設・技術（手段、人間）が十分に設置されているユニットにより実施されなければならない。
- 2) 各種保全活動に対する保全実施場所は、詳しく区分しなければならない。
- 3) 非常の場合に使われる特別な設備については、別のエリアに置かれて明確に表示しなければならない。
- 4) 保全場所は、清潔かつ整理整頓されていなければならない。

8条. 車両保全の要件

- 1) 車両と各部分は、営業・使用されるために規程どおりの定期保全をされることが必要である。
- 2) 車両保全は、承認済の車両保全手順及び他の関連規程により行うこと。
- 3) 車両保全作業は、人と財産への安全を確保する。

9条. 保全要員

9.1 一般要件

1. 保全要員は、教育施設が交付する、職位に相応しい専門証明書、若しくは資格を持ち、規程により担当職位に対する必要な知識・技能に関する詳細基準を十分に満たすこと。保全各ユニットは、各路線の保全技術規程、技術移転教育計画に基づいて各職位に対する具体的な能力要件を作成する責任を有する。
2. 医療省の規程による定期健康診断の際に健康要件を満たすこと。
3. 保全を行う新規の要員は、
 - a) 会社の見習い期間に関する規程により業務を見習う期間がある。
 - b) 会社の業務要件による筆記・技能試験の合格すること。
 - c) 担当業務に関する安全教育を受けたこと。
 - d) 教育後、要員は担当業務の要件を満たすこと。作業時の必要な知識、技能、安全が保証されない場合、作業させてはならない。
4. 保全実施課長は、担当業務を実施するための必要な能力、技能及び知識を十分に有する事を確認できるまで、車両保全に直接関連する要員に業務を担当させてはならない。車両基地を運転する運転士に対しアルコール検査を行う際、アルコールの濃度が、血液 100mL 中 80mg 又は、呼吸空気 1L 中 40mg を超えてはならない。
5. 保全実施課の班長は、保全要員の能力を検査・監視・訓練・向上させる責任を有する。

6. 車両保全要員は、車両保全に関する計画、規程、手順、指導の通り実施し、車両の装置及び部品の正確かつ安全な運転を保証すること。
7. 定期検査・巡回時に、車両の設備に事故、故障が生じた場合、担当要員は、緊急に修理・復旧を行うこと。復旧できない場合、対策を講じるため、上司に状況を速やかに報告すること。
8. 保全要員が車両基地内で車両を運転する場合、車両基地内での運転要件を確実に保証すること。
9. 業務実施の時、車両保全要員は、帽子、洋服、手袋等の保護具を十分に整備すること。

9.2 詳細要件

- 1) 保全センター所長は、センター業務全ての総括管理責任を有し、センターの従業員が保全業務を実施するように指導する。生産安全、緊急検査・修理、共用構築等の全ての業務に対して責任を有する。
このため、センター所長は、下記のような条件を満たさなければならない。
 - 大学レベル以上卒業で、管理に関する専門知識を有する。
 - 関連する法令を心得、組織のルールの順守が良好であること。
 - 学習力・想像力・対外能力が良好であり、意思決定を出す能力が良好であること。
 - 上記の 9.1 に挙げた一般要件を満たすこと。
- 2) 技術管理者は、装置に関するあらゆる技術、故障を処理し、緊急故障復旧措置を講じる責任を有する。
このため、下記のような条件を満たさなければならない。
 - 担当する装置システムに関する専門知識があること。技術規程、科学標準及び故障復旧・非常時の措置を把握していること。
 - 上記の 9.1 に挙げた一般要件を満たすこと。

第 2 章：車両保全の規程

10条. 保全の分類

- 1) 保全の分類
 - a. 予防保全 (Preventive maintenance)
 - 定期保全 (Scheduled maintenance)：時間若しくは運転キロ数による定期実施
 - 状態基準保全 (Condition-based maintenance)：装置の使用・運転状態を検査し、機能劣化の傾向を診断・発見し、検査、試験及び測定により故障、欠陥を確定すること。
 - b. 事後保全 (Corrective maintenance)
 - 事後保全：故障発見後、運転可能なレベルまで装置・部品の機能を復旧すること。
- 2) 具体的な保全の分類
 - a. 日常保全 (運転前)：毎日、運転士もしくは保全要員により運転の前に実施される。検査は車両基地もしくは本線の列車の留置場所で行う。車体、台車、走行装置、駆動装置、車両のドア、照明、消火器、非常扉に対し、目視での検査を行い、運転室、照明、ワイパー、汽笛、ブレーキシシステム、ドア制御システムの運転に対して検査を行う。

- b. 通常保全：検査区（Inspection Yard）で検査する。車両を分解しない状態において、装置の機能と車両の技術・保守状況の検査を目的とする。（集電靴、連結ロッド、空調、コンバータ、床下の装置、連結器、列車認識システムを検査する）
- c. 技術保全（状態、機能の検査）：検査区（Inspection Yard）で検査する。技術検査及び保守は、車両を分解しない状態において、台車、駆動装置、主電動機、制御回路の機器、空調、車体、信号通信等の主な装置の状態、機能とブレーキ、パンタグラフ等の消耗状況を検査する。
- d. 中修理の保全：工場（Workshop）で行う。主電動機、台車等、車両のほとんどの重要な装置を検査、保守、修理する。全般的に検査を行い、幾つかの部分を修理し取り替え、その後、システムを検査する。検査、保守、修理の時、車両は分解される。
- e. 大修理の保全：工場（Workshop）で行う。装置を取り外し、検査、修理し、当初通りの技術仕様の要件となるように車体を復旧する。台車・主電動機・ブレーキシステム・制御システム・列車認識システム等の主要部品を検査して、交換する。
- f. 臨時保全：臨時検査・保守・修理は、車両の状態、技術品質が安全運行、旅客サービスの要件を満たさない恐れがある場合、運転又は定期保全の時に故障・事故が発生した場合に行われる。
- g. 車両洗浄：洗浄機で洗い、車外と車内の清掃を実施する。天災、事故により、車両の洗浄が必要な可能性がある。保全実施課（センター）は、運行時のサービスの要件を満たすために、路線の車両洗浄周期を策定する責任を有する。
- h. 車輪削正：車両は、車輪の技術要件及び実際の運転条件を満たすために車輪は専用の車輪削正装置で削正が行われる。実際の運転条件、メーカーが定めた実施手順に基づき、保全実施課（センター）が、運転の技術要件を満たす車輪削正計画を作成する責任を有する。
- i. 車両の更新・改修：耐用年数までの車両の通常の運転を保証するために、各路線の仕様により、保全実施課（センター）が検討し、車両の更新・改修計画を作成する。更新・改修の作業は、車両の耐用年数以内に設定する。

11条. 定期保全周期

- 1) 10条2項（b, c, d, e）における都市鉄道各路線の定期保全種類の保全周期は、時間又は運転キロ数による保全周期に関する要件を遵守する。その路線が適用する保全手順により、上記の要件のどちらかが先に来れば、それを適用する。
- 2) 車両は使用休止の場合、その使用休止期間は保全周期に計算されない。
- 3) 都市鉄道の3つの路線の保全周期（2A号線の保全技術、2号線・3号線の基礎設計による）

路線	保全種類	運転キロ数 によるもの (10000 km)	時間によるもの
2A 号線	大修理	120	10 年
	中修理	60	5 年
	技術	15	1 年
	通常検査	1.2	1 月
2 号線	大修理		8 年

	中修理	60	4 年
	技術		3 月
	通常検査		10 日
3 号線	大修理		8 年
	中修理		4 年
	技術		45 日
	通常検査		15 日

12条. 基準日

- 1) 10 条に定めた定期保全の期間は、前回の保全が終わった翌日から計算する。この日を検査期準日と呼ぶ。
- 2) 保全センター所長は、センターの管理範囲で全ての車両、装置に対する基準日を設定・管理するように指導すること。

13条. 各定期保全種類の項目・内容・方法の規程

- 1) 定期保全種類毎に、保全実施課（センター）は、都市鉄道路線の保全手順により、導入する保全技術に基づき、各項目、内容の検査、保守、修理を行う責任を有する。
- 2) 都市鉄道路線の定期保全種類の保全手順は、適用前に会社の総裁の承認が必要である。
- 3) 複数の路線に適用する保全種類の内容、項目、方法は、付録 1 を参考する。

14条. 巡回（Patrol）－ 車内検査

- 1) 巡回は、列車運転プロセスの保安のために必要なことである。保全実施課（センター）は、事故対応及び、運転中の列車の状態を検査するために必要な要員を検討・配置する。
- 2) 車内検査は、運転状態における異常、装置に影響を与える変化を把握し、対応対策を速やかに出すことができるように故障を診断する。
- 3) 車内検査は、報告書で記録すること。
- 4) 検査時、発生する可能性のある異常を発見した場合、検査を行う要員は速やかに対応する、又は対応策を出すために状況を上司に至急に報告すること。

15条. 臨時保全の規程

臨時検査の条件

- 1) 臨時検査は下記の場合に行う。
 - a. 車両の技術・品質状態が安全運転及び旅客サービス条件を確保しないと認められる場合
 - b. 事故発生の場合
 - c. 新規購入の車両を初めて使用する場合
 - d. 使用休止の後、車両を初めて再使用する場合
 - e. その他理由により臨時検査が指定される場合

- 2) 運転時の状態が安全運転及び旅客サービスの条件を確保しないと認められる場合、保全実施課（センター）は、検査を行い、本社に報告すること。

16条. 保全における清掃、部品の亀裂、欠陥の検査

- 1) 中修理、大修理において、技術要件を満たすために、検査・保守・修理作業を行う前に、装置が分解され、きれいに清掃されること。
- 2) 中修理、大修理において車両の部品の亀裂、欠陥を検査する時、超音波探傷で実施する必要がある部品に対し他の方法（例：磁粉探傷）で検査することが出来る。ただし、品質を確認できることを確保しなければならない。
- 3) 亀裂を検査した部品に検査済みという記号を付けなければならない、品質を確認できなければ使用してはならない。検査・修理ユニットは品質を保証する責任を有する。

17条. 台車枠検査

- 1) 台車枠の欠陥を発見する検査は、中修理・大修理時に行う必要がある。
- 2) 超音波又は磁粉探傷により台車の欠陥を発見する検査方法は、その路線の保全手順に従う。

18条. 車輪・車軸の検査要件

- 1) 車輪の欠陥を発見する検査は、中修理・大修理時に行う必要がある。車輪軸の検査方法は、導入技術に応じ各路線の保全手順に従う。
- 2) 静止輪重は直接測定を行い、下記の場合において平均輪重との差異を評価する。
 - a. 中修理・大修理を行う場合
 - b. 車両の荷重バランスに影響を与える部分の修理を行った場合
 - c. 幾つかの原因により、この測定による管理が要求される場合
 - d. 輪重アンバランスは下記のように算出する。

$$R \text{ (Ratio)} = 1 - 2 \cdot P1 / (P1 + P2)$$
 P1, P2 : 2 車輪の荷重
 R(Ratio)の輪重アンバランスは、技術手順に関する要件を満たすこと
 - e. 両車輪の内面間距離、車輪直径は、技術要件を満たさなければならない。

第19条. ブレーキシステム

1. 都市鉄道の車両のブレーキシステムは、以下の通りである。
 - 電気ブレーキ（Electrodynamic brake）：回生ブレーキ、抵抗ブレーキ
 - 機械ブレーキ：電気指令式空気ブレーキ（ディスクブレーキ、ユニットブレーキ）
 - 電磁ブレーキ（Electromagnetic）

2. 空気ブレーキシステムの故障、磨耗、変形、空気漏れの試験は、ブレーキシステムが各ブレーキモード（通常ブレーキ、非常ブレーキ等）の技術要件通りに動くことを保証するために、全ての種類の保全で、その保全レベルに応じて実施しなければならない。試験実施方法は、都市鉄道路線の保全規程に従うものとする。

第20条. 集電装置 (collector, pantograph) 、主電動機

1. 集電装置には、第三軌条の集電靴やパンタグラフがある。全ての種類の保全においては、集電装置を点検しなければならない。故障、変形、溶融、設置状態、集電部分の厚さがその路線の技術要件を満たすことを検査する。
2. 主電動機 (Rotor, Stator) : 故障、磨耗、絶縁、変形及び設置状態を技術保全、中修理、大修理において点検し、主電動機が設計出力通りに動くことを保証する。
3. 点検の詳細内容、集電装置及び主電動機の要件は、その路線の保全規程に従うものとする。

第21条. 車内信号装置

1. 受信コイル、アンテナ等の車内信号装置は、全ての種類の定期保全において点検しなければならない。故障及び設置状態の検査は、保全規程により検査種類のレベルに応じて実施する。
2. 車内信号装置は、地上情報受信から処理終了までの時間、故障検出（あれば）、非常ブレーキ発令までの時間といったシステムの技術要件を満たさなければならない。

22条. ばね・緩衝装置の検査

1. ばね、緩衝装置の損傷、変形、亀裂、及び漏油、漏気、設置状態を検査すること。
2. ばねは、クラック、亀裂がなく、高さ、高さの差異、ばねの柔軟性がメーカーの規程に従っていること。
3. ばね、緩衝装置の検査に関する詳細要件は、メーカーの技術による保全種類毎の手順を遵守すること。

