
Chapter 2

Data Collection and Analysis

Relevant secondary data were collected through questionnaires and in-depth interview. Data include policies, plans and strategies of the country and the Ministry of Transport, laws related to persons with disabilities and older persons, relevant domestic and international manuals and standards, other project study reports and other information concerning persons with disabilities and older persons. Then, they were analyzed and summarized from primary data as below.

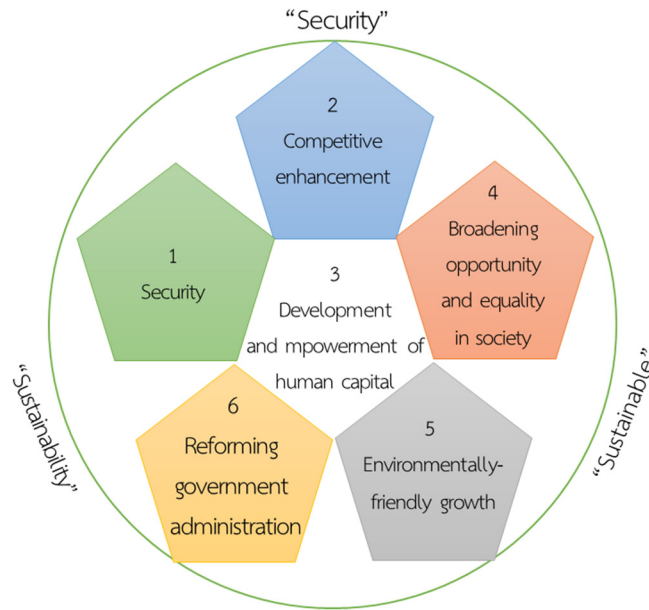
2.1 Policies, Plans and Strategies of the Country and Ministry of Transport

The government prioritized development of quality of life of persons with disabilities and older persons and formulated policies and strategic plans to bridge the gap, develop potential for rights protection, provide welfare, promote full and equal access for persons with disabilities and employ them to work in public business and agencies with the proportion specified by law as shown in the following strategies, plans and policies:

- 1) 20-Year National Strategy (2017-2036), Strategy 4: Broadening opportunity and equality in society as shown in Figure 2.1-1.
- 2) The 12th National Economic and Social Development Plan (2017-2021), Strategy 2: Creation of equal opportunity and society, Strategy 3: Competitive building, Strategy 7: Infrastructure and logistics development and Strategy 8: Science and technology research and innovation development
- 3) The policy statement of the Council of Ministers to the National Legislative Assembly dated September 12, 2014 is in consistent with Strategy 3: Reducing social Inequality and creating opportunities to access public services

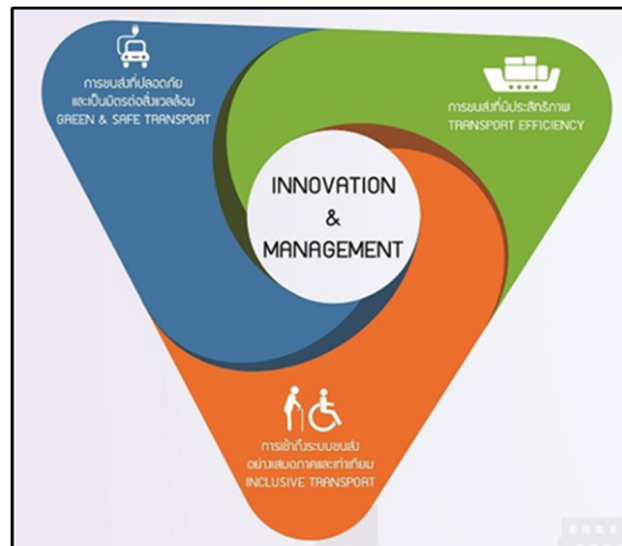
Thailand's 20-year development strategy for transportation infrastructure (2017-2036) focuses on the inclusive transport or a strategy about an equal access to public transport.

