MRT Jakarta project 3rd Workshop

Group 2

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Background

- Traffic Jam
- Increasing the number of private vehicle
- Air Pollution
- Increasing the number of fuel consumption
- Lifestyle mindset
- Effisien and effective

Purpose of MRT project

1. Reduce Traffic Jam
2. To improve environment (reduce CO_2 , noise and emission)
3. Reduce travel time
4. Safety Improvement
5. Change the Jakarta's people lifestyle by using MRT (public transportation)

General information

Project Online

- Finnacial support by JICA and Jakarta local government (proportion JICA:83%, Jakarta local government 17%)
- Owner : PT. MRT Jakarta
- Consultant : JMCMC (JV and Join Association of Oriental Consultant)
- Contractor : Joint Venture between contractors (Japan and Indonesia)

  CP101 and 102 are constructed by Tokyu-Wika

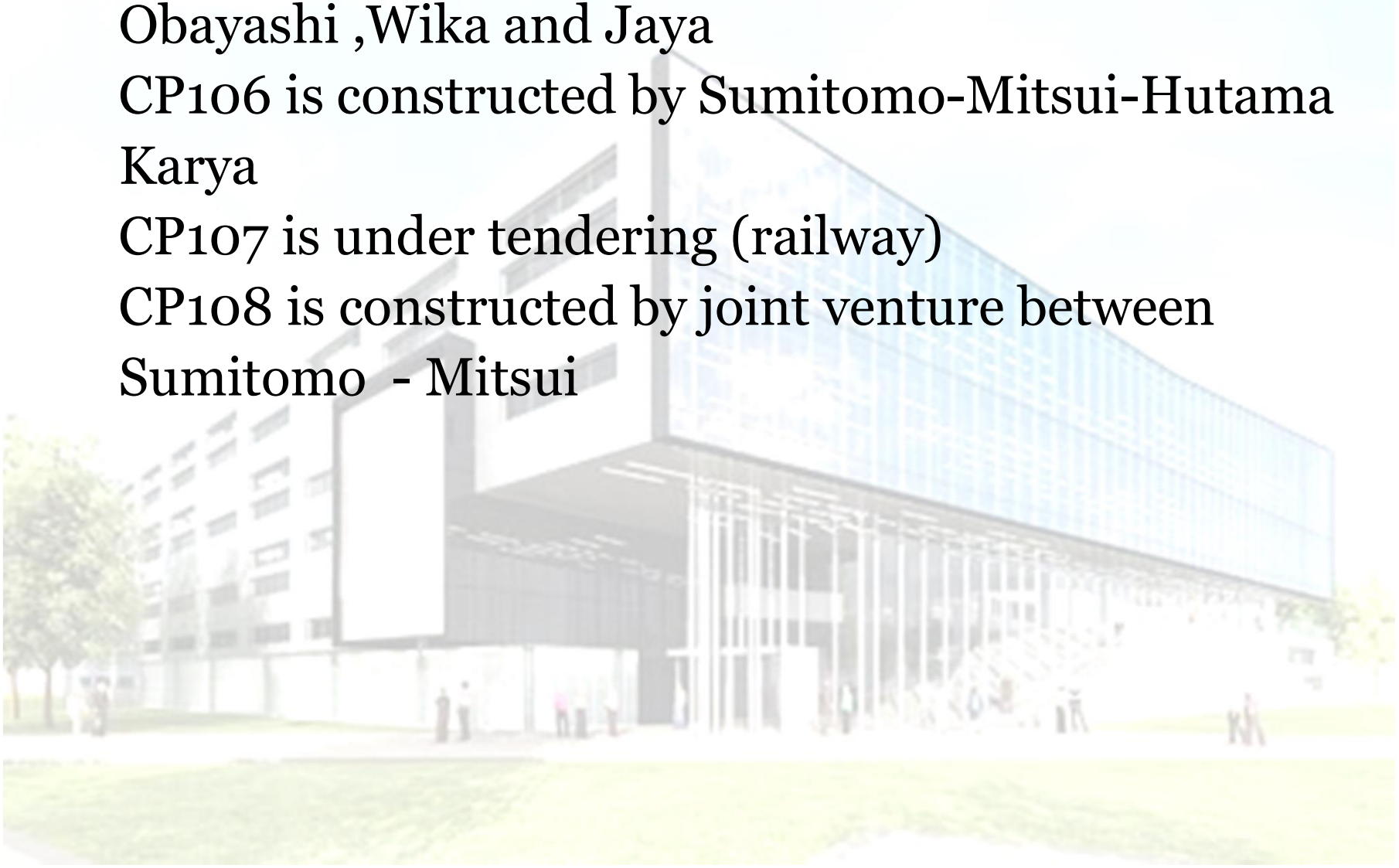
  CP103 is constructed by Obayashi, Shimizu and Jaya