23条. 連結装置の検査

1. 損傷、設置状態、漏気、絶縁性を検査し、要求される安定稼働を確保すること。
2. 連結装置のバランスを取る。連結装置の高さがメーカーの設計基準を満たすこと。
3. 連結装置の検査に関する詳細要件は、メーカーの技術による保全種類毎の手順を遵守すること。

24条. 制御回路の機器検査

1. 制御回路の機器に関し、全ての種類の定期保全において主幹制御器、電気装置、リアクトル、変圧器、スイッチ、リレーを検査すること。
2. 設計要件による装置の通常稼働を確保するために、損傷、変形、変色及び設置状態を検査すること。
3. 検査に関する詳細要件は、メーカーの技術による保全種類毎の手順を遵守すること。

25条. 駆動装置

1. 全ての種類の定期保全において、駆動装置（歯車箱）、継ぎ手、接地装置、速度発電機を検査すること。
2. 設計要件による装置の通常稼働を確保するために、損傷、変形、漏油及び設置状態を検査すること。
3. 検査に関する詳細要件は、メーカーの技術による保全種類毎の手順を遵守すること。

26条. 標識・車内外放送装置

1. 装置が通常に稼働するために、通電させて装置の損傷、設置状態、機能の稼働を検査すること。
2. 運転台の制御用ボタン、マイク、スピーカは設置状態が良く、通常に稼働すること。
3. 車両内・外の LED 表示は明るく明確で、文字を完全に正確に表示すること。
4. 検査に関する詳細要件は、メーカーの技術による保全種類毎の手順を遵守すること。

27条. その他主要システム

- ✓ 車体及び付属装置、運転室
- ✓ ドアシステム
- ✓ 空調システム
- ✓ 照明システム
- ✓ 電源付属システム

上記のシステムは、設計要件による装置の通常稼働を確保するために全ての種類の定期保全において検査・保守すること。上記システムの検査項目、検査方法、仕様に関する詳細要件は、メーカーの保全手順に従うこと。

28条. 車体の防水性能に関する要件

- 1) 中修理・大修理の終了後、車体の防水性能を試験しなければならない。専用噴水で車両に水流を噴射し、車両に水が浸入しないことを確認する必要がある。
- 2) 噴射する際には、ドアは閉め、換気は通常の状態で行われる。

29条. 絶縁検査の要件

- 1) 設計の仕様通りに電気を安全に使用する規程に基づき、放送用配線を含む車両における配線の電気絶縁度及び絶縁材料の耐久性を確認することが必要である。電気絶縁度及び絶縁材料の耐久性を確認することは、以下の時に実施される。
 - 新規に車両を購入した後
 - 技術、中修理・大修理の検査を実施した後
 - 電気回路及び配線の変更を含む修理を実施した後
- 2) 車両の技術検査について、車両の通電遮断後、安全を保証した後（2A 号線：3 分後）、高圧部分に接触する事ができる。

30条. 安全装置の要件

- 1) 運転士睡眠防止装置、速度記録装置、及び速度計は、仕様通りの種類、正しい設置方法であり、動作が良好でなければならない。
- 2) 消火器は、種類が正しく、仕様書類に定める数量を搭載し、有効期限が残存していなければならない。
- 3) 火災警報システム及び非常装置は動作が良好でなければならない。
- 4) 車両の中に、必要な標識、情報、案内を設けなければならない。

第3章 修理・取り換えの規程

31条. 装置の材料・部品の取り換えに係わる規程

車両における装置の部品、材料を変更する時には以下のような要件を確保しなければならない

1. 技術性能は当初の設計を満たすこと；車両の外観に影響がなく、車両の品質・耐久性・安全運行・旅客への安全性を確保すること。
2. 設計図・説明書が必要であり、会社の承認を得なければ変更できない。
3. 使用中に変更の履歴が確認できるように、車両台帳に記録しなければならない。

32条. 油・グリース使用に関する規程

車両に装備された部品の潤滑材や油圧に使用される油は、適切なグレードを保証し、定められているメーカーの要件通りの品質・標準を満たさなければならない。

33条. 車両の消耗部品・装置の取替えに関する規程

路線の技術基準、路線の保全手順、会社の保全規程に基づき、保全実施課（センター）が消耗部品、装置の限度値を監査しフォローアップし、周期、時間、運転したキロ数及び実状に基づき、保全の品質を保証するために取替えを行う。

34条. 車両溶接修理規程

1. 重要な部品の溶接修理、車両の各部分を接合するための溶接は、説明手順に従い、技術要件を満たすこと。
2. 溶接の接合の寸法は、メーカーの規程に従い、亀裂、溶接くずの残存等の溶接欠陥がないこと。
3. 現行規程による資格のある溶接工に限り車両の重要な部分を溶接する事ができる。

35条. 保全用の設備の規程

- 1) 道具・設備は状態を整え、検査・修理・保守のためにいつでも使用できるようにしなければならない。
- 2) 測定法に定める設備は、その法令、設備の設計基準により検査・保守を行う。
- 3) 特別な場合もしくは緊急時に使用される道具は、別の場所に保管し、具体的な表示が必要である。

36条. 予備品に関する規程

- 1) 予備品は、検査・修理・事故のためにいつでも使用できるようにしなければならない。

- 2) 運行、検査の時、故障が発生し、装置の修理や調整で復旧できない場合、装置の復旧や列車運転の再開を早期にできるよう、速やかに予備品と交換する。
- 3) 予備品及び緊急復旧時に使用される装置は、いつでも使用でき、使用する際に品質を保証できなければならない。
- 4) 予備品は、別の場所に保管し、業務の要件を満たす数量、種類を用意しなければならない。

37条. 車両連結の規程

品質の状態が確認され、技術要件及び設計基準を満たし、そして安全運行を確保する車両だけが、列車に連結できる。

38条. 騒音の規程

検査・保守・修理の時、騒音、振動に関する規程を遵守し、規程により周辺の環境に悪い影響を与える騒音、振動、匂いを発しないようにしなければならない。

39条. 標識、安全対策

- 1) 日常・通常・技術の保全を行う時、保全要員は、車両が保全状態にある事を認知・警報するために、車両の両先頭車に標識、旗をつけなければならない。
- 2) 保全を実施する前に、電気及び車両移動に関する安全対策を確保すること。
- 3) 人が侵入する可能性のある保全場所において、適正な保護設備、危険警報の信号を配置すること。

40条. 保全後の要求

- 1) 検査結果において列車又は車両が規程による要件を満たさないと認められた場合、修理、取替え又は使用停止等の必要な対策を行う必要がある。
- 2) オーバーホール（全体検査）を実施するに当たっては、検査年月を車両の本体に記載しなければならない。
- 3) 保全後、車両の各部分は、技術基準を満たさなければならなく、安全に運行することができなければならない。
- 4) 保全センター長は、保全が終了した後、検収し車両の再使用を行う責任を持つ。

41条. 使用休止の車両に対する予防対策

- 1) 車両が使用休止の場合、絶縁材料の磨耗、変形、故障、車両の各部分の故障等、性能・効率の低下を予防するために、必要な対策を行う必要がある。車両及び車両の故障している各部分を検査、保守、修理、復旧又は交換し、技術要件を満たさないと、使用の再開ができない。
- 2) 車両が使用停止の場合、その使用休止は保全周期に算出しない。ただし、算出しない最大期間はその保全種類の周期の半分を超えないこと。

42条. 試運転の規程

- 1) 試運転は、下記の場合に行う必要がある。
 - 車両を新規に製造又は購入後、車両を始めて使用する場合
 - 中修理、大修理、改修、事故復旧のための重要な装置の修理・取替えに関し、車両の検査・修理・保守が終了した後、試運転を実施しなければならない。
 - 何らかの原因により試運転が必要な場合
- 2) 各部品の品質を確認し、安全運転を保証し、技術要件・設計基準を満たさなければ、その車両を運行してはならない。設計基準又はベトナムの規程による耐用年数を越えた車両を使用してはならない。

第4章：実施組織**43条. 各部署の責任**

- 1) 本社の車両管理保全課
 - 計画を審査し、承認した規程、計画、手順により保全実施課が行う保全業務を検査・監視する。
- 2) 保全実施課（保全センター）
 - 計画を作成し、承認された計画通りに保全活動を実施する。保全期限を超えた車両を使用してはならない。
 - 保全実施課の課長が作業計画を作成し、実施要員を配置する責任を持つ。
 - 保全時、車体における車両の記号・番号・仕様は、記録された車両のデータと比較する必要がある。
 - 分解する前に、車両を掃除し、きれいにしなければならない。
 - 各課長が車両の検収及び使用を行う。

44条. 保全計画

OU の保全実施課（保全センター）は、長期・中期・年間・四半期・月間・当日の保全計画を作成する責任を持つ。

- 1) 計画作成原則
 - 列車運転計画の確保
 - 規定された検査周期、運転キロ数を遵守し定期検査を行うこと
 - 業務量を平準化し、全周期で実施する要員数が最低である事を保証すること
 - 計画作成段階において各車両の運転キロ数を平準化すること（特別な場合を除く）
 - 安全衛生、掃除、車輪旋盤、教育等、その他業務に対する実施期間を確保すること
 - 計画された保全は、安全、費用、品質の効果を確保すること
- 2) 車両保全計画の内容は、十分に示される必要がある
 - 車両保全の業務名、主要項目、ユニット
 - 実施時期
 - 実施方法
 - 優先程度

- 業務量・実施費用の予算

計画、予算を様式により作成しなければならない。

45条. 保全記録

- 1) 保全要員は、以下のような情報を保全記録に記入しなければならない。
 - 業務要件・担当伝票
 - 状態検査記録書
 - 試験記録書
 - 出荷伝票（あれば）
- 2) 検査記録書に下記の内容を含むこと。
 - 実施業務、実施日・時間
 - 実施者
 - 異常の状態
 - 調整・変更（あれば）（保全前と保全後の仕様を含む）
 - 完了日時
 - 実施結果の検査・検収を行う要員
- 3) 書類は、次の大修理まで保全実施課で確実に保存すること。
- 4) 新規装置、改善した装置を保全する時、それ以降に使用できるよう、書類を更新・保存すること。完全に交換した装置のデータ、仕様は、保存のスペースを節約するためにコンピュータで保存することができる。
- 5) 使用する図面、説明資料、仕様は、いつでも使用できるように整理し、明確に記載すること。

46条. 保全責任

直接に行う係員、保全技術担当者、各課長は、保全の質及び保全によって発生した運転事故に対する主な責任を持つ。

47条. 規程変更・追加

この規程を実施する際に問題が発生した場合、書面により意見を本社の車両管理保全課まで送付する。適宜改正ができるよう、本社の担当者は、検討・調査した後、本社のリーダーに提出する。

付録 1. 各路線の定期保守の内容・項目・方法・要件

I) 2号線定期保全の内容（東京メトロの資料を参考とした）

10 日間検査

区分			検査項目	検査方法
1 走行装置等	(1) 台車	a. 台車枠	損傷、変形、亀裂及び取付状態	
		b. 軸箱及び軸箱支持装置	(a) 損傷及び取付状態 (b) 漏油	
		c. 車輪及び車軸	車輪踏面及び各部の損傷	
		d. ばね等緩衝装置	各部の損傷、き裂、変形、漏気、漏油及び取付状態	
		e. 排障器	損傷、変形、き裂及び取付状態	
	(2) 駆動装置	a. 歯車箱	箱の損傷、変形、漏油及び取付状態	
		b. 継ぎ手	損傷、変形、漏油及び取付状態	
		c. 接地装置	損傷及び取付状態	
		d. 速度発電機	損傷及び取付状態	
2 主回路の機器	(1) 集電装置	a. パンタグラフ及びその附属装置	(a) 各部の損傷、変形、溶損及び取付状態 (b) すり板の摩耗 (c) 上昇及び下降の機能	(b) 測定
	(2) 制御回路の機器	a. 各機器	各部の損傷、箱ふたの鎖錠、取付状態及び漏気	
		b. 主幹制御器	損傷及び取付状態	
		c. 主回路用リアクトル	損傷、変色、異臭及び変形	
		d. 電動送風機	(a) 各部の損傷、箱ふたの鎖錠、取付状態 (b) 異音及び過熱	
3 ブレーキ装置	(1) 基礎ブレーキ装置	a. ブレーキシリンダ	各部の損傷、漏気及び取付状態	
		b. ユニットブレーキ装置	各部の損傷、摩耗及び変形	
		c. ディスクブレーキ装置	各部の損傷、摩耗及び変形	
		d. ブレーキディスク	各部の損傷、き裂、摩耗及び取付状態	
	(2) 空気ブレーキ制御装置	a. ブレーキ制御器	(a) 取付状態及び漏気 (b) ブレーキの作用（常用、非常、他）	
		b. ブレーキ装置の機器	各機器の損傷、箱ふたの鎖錠、取付状態及び漏気	
4 一般電気装置	(1) 補助電源装置	a. SIV	各部の損傷、箱ふたの鎖錠、取付状態	
		b. 蓄電池	各部の損傷、箱ふたの鎖錠、取付状態	
	(2) その他の機器	a. 補助抵抗器	損傷、変色、異臭及び変形	
		b. NFB 及びスイッチ類	損傷及び取付状態	
		c. 避雷器	損傷及び取付状態	
5 一般空気装置	(1) 空気圧縮機及びその附属装置	a. 電動空気圧縮機	(a) 異音及び振動 (b) 漏油及び油量 (c) 整流状態及びブラシの長さ	(c) 測定
		b. 調圧器	漏気及び機能	
	(2) 弁類、空気タンク及び空気管	a. 弁類、空気タンク及び空気管	(a) 損傷及び取付状態 (b) 漏気及び漏油	
6 車体及び車室	(1) 車室内外		(a) 天井、床、外板、内張り、渡り板等の損傷及び腐食 (b) 窓、ほろ、座席、引き戸その他装備部品の損傷、鎖錠及び取付状態	
	(2) 屋根		屋根被覆、その他屋根上搭載機器各部の損傷及び取付状態	

