



CREATING A BETTER OPERATIONS AND MAINTENANCE SYSTEM FOR URBAN RAILWAYS

Photo : Jakarta MRT, 15 June 2019



※ O&M : operations and maintenance

Legal: Regulatory Supervision System

- Enactment of laws on supervisory authority of regulatory entities and duties of operating entities
- Enactment of laws on technical standards and safety management

Regulatory entities

Commercial: Business Schemes

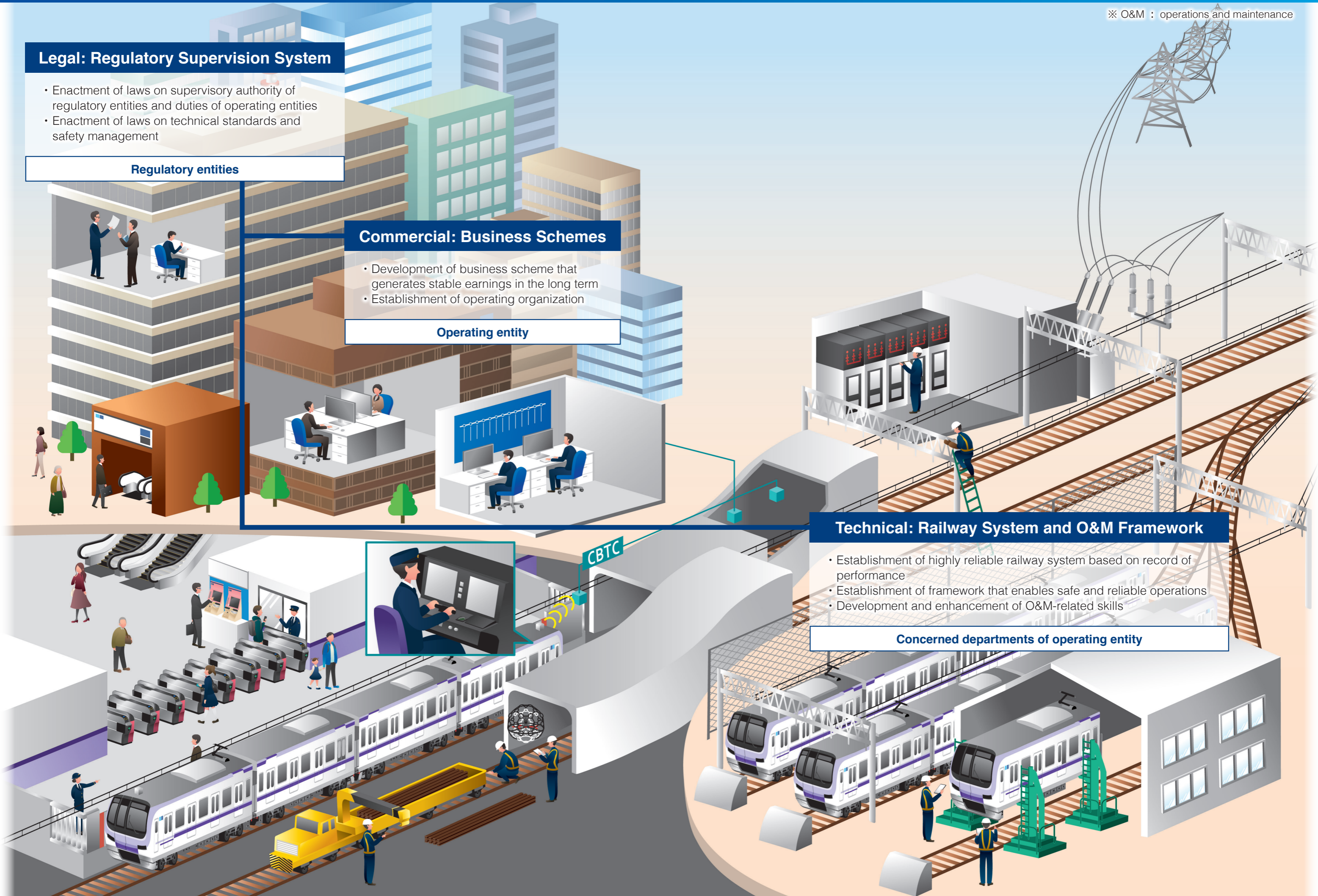
- Development of business scheme that generates stable earnings in the long term
- Establishment of operating organization

Operating entity

Technical: Railway System and O&M Framework

- Establishment of highly reliable railway system based on record of performance
- Establishment of framework that enables safe and reliable operations
- Development and enhancement of O&M-related skills

Concerned departments of operating entity



Regulatory Supervision System (Development of laws) → Examples of support on p. 7, 12

- Development of legal systems (e.g., project approval, safety management, technical standards)

Regulatory Supervision System (Operations) → Examples of support on p. 9

- Approval of construction
- Approval of railway business
- Safety audits
- Safety certification
- Opening audits
- Accident reports, etc.