Figure 2.1 – 1 Conceptual Framework according to the 20-Year National Strategy



Source: 20-Year National Strategy (2017-2036)

Figure 2.1 – 2 Thailand's 20 – Year Development Strategy for Transportation Infrastructure (2017 – 2036)



Source: Thailand's 20 – year development strategy for transportation infrastructure (2017 – 2036)

- 4) The Ministry of Transport's strategy (2017 – 2021) includes relevant strategies – Strategy 1: Throughout and environmentally-friendly and Strategy 4: Development of factors to drive strategies successfully

- 5) The Ministry of Transport's strategy for developing facilities in the transport sector for persons with disabilities and older persons (2016-2035): This project has developed the above strategy in terms of improvement of physical structures, facilities and vehicles for persons with disabilities and older persons and development of personnel related to providing facilities and services for them.
- 6) The 2nd National Plan on the Elderly (2002-2021), First Revision (2009), Ministry of Social Development and Human Security, Strategy 3: Social protection for older persons
- 7) The 5th National Plan on Empowerment of Persons with Disabilities (2017-2021), the Ministry of Social Development and Human Security, Strategy 2: Development of management quality and elimination of discrimination so that persons with disabilities can access to their rights, Strategy 3: Creating an understanding and positive attitudes to persons with disabilities, Strategy 4: Providing environment and public services that all people can use and Strategy 5: Promoting an integration of networks and participation for the sustainable development of empowerment of persons with disabilities

2.2 Laws Relating to Persons with Disabilities and Older Persons

Relevant laws include:

- 1) Constitution of Kingdom of Thailand, B.E.2560 (2017), Section 27 stated that all persons are equal before the law, and shall have rights and liberties and be protected equally under the law and Section 71 stated that the State should promote and develop human resources to be good citizens with higher quality and abilities.
- 2) The Persons with Disabilities Empowerment Act, B.E.2550 (2007) and its Amendment 2013 (Vol. 2) specified rights, benefits and welfare of persons with disabilities which will benefit them, their caregiver's disabilities organizations and others that have a role in providing services for them.
- 3) Mass Rapid Transit Authority of Thailand Act, B.E. 2543 (2000)

- 4) The Navigation in the Thai Waters Act, B.E. 2456 (1913)
- 5) Ministerial Regulation: Specification of the facility of building for persons with disabilities and older persons, B.E. 2548 (2005) e.g., ramp, elevator, door, etc.
- 6) Ministerial Regulation to Prescribe Characteristics or the Provision of Equipment, Facilities or Services in the Buildings, Places, Vehicles and Transportation Services to Ensure Accessibility and Usability by Persons with Disabilities, B.E. 2555 (2012), the Ministry of Social Development and Human Security, e.g., seats for persons with disabilities or wheelchair parking spaces, ramp, detectable warning, elevators for them, handrails and doors, etc.
- 7) Ministerial Regulation to Prescribe Characteristics or the Provision of Equipment, Facilities or Services in the Buildings, Places, Vehicles and Transportation Services to Ensure Accessibility and Usability by Persons with Disabilities, B.E. 2556 (2013), the Ministry of Transport, Chapter 2 Vehicles. There are six vehicles and 20 items of equipment, facilities and services in accordance with the Ministerial Regulation as shown in Table 2.2. – 1.
- 8) Ministerial Regulation B. E. 2552 (2009) released by the Ministry of Social Development and Human Security and its Amendment B.E. 2555 (2012), Vol 2 on seven types of disability: visual disability, hearing disability, physical disability, mental disability, intellectual disability, learning disability and autism disability.

Table 2.2 – 1 Comparison of Equipment, Facilities, Services and Vehicles according to the Ministerial Regulation B.E. 2556 (2013)

Equipment, Facilities, Services	Fixed and Non-fixed Route Buses Public and Service Vehicles	Trains	Electric Trains	Passenger Ships	Transport Aircraft
1) Doors for persons with disabilities	√				
2) Equipment guiding persons with disabilities or equipment lifting wheelchairs of persons with disabilities up and down from vehicles	√	√	√	√	
3) Ramps	√	√		√	
4) Ways for ascending and descending from ships for persons with disabilities				√	
5) Staircases for persons with disabilities				√	
6) Walkways within the ships for persons with disabilities				√	
7) Parking spaces for wheelchairs of persons with disabilities or equipment for storing wheelchairs of persons with disabilities	√	√	√	√	
8) Signs displaying equipment or facilities for persons with disabilities	√	√	√	√	√
9) Signs displaying a number of seats for persons with disabilities				√	
10) Manual providing assistance to persons having each type of disabilities for officers of buses/vehicles	√	√	√	√	√
11) Translation manual or language signs for officers of buses/vehicles to communicate with persons with disabilities	√	√	√	√	√
12) Vehicles officers who have been trained and have qualifications which meet the requirement of persons having each type of disabilities of at least one person for serving persons with disabilities in ascending and descending from vehicles	√	√		√	√