	(3) 自動戸閉め装置		(a) 各部の損傷、漏気及び取付状態 (b) 戸閉知らせ灯及び車側灯の点滅状態 (c) 開閉動作	
	(4) 照明装置		(a) 灯及び灯具の損傷及び取付状態 (b) 各灯の点滅機能	
	(5) 冷暖房換気装置		(a) 損傷及び取付状態 (b) 機能	
7 その他装置	(1) 合図、通話及び車内外放送装置	a. 合図装置	(a) 損傷及び取付状態 (b) 各装置の機能	
		b. 通話及び車内外放送装置	(a) 損傷及び取付状態 (b) 車内外放送装置の通話機能	
	(2) 各種表示装置		(a) 損傷及び取付状態 (b) 表示状態	
	(3) 計器		(a) 損傷及び取付状態 (b) 圧力計、電気計器類(電圧計、電流計等)の指針動作	
	(4) 連結装置	a. 自動連結器及び緩衝装置	(a) 各部の損傷及び取付状態 (b) 連結状態	
		b. 胴受け	各部の損傷及び取付状態	
		c. 空気管の連結装置	ホース等の損傷及び漏気	
		d. 電線の連結装置	本体、絶縁物、ジャンパ線等の汚損及び損傷	
	(5) 信号保安装置	a. 受電器及び車上子	損傷及び取付状態	
		b. 本体装置	各部の損傷及び取付状態	
		c. その他附属装置	各部の損傷及び取付状態	
	(6) 運転状況記録装置		各部の損傷及び取付状態	
8. 起動及びブレーキ試験			起動及びブレーキの機能	

3ヶ月検査

I. 単体検査

区分			検査項目	検査方法
1 走行装置等	(1) 台車	a. 台車枠	(a) 損傷、変形、き裂及び取付状態 (b) しゅう動部の損傷及び摩耗 (c) 主電動機等装架部品の取付状態 (d) 空気室の損傷	
		b. けん引装置	各部の損傷、摩耗、変形及び取付状態	
		c. 軸箱及び軸箱支持装置	(a) 損傷及び取付状態 (b) 漏油	
		d. 車輪及び車軸	(a) 車輪踏面及び各部の損傷 (b) 車輪フランジの高さ及び厚さ	(b) 測定
		e. バネ等緩衝装置	(a) 各部の損傷、き裂、変形、漏気、漏油及び取付状態 (b) 空気ばね高さ	(b) 測定
		f. 排障器	損傷、変形、き裂及び取付状態	
	(2) 駆動装置	a. 歯車箱	(a) 箱の損傷、変形、漏油及び取付状態 (b) 潤滑剤の量	
		b. 継ぎ手	損傷、変形、漏油及び取付状態	
		c. 接地装置	ブラシ及びブラシホルダの摩耗、変形、損傷、圧力及びすき間	
		d. 速度発電機	各部の損傷及び取付状態	

2 主回路の機器	(1) 集電装置	a. パンタグラフ及びその附属装置	(a) 各部の損傷、変形、溶損、漏気及び取付状態 (b) すり板の摩耗 (c) 上昇及び下降の機能 (d) 上昇圧力 (e) 絶縁特性	(b) 測定 (d) 測定 (e) 絶縁抵抗試験
	(2) 主電動機	a. 電機子	各部の損傷、汚損及び変色	
		b. 枠及び界磁	各部の損傷、汚損、変形及び取付状態	
	(3) 制御回路の機器	a. 断流器及び主接触器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 接触子、指及び片の損傷、摩耗、接触圧力及び取付状態 (c) 火花流しの損傷及び取付状態 (d) 電磁弁は 4(2)d. にシリンダは 3(1)a. による。 (e) 絶縁物の汚損及び損傷 (f) 各部の取付状態 (g) 機能 i) 接触子及び指のワイプ ii) 主接触部と補助接触部との連携動作	
		b. 主幹制御器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 接触子、指及び片の損傷、摩耗、接触圧力及び取付状態 (c) 絶縁物の汚損及び損傷 (d) 各部の取付状態	
		c. 主回路用半導体装置	(a) 半導体素子、絶縁物、放熱フィン等の汚損及び損傷 (b) 各部の取付状態	
		d. 主回路用半導体制御装置	(a) 4(2)による。 (b) 各部の取付状態	
		e. 主回路用リアクトル及びコンデンサ	各部の汚損及び損傷	
		f. 電動送風機	(a) 各部の汚損及び損傷 (b) 2(2)による。 (c) 異音及び過熱	
		g. 補助回路構成品	損傷及び取付状態	
	3 ブレーキ装置	(1) 基礎ブレーキ装置	a. ブレーキシリンダ	各部の損傷、漏気及び取付状態
			b. ユニットブレーキ装置	各部の損傷、摩耗及び変形
			c. ディスクブレーキ装置	各部の損傷、摩耗及び変形
			d. ブレーキディスク	各部の損傷、き裂、摩耗及び取付状態 測定
		(2) 空気ブレーキ制御装置	a. ブレーキ制御器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 電気部品は 2(3)b. による。
			b. ブレーキ指令器及びブレーキ受信装置	(a) 損傷及び取付状態 (b) 電気部品は 4(2)による。
			c. 作用装置及びブレーキ補助機器	(a) 損傷、漏気及び取付状態 (b) 3(2)a. による。
			d. 応荷重装置	(a) 損傷、漏気及び取付状態 (b) 3(2)a. による。

4 一般電気装置	(1) 補助電源装置	a. SIV	(a) 絶縁物の汚損及び損傷 (b) コンデンサ等の損傷 (c) 各部の取付状態 (d) 電気部品は 4(2)による。 (e) 出力特性 i) 発生電圧 ii) 周波数	(e) 測定
		b. 蓄電池	(a) 蓄電池本体、渡り線、端子等の腐食、損傷、取付状態及び漏液 (b) 電解液の比重(焼結式の場合を除く。)、量及び電圧	(b) 測定
	(2) 継電器、電磁弁、配線等	a. 補助抵抗器	(a) 抵抗体の損傷、変色及び変形 (b) 取付状態	
		b. ヒューズ、スイッチ類	(a) 箱及びヒューズの損傷 (b) 接触部の汚損及び損傷 (c) 取付状態	
		c. 接触器、継電器及び無接点接触器	(a) 絶縁物の汚損及び損傷 (b) 可動部及び接触部の損傷 (c) 各部の取付状態 (d) 半導体等電気部品は 4(2)e.による。 (e) 機能	
		d. 電磁弁	(a) コイルの断線及び焼損 (b) 各部の取付状態 (c) 機能	
		e. 半導体等電気部品	(a) 半導体及び基板等の汚損及び損傷 (b) 各部品及びコネクタ等の損傷及び取付状態	
		f. 避雷器	(a) がいし等の損傷及び汚損 (b) 取付状態	
		g. 配線等	電線、光ファイバ、接続箱その他附属部品の損傷及び取付状態	
5 一般空気装置	(1) 空気圧縮機及びその附属装置	a. 電動空気圧縮機	(a) 電動機は 2(2)による。 (b) 本体及び動力伝達装置の損傷 (c) 漏油、漏気及び油量 (d) 機能	
		b. 調圧器	3(2)a.による。	
		c. 安全弁	損傷、漏気及び取付状態	
		d. 除湿装置及び自動排水弁	(a) 損傷、漏気及び取付状態 (b) 電磁弁は 4(2)d.による。 (c) 吐出弁の損傷、漏気及び機能	
	(2) 弁類、空気タンク、空気管等	a. 給気弁及び減圧弁	損傷、漏気及び取付状態	
		b. 気圧スイッチ等	3(2)a.による。	
		c. その他の弁類	(a) 5(2)a.による。 (b) 電気部品は 4(2)による。	
		d. 空気タンク	本体及び保護金具の腐食及び取付状態	
		e. 空気管等	(a) 空気管、ホース及びちりこしの損傷及び取付状態 (b) コックの開閉及び取付状態	
6 車体及び車室	(1) 台枠		はり、機器つり等の損傷、変形、き裂及び腐食	
	(2) 車室内外		(a) 天井、床、外板、内張り、渡り板等の損傷及び腐食 (b) 窓、ほろ、座席、引き戸その他装備部品の損傷、鎖錠及び取付状態	

	(3) 屋根		屋根被覆、その他屋根上搭載機器各部の損傷及び取付状態	
	(4) 自動戸閉め装置		(a) 戸閉め機、ベルト、腕、リンク、ローラ、滑り金等の損傷、摩耗変形及び取付状態 (b) 電磁弁、戸閉めスイッチ、戸閉め保安装置等電気部品は 4(2)による。 (c) 戸閉め機、空気管等の漏気及び漏油 (d) 開閉動作	
	(5) 照明装置		(a) 灯及び灯具の損傷及び取付状態 (b) 接触器は 4(2)c.による。	
	(6) 冷暖房換気装置		(a) 損傷及び取付状態 (b) 接触器は 4(2)c.による。	
7 その他の装置	(1) 合図、通話及び車内外放送装置	a. 合図装置	損傷及び取付状態	
		b. 通話及び車内外放送装置	損傷及び取付状態	
	(2) 各種表示装置		各部の損傷及び取付状態	
	(3) 計器		(a) 損傷及び取付状態 (b) 圧力計、電気計器類(電圧計、電流計等)の指針動作	
	(4) 連結装置	a. 自動連結装置及び緩衝装置	(a) 各部の損傷及び取付状態 (b) 連結状態	
		b. 胴受け	各部の損傷及び取付状態	
		c. 空気管の連結装置	ホース、パッキン等の損傷及び漏気	
		d. 電線の連結装置	本体、絶縁物、ジャンパ線等の汚損及び損傷	
	(5) 信号保安装置	a. 受電器及び車上子	損傷、汚損及び取付状態	
		b. 本体装置	(a) 各部の損傷及び取付状態 (b) 電気部品は 4(2)による。	
		c. その他附属装置	(a) 各部の損傷及び取付状態 (b) 電気部品は 4(2)による。	
	(6) 運転士異常時列車停止装置		各部の損傷及び取付状態	
	(7) 運転状況記録装置		各部の損傷及び取付状態	

I. 単体検査

検査項目	検査方法
1. 各機器の取付状態	
2. 排障器の高さ	測定
3. 集電装置の操作機能	
4. 制御回路の機器の制御及び保護機能	測定
5. 電気回路(蓄電池、半導体等を使用した回路を除く。)の絶縁特性	絶縁抵抗試験
6. ブレーキ装置の機能	測定
7. 空気ブレーキ制御装置及び一般空気装置の漏気	測定
8. 空気圧縮機の能力及びその附属装置(調圧器及び安全弁)の機能	測定
9. 車体の傾斜	測定
10. 自動戸閉め装置の機能	測定
11. 照明装置の点灯機能	

12. 合図、通話及び車内外放送装置の機能	
13. 各種表示装置(標識灯及びモニタ装置を含む。)の機能	
14. 冷暖房換気装置の機能	
15. 連結器の高さ	測定
16. 自動列車停止装置等の動作特性及び機能	測定
17. 受電器及び車上子の高さ	測定
18. 運転士異常時列車停止装置の機能	
19. 起動試験	

4 年検査

I. 単体検査

区分		検査項目	検査方法
1 走行装置等	(1) 台車	a. 台車枠 (a) 枠組み、揺れまくら、はり等の、変形、き裂及び腐食 (b) しゅう動部の損傷及び摩耗 (c) 主電動機等装架部品及び付属部品の損傷、摩耗 (d) 空気室の損傷 (e) 枠組みのき裂	(e) 探傷
		b. けん引装置 (a) けん引はり及びけん引板ばねのき裂、損傷、摩耗、変形及び取付状態 (b) 左右動ストッパゴム及び摩耗板の損傷、摩耗及び取付状態	
		c. 軸箱及び軸箱支持置 (a) 軸箱及び軸受け等の損傷、摩耗、変色及びすき間 (b) 潤滑剤の汚損及び量 (c) 軸箱支持リンク等のき裂、損傷、摩耗及び取付状態 (d) ゴム類のき裂、損傷、変形、劣化及び取付状態	
		d. 車輪及び車軸 (a) 車輪踏面及び各部の損傷(含む、防音リング) (b) 車輪の直径等 i) 車輪の直径 ii) フランジの厚さ及び高さ iii) バックゲージ (c) 車軸の損傷(含む、亀裂) (d) 接地装置は 1(2)d.による。 (e) 速度発電機は 1(2)e.による。	(b) 測定 (c) 探傷
		e. ばね等緩衝装置 (a) ばねの損傷、摩耗及び変形 (b) オイルダンパの機能及び漏油 (c) ゴム類のき裂、損傷、変形、劣化及び取付状態 (d) 空気ばねの高さ調整弁、差圧弁等は 5(2)a.による	(b) 測定
		f. 排障器 損傷、変形、き裂及び取付状態	
	(2) 駆動装置	a. 歯車 (a) き裂、変形、摩耗、欠損及び取付状態 (b) かみ合わせ状態	
		b. 歯車箱 (a) 箱の損傷、変形、漏油及び取付状態 (b) 潤滑剤の汚損及び量 (c) 油面計及び磁気栓の損傷及び取付状態 (d) 軸受けの損傷、摩耗及びすき間 (e) ゴム類のき裂、損傷、変形、劣化及び取付状態	
		c. 継ぎ手 (a) 本体のき裂、損傷、変形及び摩耗 (b) 潤滑剤の量	