Business Schemes

- Cost estimation for construction and O&M
- Selection of operating entity (publicly or privately operated)

- Establishment of preparation team

Establishment of Operating Organization → Examples of support on p. 8

- Establishment of operating entity
- Recruitment of human resources

Establishment of O&M Framework → Examples of support on p. 9,10

- Framework-building for technical departments
- Regulations and manuals in the entity
- Training for O&M personnel

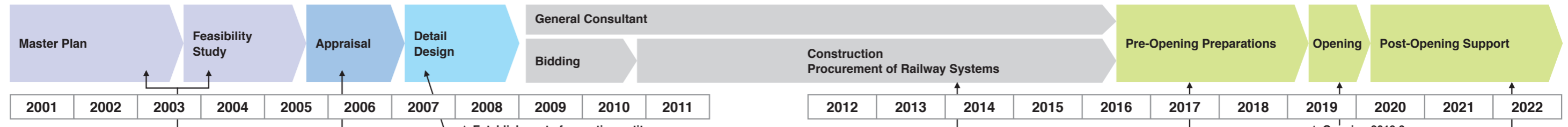
Enhancement of skills and facilities → Examples of support on p. 11, 12

- Continuous improvement in operational capability

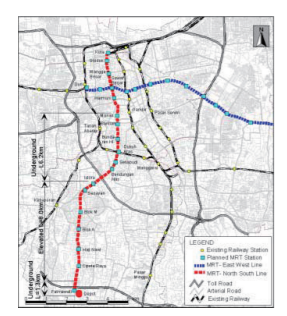
Railway System

- Train operation planning
- Railway facilities planning
- Personnel planning
- Detailed review of railway facilities
- Bidding preparations

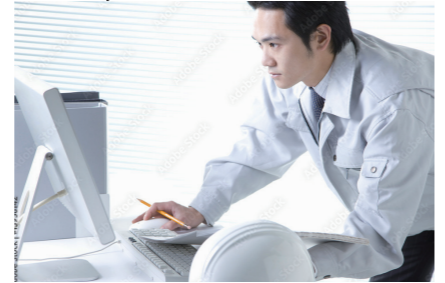
- Verification of progress in construction work
- Facilities verification by operating entity



Study on Integrated Transportation Master Plan for JABODETABEK 2001.1 ~ 2004.3



Engineering Services for Jakarta MRT Project 2006.12 ~ 2010.5

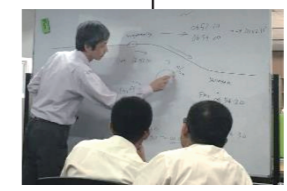


Civil construction work 2013.6 ~ 2018.6
Railway system and track construction 2015.4 ~ 2018.10
Rolling stock procurement from 2015.3