Table 2.2 – 1 (Cont.) Comparison of Equipment, Facilities, Services and Vehicles according to the Ministerial Regulation B.E. 2556 (2013)

Equipment, Facilities, Services	Fixed and Non-fixed Route Buses Public and Service Vehicles	Trains	Electric Trains	Passenger Ships	Transport Aircraft
13) Seats for persons with disabilities		√	√	√	√
14) Toilets for persons with disabilities		√		√ ^{*1}	√
15) Bedrooms for persons with disabilities		√		√ ^{*2}	
16) Signs of persons with disabilities attached to an area at the outside of the car body for informing persons with disabilities that it is the car that has equipment or for persons with disabilities		√	√		
17) Announcement of the next station for persons with visual disability and text moving signs or signs notifying a name of the next station for persons with hearing or communication disabilities		√	√	√	√
18) Platform-typed elevators for guiding persons with disabilities or wheelchairs to ascend and descend from aircrafts					√
19) Service instruction manual of aircrafts for persons with disabilities					√
20) Warning notices for persons with visual disability and text moving signs or signs expressing meanings for persons with hearing or communication disabilities					√

Remark: ^{*1} passenger ships of more than 60 gross tonnage and ^{*2} for passenger ships with bedrooms

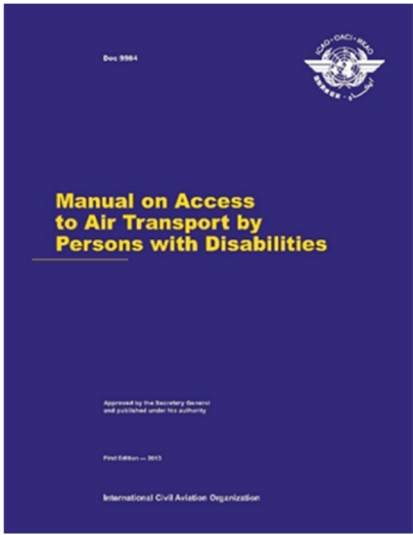
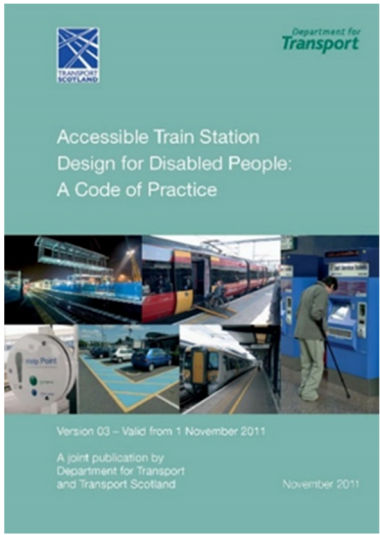
2.3 Local and International Manuals Concerning Persons with Disabilities and Older Persons

Reviewed local and international manuals are:

- 1) Universal Design and Service Design
- 2) Professional practice of architecture and Universal Design Code of Practice, 2009 of the Association of Siamese Architects under the Royal Patronage of His Majesty the King

- 3) Manual providing assistance to persons having each type of disabilities and older persons for agencies providing services in the transport sector of the OTP
- 4) Translation manual or language signs for agencies providing services in the transport sector of the OTP
- 5) Manual on Access to Air Transport by Persons with Disabilities specified by the International Civil Aviation Organization (ICAO) which is an organization to formulate regulations for international civil aviation activities to have maximum safety
- 6) Accessible Train Station Design for Disabled People: A Code of Practice, the Ministry of Communication, Scotland, 2011

Figure 2.3 – 1 Example of Foreign Standards Related to Persons with Disabilities and Older Persons

	
(a) Manual on Access to Air Transport by Persons with Disabilities	(b) Accessible Train Station Design for Disabled People: A Code of Practice

Source: (a) International Civil Aviation Organization

(b) Department of Transport, UK

2.4 Project Study and Data Relating to Persons with Disabilities and Older Persons

To acquire necessary information about development of facilities in providing services to persons with disabilities and older persons, key projects were studied and reviewed as follows:

- 1) Study and development of facilities, and enhancement of services for persons with disabilities and older persons for the Office of Transport and Traffic Policy and Planning: This project is aimed to study and suggest guidelines for developing facilities and enhance services provided for such persons so that they have access to public transport systems conveniently and safely. The project result comprises three main parts:
 - 10-year strategy for developing facilities in the transport sector for persons with disabilities and older persons in Thailand comprises four strategies: policies and laws about facilities and services for persons with disabilities and older persons, improvement of physical infrastructure, facilities and vehicles for persons with disabilities and older persons, training for personnel about facilitation and services for those persons and application of technology and innovation to providing services for persons with disabilities and older persons
 - Five transport station prototypes consist of Bangkok transport (Barom Ratchachonnani Road), bus stop at Victory Monument, Don Mueang Airport, Nakhon Pathom High Speed Station and Phra Nang Klao Bridge Pier.
 - Two manuals – Manual providing assistance to persons having each type of disabilities for agencies providing services in the transport sector and translation manual or language signs for agencies providing services in the transport sector of the OPT as shown in Figure 2.4 – 1

Figure 2.4 – 1 OTP's Manual

	
Manual providing assistance to persons having each type of disabilities for agencies providing services in the transport sector	Translation manual or language signs for agencies providing services in the transport sector

Source: OTP

- 2) Study and Survey for Assessment and Suggestion for Improving and Designing Infrastructure of Public Transport for Persons with Disabilities, Children and Older Persons, Phase 1 and 2 for the Office of Permanent Secretary
 - Phase 1 includes a checklist and measurement criteria for infrastructure/facilities of public transport systems for persons with disabilities, children and older persons. The project study results comprise three parts: Part 1, Accessibility, Part 2, Accessibility checking including station to platform and Part 3, Checking of operators and staff. There are nine prototypes of transport station buildings.
 - Phase 2 includes criteria and standards of infrastructure and facilities for persons with disabilities, children and older persons of the Ministry of Transport as well as detailed design of infrastructure and public transport at Ao Chalong Pier in Phuket Province.

3) Statistics of persons with disabilities and older persons in Thailand

Currently, many countries including Thailand are entering ageing society. The number of older persons compared to the total population is increasing significantly. The survey of the National Statistical Office from 2005 to 2015 is shown in Table 2.4 – 1

Table 2.4 – 1 Percent of Older Person’s Population in Thailand

Year	2005	2007	2009	2011	2015
Percent of older persons per total population	10.20	10.60	11.30	12.20	14.40
Total population (million)	62.40	63.00	63.50	64.10	65.70

Source: National Statistical Office

The above information revealed that the number of older persons is likely to increase quickly. In addition, according to the Department of Older Persons’ data, it is expected that in 2021 Thailand will become a complete ageing society.

Another group that the state must take care is persons with disabilities. The number of this group is increasing. The National Statistical Office conducted the first survey of the persons with disabilities in Thailand in 2002. There were 1,098,000 persons with disabilities or 1.70 percent of the total population. In 2012, the survey indicated that there were 1.50 million persons with disabilities or 2.20 percent of the total Thai population.