2 主回路の機器		d. 接地装置	(a) しゅう動面の損傷及び摩耗 (b) ブラシ及びブラシホルダの摩耗、変形、損傷、圧力及びすき間	
		e. 速度発電機	各部の損傷及び取付状態	
	(1) 集電装置	a. パンタグラフ及びその附属装置	(a) 取付台枠、主軸、枠組管、舟、すり板等の損傷、変形及び腐食 (b) ピン及び軸受部の摩耗及び変形 (c) 支え装置の機能 (d) シリンダ、空気管及び空気ホースの損傷及び腐食 (e) がいし等の汚損及び損傷 (f) 電磁弁は 4(2)d.による。 (g) 上昇及び下降の機能 (h) 絶縁特性	(h) 絶縁抵抗試験
	(2) 主電動機	a. 電機子	(a) 損傷、汚損及び変色 (b) 軸、ファン等の損傷、摩耗及び変形	
		b. 枠及び界磁等	(a) 各部の損傷、汚損、変形及び取付状態 (b) 軸受けの損傷、かん合状態及び給油状態 (c) 端子箱の損傷及び取付状態	
			(a) 絶縁特性 (b) 回転の機能	(a) 絶縁抵抗試験
	(3) 制御回路の機器	a. 断流器及び主接触器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 接触子、指及び片の損傷、摩耗、接触圧力及び取付状態 (c) 電磁弁は 4(2)d.にシリンダは 3(1)a.による。 (d) 絶縁物の汚損及び損傷 (e) 各部の取付状態 (f) 機能 i) 接触子及び指のワイプ ii) 主接触部と補助接触部との連携動作 (g) 動作特性 i) 動作空気圧力 ii) 動作電圧	(g) 測定
		b. 主幹制御器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 接触子、指及び片の損傷、摩耗、接触圧力及び取付状態 (c) 絶縁物の汚損及び損傷 (d) 各部の取付状態 (e) 半導体等電気部品は 4(2)e による。	
		c. 主回路用半導体装置	(a) 半導体素子、絶縁物、放熱フィン等の汚損及び損傷 (b) 各部の取付状態	
		d. 主回路用半導体制御装置	4(2)による。	
		e. 主回路用リアクトル及びコンデンサ	(a) 各部の汚損、変形、漏油及び損傷 (b) 絶縁特性(リアクトルに限る。)	(b) 絶縁抵抗試験
		f. 電動送風機	(a) 各部の汚損及び損傷 (b) 2(2)による。	
		g. 補助回路構成品	損傷及び取付状態	

3 ブレーキ装置	(1) 基礎ブレーキ装置	a. ブレーキシリンダ	(a) 筒の内面、ピストン及びゴムペローズの損傷、き裂及び摩耗 (b) 潤滑状態	
		b. ユニットブレーキ装置	(a) 各部の損傷、摩耗及び変形 (b) 機能	
		c. ディスクブレーキ装置	(a) 各部の損傷、摩耗及び変形 (b) 機能	
		d. ブレーキディスク	各部の損傷、き裂、摩耗及び取付状態	測定
	(2) 空気ブレーキ制御装置	a. ブレーキ制御器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 弁と弁座の当たり及びばねの損傷 (c) 膜板及びパッキンの損傷、変質及び変形 (d) 電気部品は 2(3)b.による。	
		b. ブレーキ指令器及びブレーキ受信装置	(a) 損傷及び取付状態 (b) 半導体等電気部品は 4(2)e.による。	
		c. 作用装置及びブレーキ補助機器	(a) 損傷及び取付状態 (b) 3(2)a.による。	
		d. 応荷重装置	(a) 損傷及び取付状態 (b) 3(2)a.による。	
4 一般電気装置	(1) 補助電源装置	a. SIV	(a) 絶縁物の汚損及び損傷 (b) コンデンサ等の損傷 (c) 各部の取付状態 (d) 電気部品は 4(2)による。 (e) 絶縁特性(半導体部分を除く。) (f) 出力特性 i) 発生電圧 ii) 周波数	(e) 絶縁抵抗試験 (f) 測定
		b. 蓄電池	(a) 蓄電池本体、渡り線、端子等の腐食、損傷、取付状態及び漏液 (b) 電解液の比重、量及び電圧	(b) 測定
	(2) 継電器、電磁弁、配線等	a. 補助抵抗器	(a) 抵抗体の損傷、変色及び変形 (b) 取付状態	
		b. ヒューズ、スイッチ類	(a) 箱及びヒューズの損傷 (b) 接触部の汚損及び損傷 (c) 取付状態 (d) 機能	
		c. 接触器、継電器及び無接点接触器	(a) 絶縁物の汚損及び損傷 (b) 可動部及び接触部の損傷 (c) 各部の取付状態 (d) 半導体等電気部品は 4(2)e.による。 (e) 機能	
		d. 電磁弁	(a) コイルの断線及び変色 (b) 弁と弁座との当たり及び弁のリフト (c) 各部の取付状態 (d) 機能	
		e. 半導体等電気部品	(a) 半導体及び基板等の汚損及び損傷 (b) 各部品及びコネクタ等の損傷及び取付状態	
		f. 避雷器	(a) がいし等の損傷及び汚損 (b) 取付状態	
		g. 配線等	(a) 電線、光ファイバ、接続箱その他付属部品の損傷及び取付状態 (b) 絶縁特性	(b) 絶縁抵抗試験

5 一般空気装置	(1) 空気圧縮機及びその附属装置	a. 電動空気圧縮機	(a) 電動機は 2(2)による。 (b) クランク室、シリンダ、ピストン等の損傷 (c) 弁の摩耗、損傷、汚損及び取付状態 (d) 動力伝達装置の損傷 (e) 漏油、漏気及び油量 (f) 機能	
		b. 調圧器	3(2)a.による。	
		c. 安全弁	弁と弁座との当たり	
		d. 除湿装置及び自動排水弁	(a) 損傷、漏気及び取付状態 (b) 吸湿剤等の劣化 (c) 電磁弁は 4(2)d.による。 (d) 吐出弁は 5(2)a.による。	
	(2) 弁類、空気タンク、空気管等	a. 給気弁及び減圧弁	(a) 弁と弁座との当たり及びばねの損傷 (b) 膜板及びパッキンの損傷、劣化及び変形 (c) 機能	
		b. 気圧スイッチ等	3(2)a.による。	
		c. その他の弁類	(a) 5(2)a.による。 (b) 電気部品は 4(2)による。	
		d. 空気タンク	本体及び保護金具の腐食及び取付状態	
		e. 空気管等	(a) 空気管、ホース及びちりこしの損傷及び取付状態 (b) コックの開閉及び取付状態	
6 車体及び車室	(1) 台枠		はり、機器つり等の損傷、変形、き裂及び腐食	
	(2) 車室内外 (運転台及び運転士用椅子を含む)		(a) 天井、床、外板、内張り、渡り板等の損傷及び腐食 (b) 窓、ほろ、座席、引き戸その他装備部品の損傷、鎖錠及び取付状態	
	(3) 屋根		(a) 屋根被覆の損傷、劣化及びはく離 (b) 屋根上機器及び取付台の損傷及び腐食	
	(4) 自動戸閉め装置		(a) 戸閉め機、ベルト、腕、リンク、ローラ、滑り金等の損傷、摩耗、変形及び取付状態 (b) 電磁弁、戸閉めスイッチ、戸閉め保安装置等電気部品は 4(2)による。 (c) 戸閉め機、空気管等の漏気及び漏油 (d) 開閉動作	
	(5) 照明装置		(a) 灯及び灯具の損傷及び取付状態 (b) 接触器は 4(2)c.による。	
	(6) 冷暖房換気装置		(a) 電動機は 2(2)による。(絶縁耐力試験を除く。) (b) 電気部分は 4(2)による。 (c) 各部の損傷及び取付状態	
7 その他の装置	(1) 合図、通話及び車内外放送装置	a. 合図装置	(a) 各部の損傷、汚損及び取付状態 (b) 機能	
		b. 通話及び車内外放送装置	(a) 各部の損傷及び取付状態 (b) 機能	
	(2) 各種表示装置		各部の損傷及び取付状態	
	(3) 計器		(a) 損傷及び取付状態 (b) 圧力計の機能 (c) 速度計の機能 (d) 電気計器類(電圧計、電流計等)の機能	(b) 測定 (c) 測定

	(4) 連結装置	a. 自動連結装置及び緩衝装置	(a) 本体及び附属装置等のき裂、変形及び摩耗 (b) 杵、緩衝ゴム、伴板、仕切板等の損傷、摩耗、変形及び取付状態 (c) 機能	
		b. 胴受け	損傷、摩耗、変形及び取付状態	
		c. 空気管の連結装置	ホース、パッキン等の損傷及び劣化	
		d. 電線の連結装置	(a) 本体、絶縁物、ジャンパ線等の汚損及び損傷 (b) 機能	
	(5) 信号保安装置	a. 受電器及び車上子	損傷、汚損及び取付状態	
		b. 本体装置	(a) 各部の損傷及び取付状態 (b) 電気部品は 4(2)による。	
		c. その他附属装置	(a) 各部の損傷及び取付状態 (b) 電気部品は 4(2)による。	
	(6) 運転士異常時列車停止装置		各部の損傷及び取付状態	
	(7) 運転状況記録装置		各部の損傷及び取付状態	

II. 総合検査

検査項目	検査方法
1. 各機器の取付状態	
2. 排障器の高さ	測定
3. 集電装置の操作機能	
4. 制御回路の機器の制御及び保護機能	測定
5. 電気回路(蓄電池、半導体等を使用した回路は除く。)の絶縁特性	絶縁抵抗試験
6. ブレーキ装置の機能	測定
7. 空気ブレーキ制御装置及び一般空気装置の漏気	測定
8. 空気圧縮機的能力及びその附属装置(調圧器及び安全弁)の機能	測定
9. 車体の傾斜	測定
10. 静止輪重	測定
11. 自動戸閉め装置の機能	測定
12. 照明装置の点灯機能	
13. 合図、通話及び車内外放送装置の機能	
14. 各種表示装置(標識灯及びモニタ装置を含む。)の機能	
15. 冷暖房換気装置の機能	
16. 連結器の高さ	測定
17. 自動列車停止装置等の動作特性及び機能	測定
18. 受電器及び車上子の高さ	測定
19. 運転士異常時列車停止装置の機能	
20. 起動試験	

III. 試運転

検査項目	検査方法
1. 起動、加速及び減速の能力	
2. ブレーキ装置の主要機能	
3. 異音及び動揺	
4. 計器の指示状態	

5. 自動列車運転装置の機能	
6. 試運転後の機器等の状態	
(a) 主電動機軸受部の状態	
(b) 主回路用機器の状態	
(c) 車軸軸受部の発熱及び漏油	
7. 運転状況記録装置の機能	

8 年検査

I. 単体検査

区分		検査項目	検査方法
1 走行装置等	(1) 台車	a. 台車枠 (a) 枠組み、揺れまくら、はり等の、変形、き裂及び腐食 (b) しゅう動部の損傷及び摩耗 (c) 主電動機等装架部品及び付属部品の損傷、摩耗 (d) 空気室の損傷 (e) 枠組みのき裂	(e) 探傷
		b. けん引装置 (a) けん引はり及びけん引板ばねのき裂、損傷、摩耗、変形及び取付状態 (b) 左右動ストッパゴム及び摩耗板の損傷、摩耗及び取付状態	
		c. 軸箱及び軸箱支持置 (a) 軸箱及び軸受け等の損傷、摩耗、変色及びすき間 (b) 潤滑剤の汚損及び量 (c) 軸箱支持リンク等のき裂、損傷、摩耗及び取付状態 (d) ゴム類のき裂、損傷、変形、劣化及び取付状態	
		d. 車輪及び車軸 (a) 車輪踏面及び各部の損傷(含む、防音リング) (b) 車輪の直径等 i) 車輪の直径 ii) フランジの厚さ及び高さ iii) バックゲージ (c) 車軸の損傷(含む、亀裂) (d) 接地装置は 1(2)d.による。 (e) 速度発電機は 1(2)e.による。	(b) 測定 (c) 探傷
		e. ばね等緩衝装置 (a) ばねの損傷、摩耗及び変形 (b) オイルダンパの機能及び漏油 (c) ゴム類のき裂、損傷、変形、劣化及び取付状態 (d) 空気ばねの高さ調整弁、差圧弁等は 5(2)a.による	(b) 測定
		f. 排障器 損傷、変形、き裂及び取付状態	
	(2) 駆動装置	a. 歯車 (a) き裂、変形、摩耗、欠損及び取付状態 (b) かみ合わせ状態	
		b. 歯車箱 (a) 箱の損傷、変形、漏油及び取付状態 (b) 潤滑剤の汚損及び量 (c) 油面計及び磁気栓の損傷及び取付状態 (d) 軸受けの損傷、摩耗及びすき間 (e) ゴム類のき裂、損傷、変形、劣化及び取付状態	
		c. 継ぎ手 (a) 本体のき裂、損傷、変形及び摩耗 (b) 潤滑剤の量	