Construction of Jakarta MRT Project 2009.1 ~ 2016.3



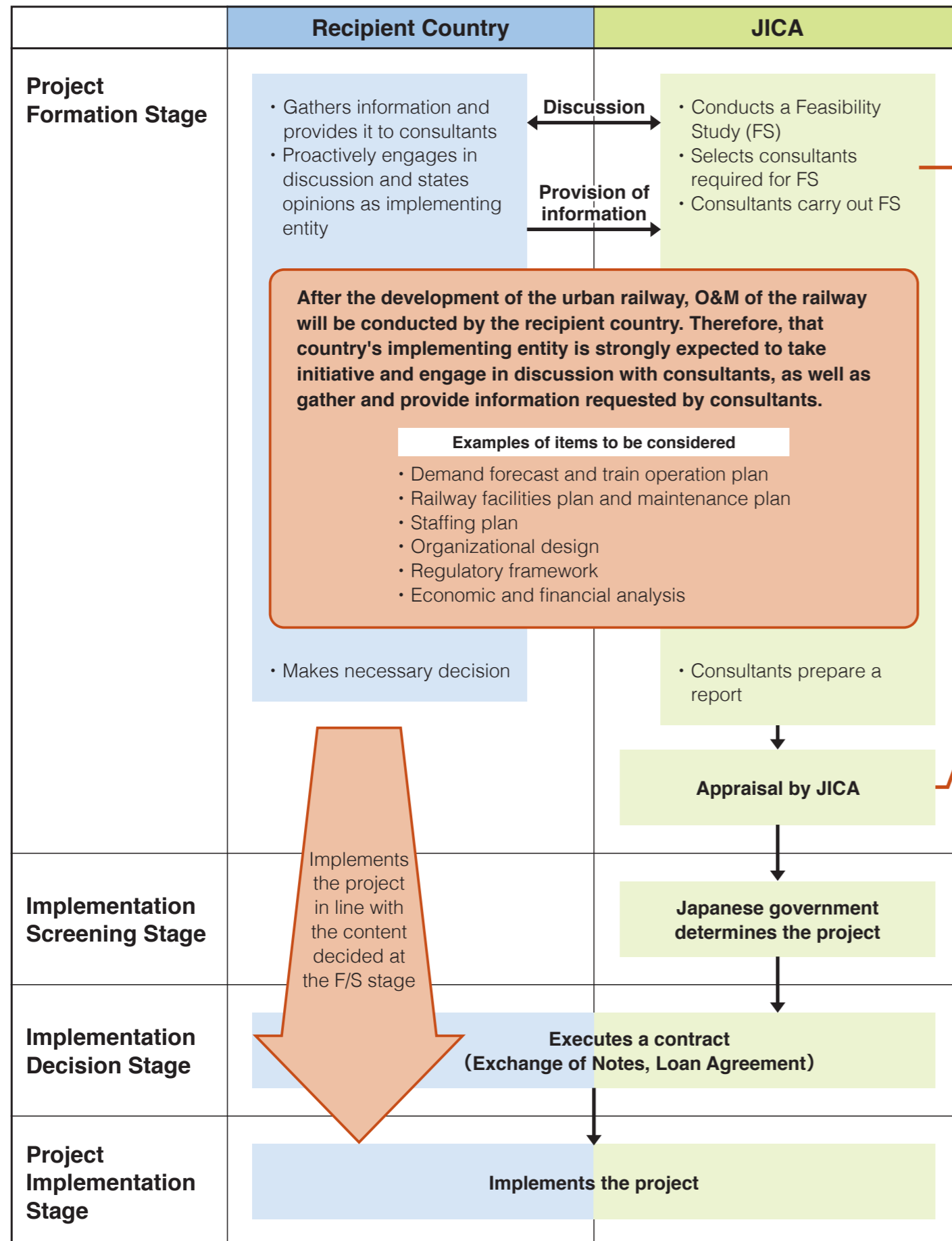
OMCS 1 O&M Consulting Services for Jakarta MRT Project Phase1 2016.6 ~ 2020.3



OMCS 2 2020.11 ~ 2023.11



Implementation Process for Loan Assistance Projects



Things required of implementing entity

Requirements for Effective Use of FS

1 Verify the FS items upon commencing the FS without any omissions

At the start of an FS, a study plan is finalized. At that time, it is necessary to confirm that all necessary items for consideration have been included. It is very difficult to add survey items later.

2 Collaborate closely with consultants

It is necessary to confirm through close confirmation with the consultants that the study method, condition setting, and format of FS report, among other things, are consistent with those required by the implementing entity.

3 Effectively utilize results of FS

Appraisal is conducted by the JICA based on the results of the FS. By fully studying each consideration item in the FS, smooth appraisal procedures can be conducted and the subsequent implementation of the project can be facilitated. It is important to make effective use of FS opportunity and conduct sufficient studies.

Lessons from Past Projects

• The implementing entity should have decision-making rights.

Example: Because the regulatory entity did not grant decision-making rights to the implementing entity, coordination and decision-making by multiple entities became necessary for matters that should have been mainly determined by the implementing entity, resulting in delays.

• Appropriate specifications need to be set according to the country's situation.

Example: Because the requirements for personnel were too high, there was no progress in recruitment, delaying organization-building and affecting the timing of the line opening.

• Personnel need to be recruited to match the progress in construction.

Example: As a result of hiring staff early despite construction delays, there was a prolonged period of no pay for personnel, setting off a series of resignations by recruited personnel.

• Utmost efforts must be made to retain personnel who oversee the FS in the recipient country.

Example: Personnel who oversaw the FS in the recipient country were frequently reassigned. For that reason, it was necessary for each successor to familiarize themselves with knowledge of urban railways and items for review from scratch at the project implementation stage. This required additional cost and time.