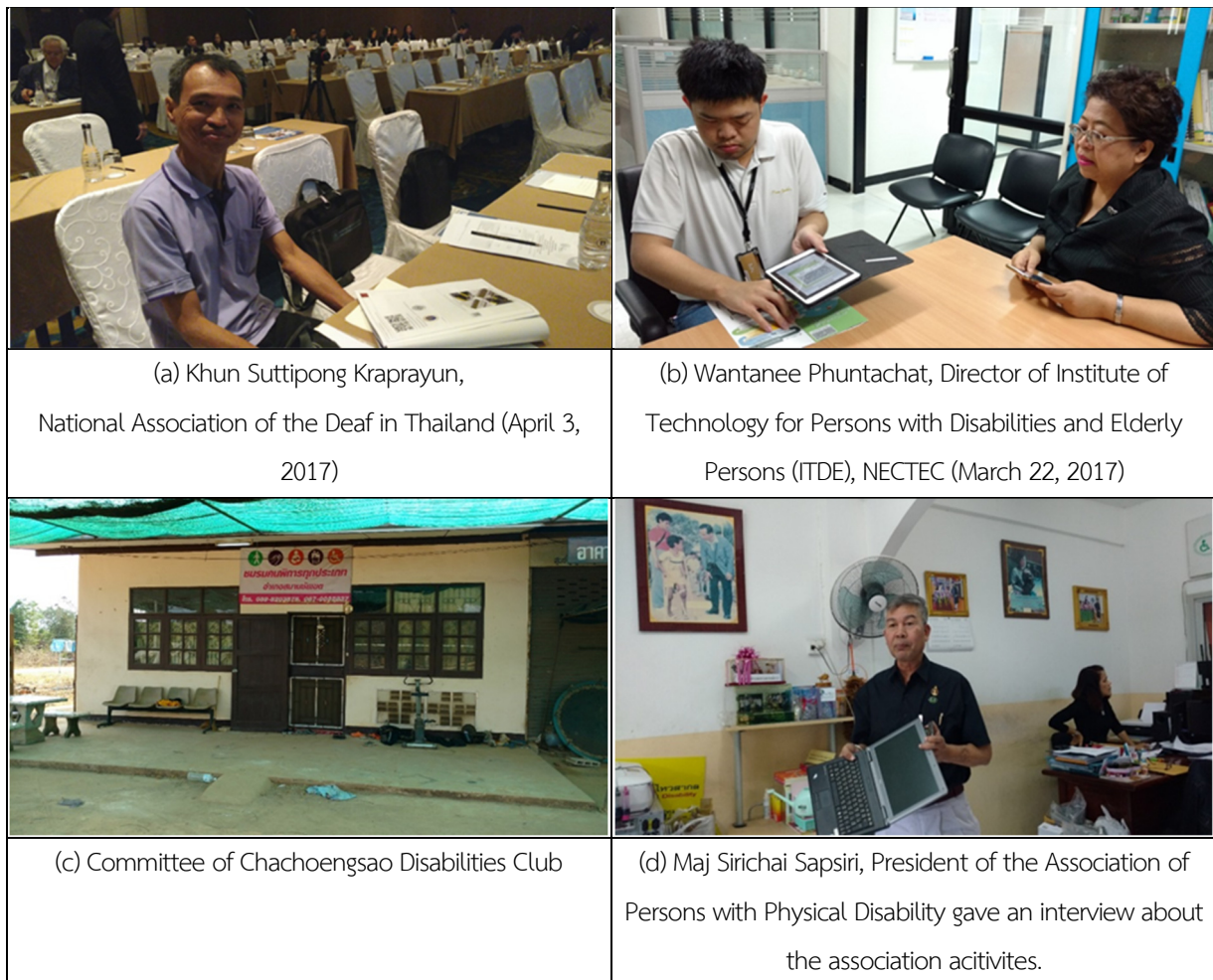
At present, the recent information about persons with disabilities in Thailand as of March 31, 2017 of the National Office for Empowerment of Persons with Disabilities, the Ministry of Social Development and Human Security revealed that 1,756,849 persons with disabilities or 2.66 percent of the total population hold disability cards.

The data show that the number of persons with disabilities compared to the total population is likely to increase every year. People with physical disability make up the largest minority group. Persons with disabilities are distributed throughout all regions of Thailand.

2.5 Secondary Data Collection Using the Questionnaires and In-depth Interview

The result of in-depth interview with people experienced in and related to persons with disabilities and older persons is shown in Figure 2.5 – 1. Key issues are summarized such as standards of facilities in vehicles, training courses for personnel and operation in a concrete manner.

Figure 2.5 – 1 In-depth Interview



1) Issue of standards of facilities in vehicles

- Standards of facilities should be formulated, and technology and innovation should be applied to solve transport accessibility problems. This is in accordance with the policies and plans concerning facility and service provision for persons with disabilities and older persons.

- Standards of facilities should be laid down through the development and brainstorming of people concerned in terms of policies, operation, production and users so that standards are acceptable.
- Standardization of facilities in vehicles should be in line with the Universal Design to create an equal society and take an urgent action.

2) Issue of training courses for personnel

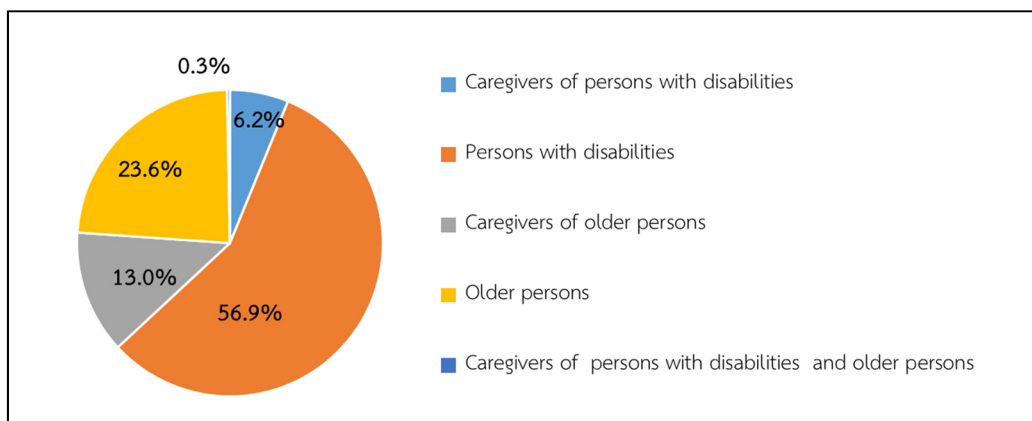
- Training courses should be provided for officials and operators relating to persons with disabilities and older persons in preparation for older person situations, the number of persons with disabilities and all people in society.
- Public transport systems still lack officials providing services and assistance to persons with disabilities and older persons. The systems should be therefore implemented urgently to provide an opportunity in accessing and benefiting public transport services.