2 主回路の機器		d. 接地装置	(a) しゅう動面の損傷及び摩耗 (b) ブラシ及びブラシホルダの摩耗、変形、損傷、圧力及びすき間	
		e. 速度発電機	各部の損傷及び取付状態	
	(1) 集電装置	a. パンタグラフ及びその附属装置	(a) 取付台枠、主軸、枠組管、舟、すり板等の損傷、変形及び腐食 (b) ピン及び軸受部の摩耗及び変形 (c) 支え装置の機能 (d) シリンダ、空気管及び空気ホースの損傷及び腐食 (e) がいし等の汚損及び損傷 (f) 電磁弁は 4(2)d.による。 (g) 上昇及び下降の機能 (h) 絶縁特性	(h) 絶縁抵抗試験
	(2) 主電動機	a. 電機子	(a) 損傷、汚損及び変色 (b) 軸、ファン等の損傷、摩耗及び変形	
		b. 枠及び界磁等	(a) 各部の損傷、汚損、変形及び取付状態 (b) 軸受けの損傷、かん合状態及び給油状態 (c) 端子箱の損傷及び取付状態	
			(a) 絶縁特性 (b) 回転の機能	(a) 絶縁抵抗試験及び絶縁耐力試験
	(3) 制御回路の機器	a. 断流器及び主接触器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 接触子、指及び片の損傷、摩耗、接触圧力及び取付状態 (c) 電磁弁は 4(2)d.にシリンダは 3(1)a.による。 (d) 絶縁物の汚損及び損傷 (e) 各部の取付状態 (f) 機能 i) 接触子及び指のワイプ ii) 主接触部と補助接触部との連携動作 (g) 動作特性 i) 動作空気圧力 ii) 動作電圧	(g) 測定
		b. 主幹制御器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 接触子、指及び片の損傷、摩耗、接触圧力及び取付状態 (c) 絶縁物の汚損及び損傷 (d) 各部の取付状態 (e) 半導体等電気部品は 4(2)e による。	
		c. 主回路用半導体装置	(a) 半導体素子、絶縁物、放熱フィン等の汚損及び損傷 (b) 各部の取付状態	
		d. 主回路用半導体制御装置	4(2)による。	
		e. 主回路用リアクトル及びコンデンサ	(a) 各部の汚損、変形、漏油及び損傷 (b) 絶縁特性(リアクトルに限る。)	(b) 絶縁抵抗試験
		f. 電動送風機	(a) 各部の汚損及び損傷 (b) 2(2)による。	

		g. 補助回路構成品	損傷及び取付状態	
3 ブレーキ装置	(1) 基礎ブレーキ装置	a. ブレーキシリンダ	(a) 筒の内面、ピストン及びゴムベローズの損傷、き裂及び摩耗 (b) 潤滑状態	
		b. ユニットブレーキ装置	(a) 各部の損傷、摩耗及び変形 (b) 機能	
		c. ディスクブレーキ装置	(a) 各部の損傷、摩耗及び変形 (b) 機能	
		d. ブレーキディスク	各部の損傷、き裂、摩耗及び取付状態	測定
	(2) 空気ブレーキ制御装置	a. ブレーキ制御器	(a) 可動部及びしゅう動部の損傷及び摩耗 (b) 弁と弁座の当たり及びばねの損傷 (c) 膜板及びパッキンの損傷、変質及び変形 (d) 電気部品は 2(3)b.による。	
		b. ブレーキ指令器及びブレーキ受信装置	(a) 損傷及び取付状態 (b) 半導体等電気部品は 4(2)e.による。	
		c. 作用装置及びブレーキ補助機器	(a) 損傷及び取付状態 (b) 3(2)a.による。	
		d. 応荷重装置	(a) 損傷及び取付状態 (b) 3(2)a.による。	
4 一般電気装置	(1) 補助電源装置	a. SIV	(a) 絶縁物の汚損及び損傷 (b) コンデンサ等の損傷 (c) 各部の取付状態 (d) 電気部品は 4(2)による。 (e) 絶縁特性(半導体部分を除く。) (f) 出力特性 i) 発生電圧 ii) 周波数	(e) 絶縁抵抗試験及び絶縁耐力測定 (f) 測定
		b. 蓄電池	(a) 蓄電池本体、渡り線、端子等の腐食、損傷、取付状態及び漏液 (b) 電解液の比重、量及び電圧	(b) 測定
	(2) 継電器、電磁弁、配線等	a. 補助抵抗器	(a) 抵抗体の損傷、変色及び変形 (b) 取付状態	
		b. ヒューズ、スイッチ類	(a) 箱及びヒューズの損傷 (b) 接触部の汚損及び損傷 (c) 取付状態 (d) 機能	
		c. 接触器、継電器及び無接点接触器	(a) 絶縁物の汚損及び損傷 (b) 可動部及び接触部の損傷 (c) 各部の取付状態 (d) 半導体等電気部品は 4(2)e.による。 (e) 機能	
		d. 電磁弁	(a) コイルの断線及び変色 (b) 弁と弁座との当たり及び弁のリフト (c) 各部の取付状態 (d) 機能	
		e. 半導体等電気部品	(a) 半導体及び基板等の汚損及び損傷 (b) 各部品及びコネクタ等の損傷及び取付状態	
		f. 避雷器	(a) がいし等の損傷及び汚損 (b) 取付状態	

		g. 配線等	(a) 電線、光ファイバ、接続箱その他付属部品の損傷及び取付状態 (b) 絶縁特性	(b) 絶縁抵抗試験
5 一般空気装置	(1) 空気圧縮機及びその附属装置	a. 電動空気圧縮機	(a) 電動機は 2(2)による。 (b) クランク室、シリンダ、ピストン等の損傷 (c) 弁の摩耗、損傷、汚損及び取付状態 (d) 動力伝達装置の損傷 (e) 漏油、漏気及び油量 (f) 機能	
		b. 調圧器	3(2)a.による。	
		c. 安全弁	弁と弁座との当たり	
		d. 除湿装置及び自動排水弁	(a) 損傷、漏気及び取付状態 (b) 吸湿剤等の劣化 (c) 電磁弁は 4(2)d.による。 (d) 吐出弁は 5(2)a.による。	
	(2) 弁類、空気タンク、空気管等	a. 給気弁及び減圧弁	(a) 弁と弁座との当たり及びばねの損傷 (b) 膜板及びパッキンの損傷、劣化及び変形 (c) 機能	
		b. 気圧スイッチ等	3(2)a.による。	
		c. その他の弁類	(a) 5(2)a.による。 (b) 電気部品は 4(2)による。	
		d. 空気タンク	本体及び保護金具の腐食及び取付状態	
		e. 空気管等	(a) 空気管、ホース及びちりこしの損傷及び取付状態 (b) コックの開閉及び取付状態	
6 車体及び車室	(1) 台枠		はり、機器つり等の損傷、変形、き裂及び腐食	
	(2) 車室内外 (運転台及び運転士用椅子を含む)		(a) 天井、床、外板、内張り、渡り板等の損傷及び腐食 (b) 窓、ほろ、座席、引き戸その他装備部品の損傷、鎖錠及び取付状態	
	(3) 屋根		(a) 屋根被覆の損傷、劣化及びはく離 (b) 屋根上機器及び取付台の損傷及び腐食	
	(4) 自動戸閉め装置		(a) 戸閉め機、ベルト、腕、リンク、ローラ、滑り金等の損傷、摩耗、変形及び取付状態 (b) 電磁弁、戸閉めスイッチ、戸閉め保安装置等電気部品は 4(2)による。 (c) 戸閉め機、空気管等の漏気及び漏油 (d) 開閉動作	
	(5) 照明装置		(a) 灯及び灯具の損傷及び取付状態 (b) 接触器は 4(2)c.による。	
	(6) 冷暖房換気装置		(a) 電動機は 2(2)による。(絶縁耐力試験を除く。) (b) 電気部分は 4(2)による。 (c) 各部の損傷及び取付状態	
7 その他の装置	(1) 合図、通話及び車内外放送装置	a. 合図装置	(a) 各部の損傷、汚損及び取付状態 (b) 機能	
		b. 通話及び車内外放送装置	(a) 各部の損傷及び取付状態 (b) 機能	
	(2) 各種表示装置		各部の損傷及び取付状態	
	(3) 計器		(a) 損傷及び取付状態 (b) 圧力計の機能 (c) 速度計の機能 (d) 電気計器類(電圧計、電流計等)の機能	(b) 測定 (c) 測定

	(4) 連結装置	a. 自動連結装置及び緩衝装置	(a) 本体及び附属装置等のき裂、変形及び摩耗 (b) 杵、緩衝ゴム、伴板、仕切板等の損傷、摩耗、変形及び取付状態 (c) 機能	
		b. 胴受け	損傷、摩耗、変形及び取付状態	
		c. 空気管の連結装置	ホース、パッキン等の損傷及び劣化	
		d. 電線の連結装置	(a) 本体、絶縁物、ジャンパ線等の汚損及び損傷 (b) 機能	
	(5) 信号保安装置	a. 受電器及び車上子	損傷、汚損及び取付状態	
		b. 本体装置	(a) 各部の損傷及び取付状態 (b) 電気部品は 4(2)による。	
		c. その他附属装置	(a) 各部の損傷及び取付状態 (b) 電気部品は 4(2)による。	
	(6) 運転士異常時列車停止装置		各部の損傷及び取付状態	
	(7) 運転状況記録装置		各部の損傷及び取付状態	

II. 総合検査

検査項目	検査方法
1. 各機器の取付状態	
2. 排障器の高さ	測定
3. 集電装置の操作機能	
4. 制御回路の機器の制御及び保護機能	測定
5. 電気回路(蓄電池、半導体等を使用した回路は除く。)の絶縁特性	絶縁抵抗試験及び絶縁耐力試験
6. ブレーキ装置の機能	測定
7. 空気ブレーキ制御装置及び一般空気装置の漏気	測定
8. 空気圧縮機的能力及びその附属装置(調圧器及び安全弁)の機能	測定
9. 車体の傾斜	測定
10. 静止輪重	測定
11. 自動戸閉め装置の機能	測定
12. 照明装置の点灯機能	
13. 合図、通話及び車内外放送装置の機能	
14. 各種表示装置(標識灯及びモニタ装置を含む。)の機能	
15. 冷暖房換気装置の機能	
16. 連結器の高さ	測定
17. 自動列車停止装置等の動作特性及び機能	測定
18. 受電器及び車上子の高さ	測定
19. 運転士異常時列車停止装置の機能	
20. 起動試験	

III. 試運転

検査項目	検査方法
1. 起動、加速及び減速の能力	
2. ブレーキ装置の主要機能	
3. 異音及び動揺	

4. 計器の指示状態	
5. 自動列車運転装置の機能	
6. 試運転後の機器等の状態	
(a) 主電動機軸受部の状態	
(b) 主回路用機器の状態	
(c) 車軸軸受部の発熱及び漏油	
7. 運転状況記録装置の機能	

II) 2A 号線定期保全の内容・項目

I. Daily inspection

- Daily inspection item includes at least the contents in the below table.
- If abnormality is found out of the area of daily check, it is necessary to timely report and handle.
- For screw nut with delayed wire, it is not allowed to check by drop hammer.

Procedure of daily inspection of under-floor electrical system

Type	Inspection area and requirement	Content of inspection and maintenance	Number of standard limit	Remark
Current receiver	1. Good condition, flexible movement	Check the shaft to see whether it is jammed or not	Good condition, flexible movement	
	2. Assembled part and the fixed components inside are not loose.	If spare parts are loose, it is required to tighten and mark the delayed wire	Assembled part and the fixed components inside are not loose.	Check and mark fix spare parts to avoid loosening.
	3. The thickness of electrically charged shoe meets the requirement	Change electrically charged shoe	The thickness of electrically charged shoe meets the requirement	
	4. Big wire is not worn out (especially at the position near to bogie), fired, damaged, connector is not abnormal, and spring is not cracked. Wire clamp is not loose, installed plate does not have electrified clue.	Check to see the big wire is not worn out (especially at the position near to bogie), fired, damaged, abraded.	Well check by naked eyes	
Under-floor	1. Entire outside of electrical cabinet does	Repair the deformed,	Restore to the original	

electrical cabinet	not have abnormality and strange smell	cracked cover. Check carefully the source of strange smell	condition and clear the strange smell	
	2. Inside and outside of the cabinet does not have leaked sound and strange sound. Check whether the cabinet is stagnated with water in rainy weather	Check tightness of the cabinet and flexible operation of components inside the cabinets	Good tightness, components inside the cabinets operate flexibly, snow and dust are not available.	
	3. When hang and install cabinet by fixed element, check whether it is lost or loosen.	Check loose protection mark of fix element for hanging and installation to see whether it is abnormal, latch is good or not, re-fix the fixed element and mark delay wire	Fixed element and latch is undamaged and in good condition	
	4. in-out pipe is abnormal or not	Find abnormal, timely deal with it	Maintain it in normal and good condition	
Electrical equipment outside train and train head	1. Connecting set of both train ends	Check the condition	Installed bolts are not loose, elements for connecting is in exact and stable position	
	2. Cable connect both ends of train	Cable connector is not worn out, the length is not	Cable connector is not worn out, the length is	

		changed remarkably	not changed remarkably	
	3. Wire distribution cabinet both ends of train	Outside of cabinet does not have abnormality and strange smell. Wire clamp is not loose and abnormal. Check inside to see whether rain/snow is accumulated		
Battery box	1. Box body and hanger	Check fixed elements	Element is tightly fixed without loosing	
	2. door on box side	Check open and close condition	Open and close smoothly and tightly	
	3. Flash lamp	Check electrolyte liquid	Liquid is not leaked, surface of liquid is normal	
	4. Electrical equipment and connect wire	Check connectivity of electrical equipment and cable	Equipment works normally with correct operation, connect wire is stable.	