CP104 and 105 are constructed by Shimizu, Obayashi ,Wika and Jaya

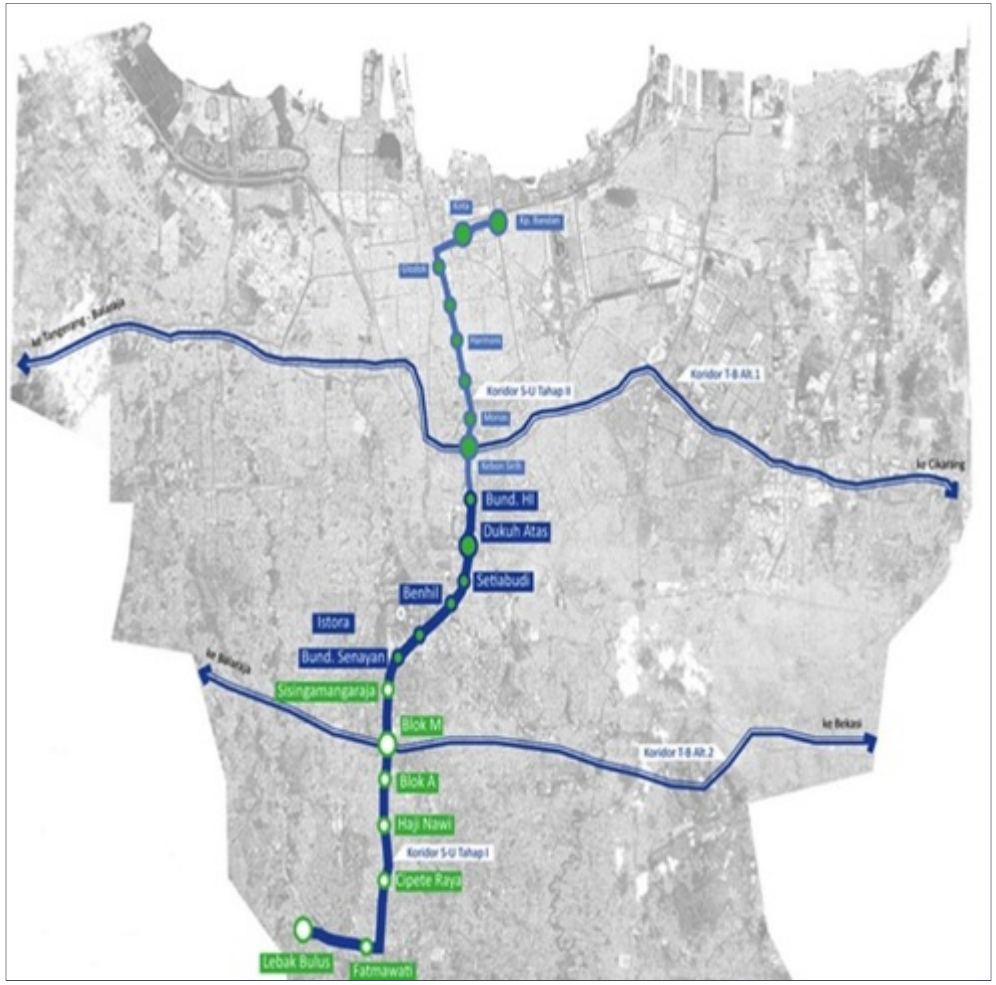
CP106 is constructed by Sumitomo-Mitsui-Hutama Karya