3) Issue of operation in a concrete manner

- Standards of facilities should be laid down along with facility plans so that they will provide a clearer timeframe for the operation.
- Facilities and services in the transport sector for persons with disabilities and older persons are insufficient and inefficient.
- Facilities for vehicles and transport stations should be supported and provided to benefit all people.
- It is ready to support and cooperate in improvement and to be supported by the public sector, e.g., project funds and tax policies to push the operation in a concrete manner.

The analysis result of 341 questionnaires about the travel of persons with disabilities and older persons covering seven types of persons with disabilities, older persons and caregivers as shown in Figure 2.5 – 2.

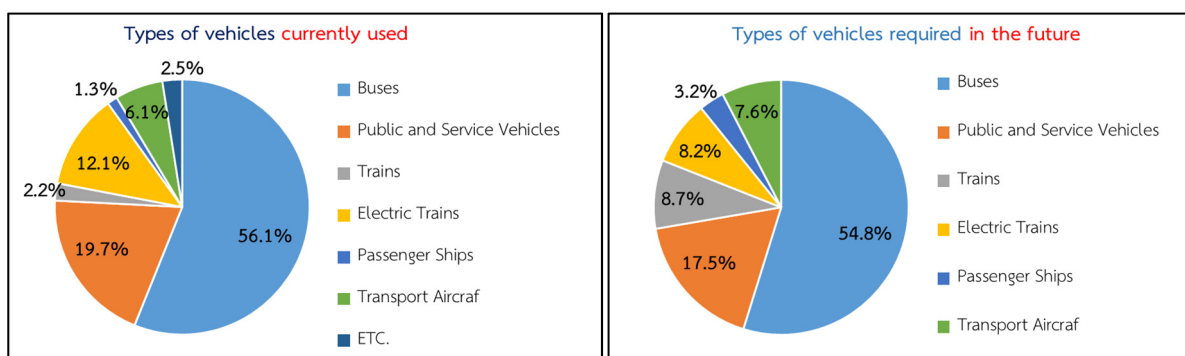
Figure 2.5 – 2 Types of Questionnaire Respondents



The result of questionnaire analysis is as below:

- Passenger buses are the most commonly used by persons with disabilities and older persons (more than 50%), followed by public cars (20%) as shown in Figure 2.5 – 3.

Figure 2.5 – 3 Types of Vehicles Currently Used by Respondents (Persons with Disabilities) and Service Required in the Future



It is concluded that fixed-route and non-fixed route buses are the most commonly used by persons with disabilities and older persons, followed by public cars and electric trains, respectively. It is found that fixed-route and non-fixed route buses are required as the first priority in the future, followed by public cars and electric trains, respectively. Persons with disabilities and older persons require facilities differently depending on types of disabilities. Signs and announcement of the next station are the most commonly required.

2.6 Data Collection Summary and Processing

Data collection and analysis for this study comprises the review of secondary data in terms of laws, policies, standards, foreign field trips, primary data survey using questionnaires and in-depth interview with people relating to persons with disabilities and older persons. The data collection and analysis revealed various key issues that were used for developing standards of each type of facilities because different requirements of laws and international standards must be compared in the standardization process to ensure that the developed standards can be enforced correctly in accordance with laws and are clear for officials to be applied. Some detailed standards of facilities in vehicles were applied to be a prototype for guiding persons with disabilities or wheelchair lifting equipment.

In addition, the review was used for the preparation of both training courses in terms of understanding in persons with disabilities and older persons, and review of laws and standards so that the revised and analyzed data can be included in both courses and agencies can apply them to train officials and government officers dealing with the design and services for persons with disabilities and older persons.