II. Technical check of the train

- Technical inspection items includes the following contents

- After disconnecting electricity 3 minutes, it is allowed to contact to the high voltage parts
- When check electronic plate of low voltage line, it is required to use antistatic device.
- For screw nut with delayed wire, it is not allowed to check by drop hammer.

Type	Inspection area and requirement	Content of inspection and maintenance	Number of standard limit	Remark
Current receiver	1. Good condition, flexible movement	Check the shaft to see whether it is jammed or not	Good condition, flexible movement	
	2. The thickness of electrically charged shoe meets the requirement	Change electrically charged shoe	The thickness of electrically charged shoe meets the requirement	
	3. Big wire is not worn out (especially at the position near to bogie), fired, damaged, connector is not abnormal, and spring is not cracked. Wire clamp is not loose, installed plate does not have electrified clue.	Check to see the big wire is not worn out (especially at the position near to bogie), fired, damaged, abraded.	Well check by naked eyes	
	4. Wire connecting device is not abnormal, spring is not cracked, clamp wire is not loosened.	Check fixed and stable condition of wire connecting device. Check twist of the spring manually	Fix condition is good, twist of the spring is good	
	5. there is no crack on the surface of plate,	If there is deep crack, replace it with new plat	Well check by naked eyes	

	electrified clue	and clean that surface		
	6. Soft wire is worn, broken or not	Replace with new soft wire	Ratio of crack and damage is not more than 5%	
	7. Install fixed elements tightly without loosening	If it is loosen, re-fixed and mark the delayed wire	Install fixed elements tightly without loosening	Check and mark to prevent from loosening
Under-floor electrical cabinet	1. Outside of electrical cabinet does not have abnormality and strange smell	Repair the deformed, cracked outside of cabinet cover. Check the source of strange smell and clear it	Restore to the original condition and clear the strange smell	
	2. Inside and outside of the cabinet does not have leaked sound and strange sound. Check whether the cabinet is stagnated with water or snow in rainy/snowy weather	Check tightness of the cabinet and flexible operation of components inside the cabinets	Good tightness, components inside the cabinets operate flexibly, snow and dust are not accumulated.	
	3. Check whether the fixed elements for hanging and installation are lost or loosen.	Check loose protection mark of fix element for hanging and installation to see whether it is abnormal, latch is good or not. If element is damaged,	Fixed element and latch is undamaged and in good condition	

		mark it.		
	4. Connection of electrical equipment inside the cabinet is reliable or not.	Check to see the connection of electrical equipment inside the cabinet is reliable or not.	Good condition	
	5. Side door of cabinet is closed tightly or not, is loosened or not.	Check flexibility and reliability of closing side door, if it is loosened or jammed, it must be repaired immediately.	Good condition	
	6. Grounding equipment, grounding wire is reliable or not	Check outside of the grounding equipment is deformed or not, connecting wire is abnormal or not, grounding cabinet is reliable or not	Grounding is tight and reliable	
	7. Installation of second insulating cabinet body is stable or not, insulating material is damaged or not	Check the durability of Installation of second insulating cabinet body, if insulating material is damaged or	Installation of cabinet body must be durable, insulating material must be perfect without breaking	

		not, replace it		
	8. In and out pipelines are abnormal or not	If abnormality is found, it is necessary to deal with it immediately	In and out pipelines are not damaged, connecting position with cabinet body must be tightly sealed, installation of plug and socket is tight, not loosen	
	9. Grid electrical cabinet has strange object or not	If strange object is found, timely clean it	No strange object inside the grid electrical cabinet	
Electrical outside train and train head	1. Connecting set of both train ends	Check the condition	Installed bolts are not loose, elements for connecting exact and stable	
	2. Cable connect both ends of train	Wire connector is not worn out (especially, base part) the length is not changed remarkably	Wire connector is not worn out, the length is not changed remarkably. The lowest point of the connector is 175-200mm from rail (. Unload, idling spring)	
	3. Wire distribution	Outside of		

	cabinet both ends of train	cabinet does not have abnormality and strange smell. Tightness is good. Wire clamp is not loose and abnormal. Check inside to see whether rain/snow is accumulated or not.		
Underfloor pipeline	Pipeline is installed stably and sufficiently without loosening and tearing out	Check to see whether installed pipeline is stable and sufficient or not, whether it is loosened and torn out, if it is, re-fix and tighten it		
Connector set and connecting wire	1. All connecting heads and jack of equipment, machines are installed stably or not, locking condition is good or not, not abnormal, no strange smell	Check all connecting heads and jack of equipment, machines are installed stably or not, locking condition is good or not, not abnormal, no strange smell		
	2. Connecting wire is	Check to see		

	fasten or not, not damage, not abnormal	whether connecting wire is fasten or not, not damage, not abnormal		
	3. Connecting wire is fasten or not, not damage, not abnormal	Check to see whether connecting wire is fasten or not, not damage, not abnormal		
Onboard equipment	1. Speed measuring equipment of ATP system is installed tightly without problem. Connector head is not loosen, signal wire is well fixed, not wore out.			
	2. Zoom box, signal aerial of ATP is installed tightly, exterior appearance is not abnormal.			
Battery cabinet	1. Box body and hanger	Check fixed elements	Element is tightly fixed without losing	
	2. Door on box side	Check open and close condition	Open and close smoothly and tightly	
	3. Safe baffle, fixed latch	If it is cracked or deformed, welded surface is cracked, it is necessary to	Not broken and deformed, welded surface is not opened	

		repair		
	4. Grounding	Check to see if the grounding wire is loosen, re-connect it tightly	Grounding wire is not damaged, connect is reliable	
	5. Battery	Check electrolyte liquid Joint plate Voltage value	Liquid is not leaked, surface of liquid is normal, bolt is not loosen, normal	
	6. Connection of cabinet body, electrical parts and electrical cable	Cabinet body, connecting wire, connecting head, automatic switch, etc. are not damaged, worn out, not leaked	Electrical parts works normally and reliable, connecting is reliable	
	7. Fixed bolts in the cabinet are loosen, tighten them		Well check by naked eyes	

III.Monthly repair (For detail contents, refer to usage and repair manual for users)

- Monthly inspection item includes at least the contents in the below table.
- After monthly repair, it is necessary to test generally. For test content and method, refer to usage and repair manual and related test materials
- Procedure of under-floor electrical system repair

1. Carbody (cabin, passenger car)

1. The doors, windows, chairs, advertising, handrails, handrail level, etc. must be clean, undamaged, good installation status.
2. Screws on the roof of the car are not lacked, tightly fixed.

3. Components of transitional plate, leading rail and structure of fold hut etc. on the ramp are not abnormal, good installation condition; connecting state of the body of found hut and car-body is good; status of installing windshield lock is good.
4. Inside and outside paint of the train and straps are not peeled off and dirty.
5. The doors of the cockpit control panel and general cabinet doors are not deformed; the door-lock function is reliable. Small relays and button etc. and other equipment in the cabinet are not damaged, work flexibly, lead seal is normal; wires are tidily distributed and tied fixedly.
6. Switches, button, etc. driving control panel are not broken, buttons work flexibly, and lead seal is normal.
7. Voltmeter and air pressure meter are in good installation condition, needles work flexibly.
8. Rain water shield equipment is not damaged, good installation condition and operation; water tanks, hoses and funnels are well installed without leaks, make sure that the water in the tank is always full, water pump works well.
9. Curtain is in good condition and good function.
10. Door and lock of the cockpit work well, are not damaged; the doors and sealing bar are in good condition. Rotating status of wheels is normal; rubber cap is well installed, not damaged.
11. Lights in passenger cars and cockpit, the indicator lamp are clean, not damaged, good installation condition, display effect and lighting is good.
12. Door-side lights, passenger car are clean, not damaged, and in good installation condition, display effect and lighting is good.
13. Electric heaters in the cockpit and passenger car are clean without trifles, function and operation is good. When connecting electricity, check temperature on the surface of the heater conduit is not exceeded 65 °C.
14. Cabinet door of electrical equipment in passenger car is not deformed, function of door lock is good. Small relays and buttons in the cabinet are not damaged; buttons work flexibly; wires are tidily distributed, and tied tightly without separate wires.
15. Centrifugal fan operates without strange sound and abnormal vibration; installation condition and function is good.
16. Clean the inside of passenger car and cabin; no damages and abnormality.
17. Outside appearance of subway monitor systems is clean and without abnormalities, screen switching function is normal, function of recording and reading data, and change flow are normal, reset train parameter and adjust clock simultaneously.

2. Ordinary electrical cabinet

1. Monitor and spare part set are installed tightly, lock is good, connecting wire is not loose, operate reliably, not abnormal, no dirt.
2. High-low voltage line and wires are clean and dirt-free. Line and attached parts are not damaged; installation is good condition; Waterproof treatment at input wire point is good condition; connectors or sockets, jacks are not damaged, deformed; condition of grounding and installation is good. Cables (visible parts) without overheating phenomena causing change of color; insulation material is not damaged, no phenomena of aging, cable is tied closely.

3. Low voltage connecting set

1. Outside of cabinet, plugs, sockets are clean without distortion; installation condition is good, and not loose.
2. Cap of the cabinet is not deformed or damaged.
3. Insulation surface is not cracked or damaged, if it is, replace it.
4. Plating layer of contact point surface is peeled off, discolored, no electricity leakage, if it is so, replace it.

4. High voltage connecting set

1. Appearance is neat, not abnormal; surface is not damaged, installation condition is good.
 2. Connecting parts of socket, plugs are not abnormal, not loose; fixed ring is tighten, screws are no loose.
 3. Plating layer of contact point surface is peeled off, discolored, corroded; if it is serious damage, replace it.
 4. Insulation surface is not dirt adhered and damaged, if having any cracks, it must be replaced.
 5. Appearance of receiving based is not abnormal.
5. Traction and electrical system under train floor
1. Train hauling invert set (INV)
 - 1) Suspension brackets of the cabinet body are not cracked or damaged, suspension condition is normal.
 - 2) Cabinet body is cleaned, paint surfaces is perfect without scratches and rust; weld is not cracked; cabinet cap is not damaged without deformation and uneven.
 - 3) Wire outside of the cabinet body is in good condition; plugs and sockets are not damaged, tightly installed, the connection of wires, sustainable cables, protective hoses are not cracked without aging phenomena.
 - 4) Inside part can be seen without abnormal; the fixed components are not loose.
 - 5) Locks on the cabinet body are enough and good condition
 - 6) Tight sealing is in good condition
 - 7) High-voltage circuit connector and conductor wire at INV has no signs of overheating, aging and cracking, installation condition of driving power unit is good, not damaged.
 - 8) Radiator of transformer modular is clean without dirt, brushes and compressed air can be used for cleaning, if necessary.
 2. Overvoltage protection resistor structure (BR)
 - 1) Suspension condition of the cabinet body is normal.
 - 2) Cabinet body surface is clean, not damaged, not distorted, inside the cabinet is clean without trifles; around the cabinet body has no signs of overheating.
 - 3) Parts as shelving, cowl panel plate etc. is not distorted, cut, damaged, or rusted.
 - 4) Screws of wire connecting head are not loose, connection status is good; conductor has no signs of overheating or aging.
 - 5) Resistor is not distorted, damaged, or corroded. Distance between the plates is higher than 4mm; porcelain Insulating vase is not broken.

- 6) Measurement value at resistor is not exceeded the allowed norms ($\pm 5\%$). Note: resistance values norms (20 °C): RB1, RB2 = 0.81Ω.
3. Flow filter resistor (FL)
 - 1) Cabinet body and suspension is normal state, the fixed elements are not loose.
 - 2) Surface of the cabinet body is not dusted, deformed or damaged.
 - 3) Wire outside of the cabinet body is in good condition; screws of wire connecting head are not loose, connection status is good; conductor has no signs of overheating or aging.
 - 4) Ground contacting point is good; wire binding position is not worn or damaged, binding belt has no signs of phenomenon.
4. Grounding switch cabinet(LGS)
 - 1) Cabinet body and suspension installation is not abnormal; fixed elements are not loose.
 - 2) Outside and inside of the cabinet body is clean, dry air is used to clear dust and other impurities in the cabinet.
 - 3) Cabinet cap is not deformed, cracked, lock of the door is enough, not loose.
 - 4) Wire head leading to outside of the cabinet is in good condition.
 - 5) Check tightness of connectors, color is not changed.
 - 6) Electrical parts such as circuit breaker or knife grooves are not discolored because of overheating.
5. Mainline high-speed relay cabinet (BHB)
 - 1) Suspension hook of cabinet body and is normal state, the fixed elements are not loose.
 - 2) Cabinet body is cleaned, cabinet lid is not deformed, cracked, and locking effect is sufficient and not loose.
 - 3) Outside wire of the cabinet is in good condition; conductor has no sigh of overheating and aging. Plugs and sockets are not damaged, the power cable connection on the main circuit is sustainable; wire protection hoses are not damaged.
6. High-voltage cabinets (HV01)
 - 1) Body of cabinets and components are installed in normal condition, the fixed elements are not loose.
 - 2) Outside and inside of the cabinet body are clean, the cabinet body and cover is not deformed, cracked, or corroded, full of lock, lock is good and not loose.
 - 3) Sealing condition is good.
 - 4) Controlling plug and socket of are not loosened, cracked, traced; fixed screws are not loose.
 - 5) Outside wire of the cabinet is in good condition; conductor has no sigh of overheating and aging.
 - 6) Check the outside of the fixed connectors, no discoloration and no traces of corrosion.
 - 7) Check the internal body of cabinet: Cable is not aging, malfunctioning; connector head and connector set, curve-shaped connectors are not loose at position of connecting head, not rusty, broken at wire protection hood; no screws are loose, rusty, or falled off.
 - 8) Appearance of the electrical components in the cabinet body is perfect without damage, rust, corrosion, burn, or loosening.

7. Mainline isolation cabinet (BS+BF)
 - 1) Installation condition of cabinet body suspension hook is normal, fixed elements are not loose.
 - 2) Wire outside the cabinet body is in good condition without signs of overheating or aging. Wire protection hoses are not broken down.
 - 3) Connecting status of the controller plugs, sockets is damaged or not (should be deleted).
 - 4) Electrical parts such as circuit breakers, cut pedestal are not discolored because of overheating.
 - 5) Insulation level is not lacked, on/off operation of breaker is normal.
 - 6) Outside and inside of the cabinet body is clean; cabinet lid is not distorted or damaged; bracket frame does not have remarkable cracks and deformation, exterior paint is peeled off, rusted or worn out. Locking latch is enough, working well and not loose.
8. Grounding equipment (EB1-EB4)
 - 1) Installation condition is not abnormal, fixed elements are not loose.
 - 2) Outside is clean without dirty oil stick.
 - 3) External wiring status is good; conducting wire has no sign of overheating, aging and cracking.
9. Traction motor (IM1-IM4)
 - 1) Suspension hooks are sufficient and not loose.
 - 2) Two sides have no signs of oil leakage. Check oil installation is in good condition, oil is not leaked.
 - 3) Electrical cable connector and cable-clamp plates are not loose, the surface of cable is not worn out, cracked.
 - 4) Remove air filter screen and clean it simultaneously.
 - 5) Outside of sensor is clean, tight installation is without abnormality, signal wire is fixed properly, not damaged.
10. Current receiver
 - 1) Clean current receiver
 - 2) Stand of current receiver is not burned, cracked, stained.
 - 3) Installation condition of current receive is good, the fixed components are not loose.
 - 4) Wire connectors are not damaged, and in good installation condition
 - 5) Guiding frame, spring are not damaged. Check the thickness of charging base, contact pressure and installation height is in compliance with regulations. Pressure contact of current receiver base of lines 120N \pm 24N receiver (FERRAZ Shawmut); 140 \pm 20N (Zhongyang Hunan Electric Machine Co., Ltd. SL.07 Info / 10.SL-02Y; SL.07 / 10.SL-02Z).
 - 6) Main line of current receiver is not folded; Wire clamps are not loosened, cracked, rubber insulating layer is damaged, not rubbed with train frame.
 - 7) Base layer is flexible, reliable

- 8) Red indicator on the fuse will be shrunken, if it does not meet the request, it is required to replace the fuse.
- 9) Check the condition of bone base is not cracked, damage, abrasion must be even; abrasion value is exceeded over the allowed limit.
- 10) Measure the height of the main axle of current receiver: height from rail surface to the center line of main axle to be $201.5 \pm 2\text{mm}$ (FERRAZ Shawmut); $206 \pm 2\text{mm}$ (Zhongyang Hunan Electric Machine Co., Ltd.)
11. Wire joint cabinet
 - 1) Cabinet body is clean, its lid is not distorted.
 - 2) Suspension hook condition of cabinet body is normal, fixed elements are not loose.
 - 3) External wire part is in good condition, wires have no signs of overheating, aging or cracking.
 - 4) Insulation surface is not dirt stuck or damaged, if it is cracked, replace it.

(6) Auxiliary system

1. Current Inverter and motor charger (SIV)
 - 1) Condition of cabinet and installation element are not abnormal, the fixed components may be seen to be not loose.
 - 2) Cabinet body is clean, its lid is undistorted, and not concaved, surface paint is perfect without scratches, rusty.
 - 3) Outside wire of the cabinet and grounding wires that are braided together are all in good condition; conducting wire has no signs of overheating, aging and cracks. Plugs, sockets are not malfunctioned; wire protection soft tube is not broken down.
 - 4) The parts of the electrical units are tightly fixed; the connection part of high-voltage loop has no sign of overheating.
 - 5) Bolt caps and door lock must be tightened to fix and locked.
 - 6) Radiators and protection conduit are not malfunctioned.
2. Transformer cabinet (TR)
 - 1) Cabinet and condition of installation are not abnormal; the fixed elements are tightened without loosening.
 - 2) Cabinet body is clean, undistorted; paint level is not scratched.
 - 3) Internal wire is fixed without loosening
 - 4) Coil of wire inside the cabinet is not deformed with no signs of crack and aging
 - 5) Outside wire of the cabinet and grounding wires that are braided together all are in good condition; conducting wire has no signs of overheating, aging.
 - 6) Wiring inside the cabinet is clean, without miscellaneous things
 - 7) There are no strange sound and vibration when transformer is operating
3. Auxiliary high voltage cabinet (SPS)
 - 1) Cabinet body is clean, no distortion, no damage.

- 2) Cabinet and condition of installation are not abnormal; the fixed elements are tightened without loosening.
 - 3) Outside wire of the cabinet and grounding wires that are braided together are all in good condition; conducting wire has no signs of overheating, aging and cracks. Plugs, sockets are not malfunctioned; wire protection soft tube is not broken down.
 - 4) The parts of the electrical units are tightly fixed; the connection part of high-voltage loop has no sign of overheating.
 - 5) Electrical parts such as circuit breaker or knife grooves are not discolored because of overheating.
 - 6) Operation bar is fully insulated, on/off switching operations of breaker function normally.
 - 7) Bolts lid lock doors and fixed to tighten and lock.
 - 8) Dust-proof lid of the socket must work flexibly, electrical connecting parts is not unusual.
4. Battery Cabinet (BATT)
- 1) Cabinet body is clean, no distortion, no damage.
 - 2) Cabinet and condition of installation are not abnormal; the fixed elements are not loosening.
 - 3) Latch look is enough and in good condition
 - 4) Outside wire of the cabinet is in good condition, linked wires inside the cabinet are fixed without loosening
 - 5) Battery is not leaked, air exhausted hole is not stuck.
 - 6) Linking parts of electrical connecting unit is fixed tightly, linking parts of electrical part has no sign of overheating
 - 7) Electrical measurement of battery must be higher than 106V, if it is lower than 106V, it is required to measure each part of voltage and replace each part if necessary.
5. Emergency ventilation inverter
- 1) Cabinet and condition of installation are not abnormal
 - 2) Cabinet body is clean, cabinet lid is not damaged, deformation is not exceed the limit
 - 3) Outside wire of the cabinet is in good condition; Plugs, sockets are not malfunctioned; wire protection soft tube is not broken down.
 - 4) Linking parts of electrical connecting unit is fixed tightly.
 - 5) Installation condition of internal parts is good, not damaged.
6. Extension power supply cabinet
- 1) Cabinet body is clean, no distortion, no damage.
 - 2) Cabinet and condition of installation are not abnormal.
 - 3) Outside wire of the cabinet and grounding wires are in good condition; Plugs, sockets are not malfunctioned; linking part of cable of the main circuit is tight, wire protection soft tube is not broken down.
 - 4) Appearance of electromagnetic contact part is not abnormal, contact point is not abnormal.

VII. Braking system

1. Air compressor

- 1) Appearance of air compressor is clean; the fixed component is not loose.
- 2) Condition of suspended equipment is good, rubber shock absorbers are not crack, and cables are good.
- 3) Lubricate oil is not degenerated, oil level is normal. Standard: oil level is at the middle of the upper and lower positions of the oil glass.
- 4) When operating, there is abnormal sound, oil is not leaked, gas is not leaked, temperature of parts is not unusual, ventilation time satisfies the requirements. Time of ventilation: less than 15 minutes; additional air time: less than 4 minutes.
- 5) Cooling part is clean, not abnormal, not leaked.
- 6) Clean the air filter, and check the installation status to see whether it is good or not.
2. Air compressor motor
 - 1) Appearance is clean, motor surface is not damaged, no oil traces. It is possible to use compressed air to blow, use small brush to clean.
 - 2) Connecting wire is not abnormal, well tied.
 - 3) Types of fixed bolts have no phenomenon of loosening, cracking, breaking down.
 - 4) Bearing does not unusual sound when operating.
 - 5) Rotation direction of the cooling fans is correct.
3. Air compressor starter
 - 1) Appearance and installation condition of electrical components are good, conductor is not aged, damaged.
 - 2) Door look is normal, cabinet body is tightly sealed.
4. Film dryer
 - 1) Appearance is clean and installation condition is good, connecting wire is tight, conductor is not aged, damaged.
 - 2) Door look is normal, cabinet body is tightly sealed.
5. Components of air brake
 - 1) Gas cylinder, water drainage filter
 - 2) Remove oil substance of air cylinder and water drainage filter, manual drainage equipment works properly.
 - 3) Appearance of equipment is clean
6. Linking hose is not worn out, damaged, roughed, liquid leaked
7. Safety valve, 1-way valves, anti-skid air valves, flow pressure control valve, pressure reducing valve, high pressure valve, stop valve
 - 1) Appearance of the device is clean, tight installation without leakage, connecting wire, precision tube usage, work well.
 - 2) Stop valve is not leaked, open and close positions are correct.
 - 3) Safe working value meets the requirements. Pressure of the main air compressor reaches (950-1045) kPa to exhaust air. Pressure of the air compressor before falling to 855kPa, then stop exhausting.
8. Electrical contact point with stop valve

- 1) Appearance of the device is clean, tight installation without leakage, connecting wire, precision tube usage, work well.
 - 2) Stop valve is not leaked, open and close positions are correct.
 - 3) On/off status of the stop valve are consistent with the status display on the screen of driving control panel.
 - 4) Change the display screen on the driving control panel to the screen that is able to see the switching position of stop valves, operation of shifting stop valve lever to make it in the close/open state, then the display state of the stop valve will be unified with its actual state.
9. Brake control cabinet, stop brake control cabinet
- 1) Appearance is clean, installation condition is not abnormal.
 - 2) Plugs, sockets and connecting tubes are well combined.
 - 3) Connecting heads and valve body are not liquid leaked.
 - 4) Cabinet lid is locked normally, cabinet body is well sealed
10. Speed sensor
- 1) Appearance is clean, installation condition is not abnormal.
 - 2) Signal cable is well fixed without damages
11. Basic brake and compressed air brake
- 1) Appearance of compressed air brake is clean, installation is good, hose and tubes of brake are not liquid leaked.
 - 2) Brake pull ring, push buttons and slow release button work properly.
 - 3) The distance between the brake foil and disc brake meet the requirements. Total number of the slot between the two brake foil and brakes disc is: 1.4 ~ 7.2mm.
 - 4) The thickness of the brake foil meets the requirements. Brake foil thickness is > 9mm.

VIII. Bogies

- a. Appearance structure of bogie frame is not abnormal, not broken, or folded.
- b. Appearance of wheel set is not abnormal. The difference in wheel diameters meets criteria. Of the same wheelset is 0.5, of the same bogie is 1.0mm, the same car is 1.0mm. The different distance inside wheelset is not exceeding 2 mm. Standard: $1\ 353 \pm 2\text{mm}$.
- c. Wheelset
 - 1) Appearance of wheelset is not abnormal, rolling tread has no phenomena of scratches, peel-off. If the rolling tread has serious scratches, it must be trimmed. The length of the scratch is more than the standard, it must be settled: if the scratch is larger than 75mm and two or more scratches are under 50-70mm; 4 or more places: 25-50mm.
 - 2) Wheel rims meet standard of 28-28mm; The thickness of wheel rim meets standard of 22-32mm.
 - 3) The standard prohibits using external diameter of wheel. Limited degree of processing: 770mm; change limit: 764mm.

- d. Appearance of wheel axle is not abnormal, not damaged by overheating, when there is abnormal, it is necessary to use electro-magnet detector for re-confirmation. . Replacement standards: Diameter axle: $\text{Ø}130^{+0.068}_{+0.043}$, diameter of wheelset: $\text{Ø}196^{+0.5}_0$
- e. Structure of axle bearing
 - i. Appearance is clean, not abnormal. Increase temperature of wheel axle must meet the standard, outer temperature is $+40^{\circ}\text{C}$ or lower.
 - ii. Bolts on the wheel axle are tightened and not abnormal. Use electro-magnet detector to remove bolts/
 - iii. Check outside the wheel axle to see no oil is leaked.
 - iv. Check parts surrounding wheel axle, if serious burn is detected, check the bearing to avoid electric corrosion causing damages to bearing. If the bearing is seriously damaged, it must be replaced.
- f. Single wire suspension
 - i. Check the appearance to see it is not abnormal. The vertical distance between basic surface of the wheel axle body and basic surface of frame structure is $106\pm 3\text{mm}$.
 - ii. Rubber spring is clean with oil and grease. Metal components are not cracked, broken down. Rubber is fixed without ozone cracks.
 - iii. Appearance of round steel spring is not abnormal, not cracked. Direction of the spring support loop and direction of spring brand are precise.
 - iv. Vertical oil pressure anti-vibration is in good condition. Appearance is not abnormal, not oil leakage. When coating layer of one head of piston is gone, piston must be replaced. Anti-vibration rubber is broken down or seriously deformed, it must be replaced.
- g. Two wire suspension
 - i. Appearance of air spring is not abnormal, no oil leakage.
 - ii. Between upper plate and air spring base of carbody must be tighten, surface of rubber air bag is not scratched, components are not deformed and damaged.
 - iii. Remove dirt of units, especially, dirt in between upper plate and air spring bag.
 - iv. Check metal elements and rubber bulk to confirm they are not deformed, cracked and broken down. Rubber and metal are well combined.
 - v. Oil or lubricant oil is not contaminated.
 - vi. Replacement standard: the depth of crack is more than 1mm, the depth of damage of air bag is more than 1mm (cloth curtain is exposed) and the depth of cut of rubber bulk is more than 1mm, they must be replaced; If needle is used to pick the rough surface but no air is escaped, it can be used continuously. Crack of adhesive rubber bulk and metal components is longer than 6mm, radius of rubber crack is exceeded 30%, depth is exceeding 6mm, it must be replaced.
 - vii. Check to confirm that the air bag must be inserted inside the lower plate, not in suspension position. Use wet cloth to clean tightened part of the upper, wait for

wind pressure to 500KPa, then check the tightened part of the upper and lower to see whether it is leaked or not.

- h. Adjustment of car height: after trimming wheelset, it is necessary to adjust the height of car, adjust the thickness of pad $(235+t) \pm 3\text{mm}$, new adjustment is 1-10mm, after trimming wheelset is 1-45mm (newly made car is 5mm, $240 \pm 3\text{mm}$)
- i. Height adjustment valve
 - i. Installation condition is good, appearance is not deformed, no phenomenon of air leakage,
 - ii. Air flow must meet: air charged from 0 bar to 6 bars within 40 seconds or less, air exhausted from 5 bars to 3 bars with 40 seconds or less.
- j. Appearance of pressure valve is not deformed, installation condition is good, no leakage.
- k. Traction equipment
 - i. The distance between lower lid of central latch and traction beam is 10mm, the distance between right, left horizontal barrier and traction beam is 20_0^{+2}mm , the distance between side horizontal barrier and traction beam is 10_0^{+2}mm , anti-vibration rubber is not cracked and deformed seriously.
 - ii. Check the horizontal oil pressure anti-vibration is not deformed, oil is not leaked, if the coating layer of piston level is gone, it must be added. When anti-vibration rubber is cracked, broken or deformed seriously, replace it.
 - iii. Appearance of horizontal barrier is not deformed; spring is not deformed, cracked or broken.
 - iv. Reference standard for spring parameter: $\delta(50\text{kN}) - \delta(0) = 20 \pm 2\text{mm}$ (reference)
 - v. There are no cracks, rubber and metal is not separated.
 - vi. Reference standard: the depth of rubber crack is more than 50mm, length is 30mm, depth of separation of connecting point between rubber and metal is less than 5mm, and length is 20mm.
- l. Traction motor
 - i. Appearance is clean, installation is tight, components especially suspension base is not cracked and deformed.
 - ii. Condition of conductor is good, there is no phenomenon of cracking, breaking, aging and overheating. There is enough distance between cable, carbody frame and car axle.
 - iii. Installation condition of dirt filter is good, outside is not damaged, filter screen is clean without dirt.
 - iv. Installation condition of sensor parts is good, conductor is not damaged and work normally.
 - v. Inside and outside of bearing are not overheating, lubricant oil is not leaked. Measure the heat of bearing and stator of the motor and simultaneously record, too hot temperature is not allowed.

- m. Installation condition of axle connecting segment is good, not damaged and deformed. The distance between the motor axle and small vertical gear axle is $3\pm 1.5\text{mm}$ (unload train).
- n. Appearance of bear box is not deformed, installation of components is good, there is no phenomenon of oil leakage, oil quality is good, oil level is normal. At the same time check periodically magnet of bolts to see no abnormality and clean up. Model: shell EP80.
- o. Height for installation of obstacle removing structure is $70\pm 2\text{mm}$ (from rail surface)
- p. When train is unloaded, height for installation of ATP aerial is $163\pm 3\text{mm}$ (from rail surface)
- q. All equipment, tube, cable on the bogie must be installed tightly without impacts on train operation when train passes the curve, moreover, enough space is required.
- r. Effect of braking is good, brake shoe is total pressed and able to be removed.
- s. Installation condition of anti-running one side hand leveler is good, not deformed and damaged.

IX. Air conditioner

- a. For the protective layer of condensing machine and evaporator, it is necessary to check and remove dust. If they are too dirty, it is possible to use detergent to clean.
- b. Check the distribution tube of heat exchanger system to see it is not leaked.
- c. Body of air conditioner is clean, drainage systems is not stuck.
- d. Engine operates normally without strange sound, no vibration, surface of fan is not desquamated and rusted.
- e. Use 1000V MΩ meter to measure insulation resistance, resistance values must be greater than the allowed value. Grounding main circuit: 5M; Grounding controlling circuit: 2MΩ;
Grounding main circuit with grounding controlling circuit: 2MΩ
- f. Use detergents to clean air filter (including the new air filter grid, wind and cabin, carry out cleaning every 2 weeks.
- g. Electrical control equipment works well, the parts of cables are not aging installing status of bolts is close.
- h. Centrifugal fan operates without strange heat and abnormal vibration, installation condition is good and it works well.

X. Auto electric door of passenger car

- a. Starter
 - 1) Appearance of parts is clean. Installation condition of door control device and engine is good, function is good.
 - 2) Belt of gear is installed tightly, appearance is good without cracks and opens, stretch meets the requirements. Adjusted value of the belt tension measurer: 25-1 dash.
 - 3) Installation condition of guide rail, guide roller is good; guide roller works flexibly and smoothly.
 - 4) Condition of door hangers is good, not cracked down.

- 5) Installation condition of parts of locking system is good, operating flexibly and reliably. Condition of fastening belt look is good. The distance between the fastening belts and lockup is compliant with standard: 2mm (doors closes in right place, look-up will stay locked state level 2).
- 6) Route switch and conductor are installed tightly; appearance is good, operation is reliable.
- 7) other fixed components good state
- b. Outside and inside emergency lock cancellation equipment
 - 1) Appearance is clean, installation condition of parts is good, operation is flexible and reliable.
 - 2) Route switch and conductor are installed tightly; function is good.
 - 3) Flexibility cable is installed tightly, not worn out, not broken, if necessary, adjust it.
- c. Isolation locking device
 - 1) Clean appearance and tight installation
 - 2) Route switch and conductor are installed tightly; function is good.
 - 3) Features of control switch are good.
- d. Other equipment
 - 1) Appearance is clean. Plug is installing tightly, no damages.
 - 2) Head of equipment is tight, not burn out.
 - 3) Buzzer is installed tightly, function is good.
 - 4) Test button is installed tightly, function is good.
 - 5) Wiring status is good, not damaged.
 - 6) Open and close function is good, the lights display normally, door controller is normal.
- e. Installation of low guide rail is clean without contaminant, tight installation, good appearance, no deformation.
- f. Door leaf
 - 1) Appearance is clean, the door is not serious distortion, no phenomenon of desquamation, good glass installation, no damage. Rubber door is not serious aging, no cracks, no tearing down exceeding the limit. If sealing rubber is broken on 20mm, replace it.
 - 2) The distance between the underside of the door leaf and the track surface must fit requirements: less than 8mm.
 - 3) Check the appearance of under door trench is in good condition.
 - 4) When door is opened, the rubber that seals the recessed part of the door leaf exposed to the frame must fit the requirements, no friction with the outer walls. When door is opened, the rubber that seals the recessed part of the door leaf exposed to the frame allows to be 3-8mm.
 - 5) Installation condition of door leaf, when necessary, adjust it.
- g. Overall
 - 1) Components are clean, good installation status

- 2) Check the lock of hole lid is good, base needs to install tightly, function is good.
- 3) Door works flexibly, stably, without vibration. Closing force: $\leq 150\text{N}$
- 4) Open and close function is good, lights display normally, door controller displays normally. (1) opening time: 3 ± 0.5 seconds, (2) closing time: 3 ± 0.5 seconds, (3) re opening and closing times: 3 times, (4) open: $1300 \pm 4\text{mm}$
- 5) Detection of smallest obstacle in compliance with: $25\text{mm (W)} \times 60\text{mm (height)}$

XI. Broadcast and passenger information system

- a. Surface of broadcast host, broadcast branch, media servers, CCTV host, cabin converter, communications network port, decode distribution unit, UPS, power supply are not dirty, damaged. After switching power on, they work normally.
- b. Information devices operate normally.
- c. Buttons on the control panel and microphones are in good condition, normal function.
- d. Function of broadcasting by human or automatically is normal, sound is clear.
- e. LED display inside and outside the train, the LED display at the terminal bright clearly, words are displayed completely and exactly.
- f. LCD display monitor in the passenger car work normally
- g. Installation condition of loudspeakers in the passenger car is good, working normally.
- h. Progress map installed in the passenger in good installation condition, normal display effects.
- i. Surface of emergency alerts is clean, adequate instruction guidance, clear printed words, good installation status; the function of dialog works normally, the images displayed on the cabin monitor screen have normal conversion function.
- j. The monitor in the cabin displays normally (entire images in the screen of the camera are displayed), normal conversion.
- k. Surveillance cameras in the cabin and passenger car are in good installation status, normal operation.
- l. Installation condition of parts of CCTV system parts is good, function of recording, transferring, and projecting is normal. It is possible to obtain relevant information at any time in any segment normally.

XII. Signaling system of the train (ATP, ATO)

1. Encoding itinerary gauge is installed tightly, not loose.
2. Wires to connect parts are not damaged and in good installation condition.
3. Post antenna, DCS antenna and antenna bracket is tightly installed without loosening.
4. Installation condition of switches, buttons, indicator lights, relays is good.
5. Display function of DMI screen is normal.
6. Functions normal speakers.
7. Trunk unit and machine frame is installed tightly, cables are not loose.
8. Brackets of cable connecting head are installed tightly without loosening

XIII. Couplers and shock absorber

- a. Overall installation is tight, parts are not damaged. Coupler head is clean without dirt; traction spring is not cracked. Coupler clamp is not abnormal, abrasion-proof layer of punch is convex, concave.
- b. Combined devices are well lubricated and work flexibly. Cap of air conduit and buffer is clean and not abnormal. Grounding wire is fixed well without loosening and falling.
- c. Bolts to fix round clamp is tight, not loose, inside of bolt hold must be lubricate.
- d. Suspension system, compression equipment, shock absorber, overload protection equipment, carbody plates are installed in good condition, not abnormal.
- e. Check the adjustment condition of coupler. Height of coupler must be compliant with requirement: 600_0^{+10} mm.

XIV. Overall test

- a. Check power on of SIV, request to start SIV, observe contents displayed on the monitor screen and see the voltmeter. Monitor screen displays “auxiliary power source interface”: $380V \pm 5\%$, $110V \pm 3\%$, $24V \pm 3\%$; frequency: $50HZ \pm 1$; voltage: $110V \pm 3\%$.
- b. Check power on of warning electricity, lighting and communication equipment
 - i. Check warnings, communication equipment, electric horn and signal lights, lightings to work well.
 - ii. Check one by one emergency warning unit and telephone. Function of each device must be good. Installation condition of broadcasting and passenger system, including CCTV is good.
 - iii. Manual or automatic broadcasting in passenger car, dialog among drivers is not abnormal, good operation.
 - iv. Equipment inside and outside of the train, terminal station display unit, map function is normal.
- c. Power on to check air conditioner system in normal working condition, operate thru monitor display and confirm.
- d. When power on, it is necessary to confirm when 1 SIV machine stops working, extension power supply function work normally.
- e. Test air supply
- f. Test of motored cars
 - 1) Operation at cabin before and after (check display status)
 - 2) Test of opening with speed over 5km/h
- g. After completion of car adjustment and repair, it is required to fill in related statistic tables.