CP107 is under tendering (railway)

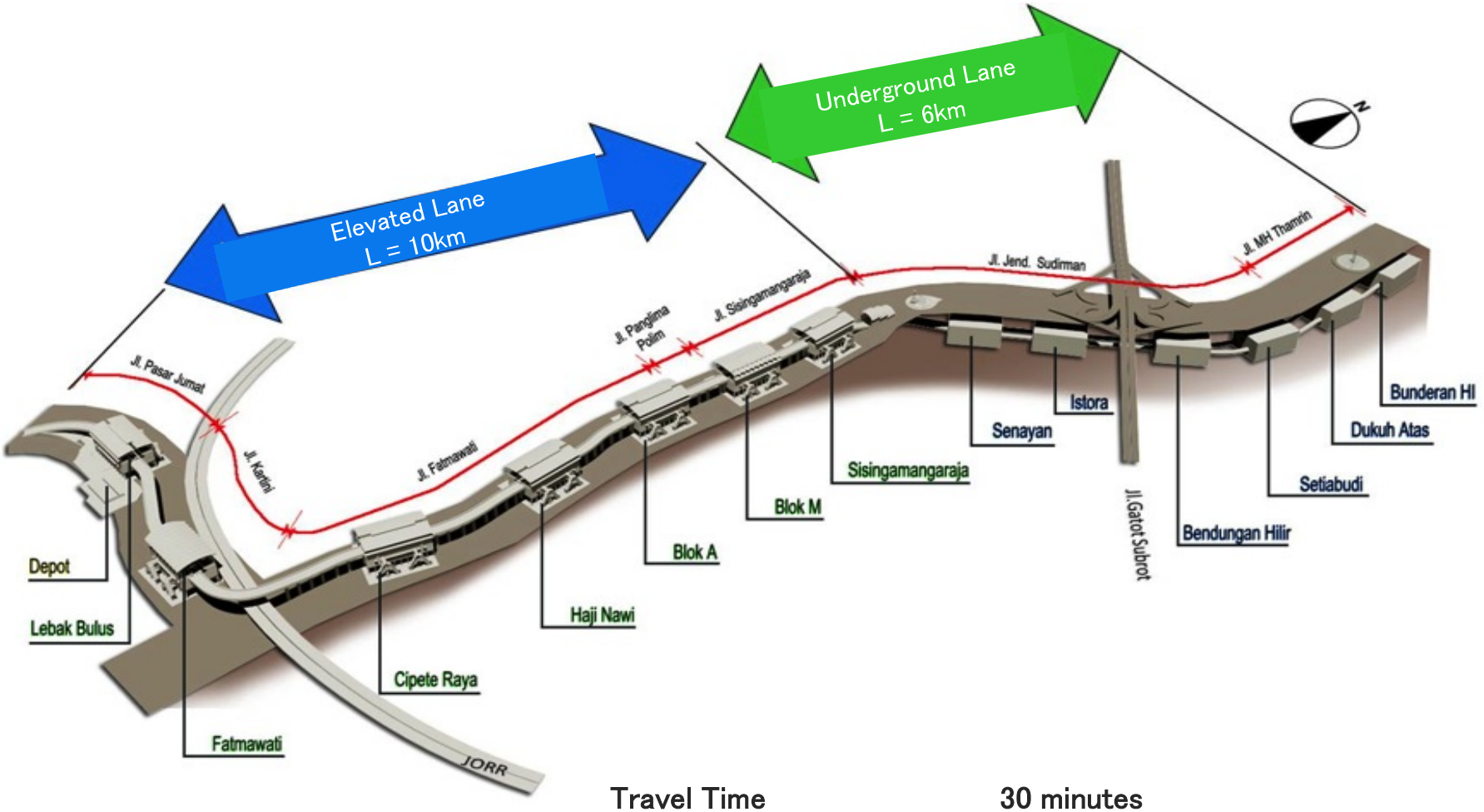
CP108 is constructed by joint venture between Sumitomo - Mitsui



Project Outline

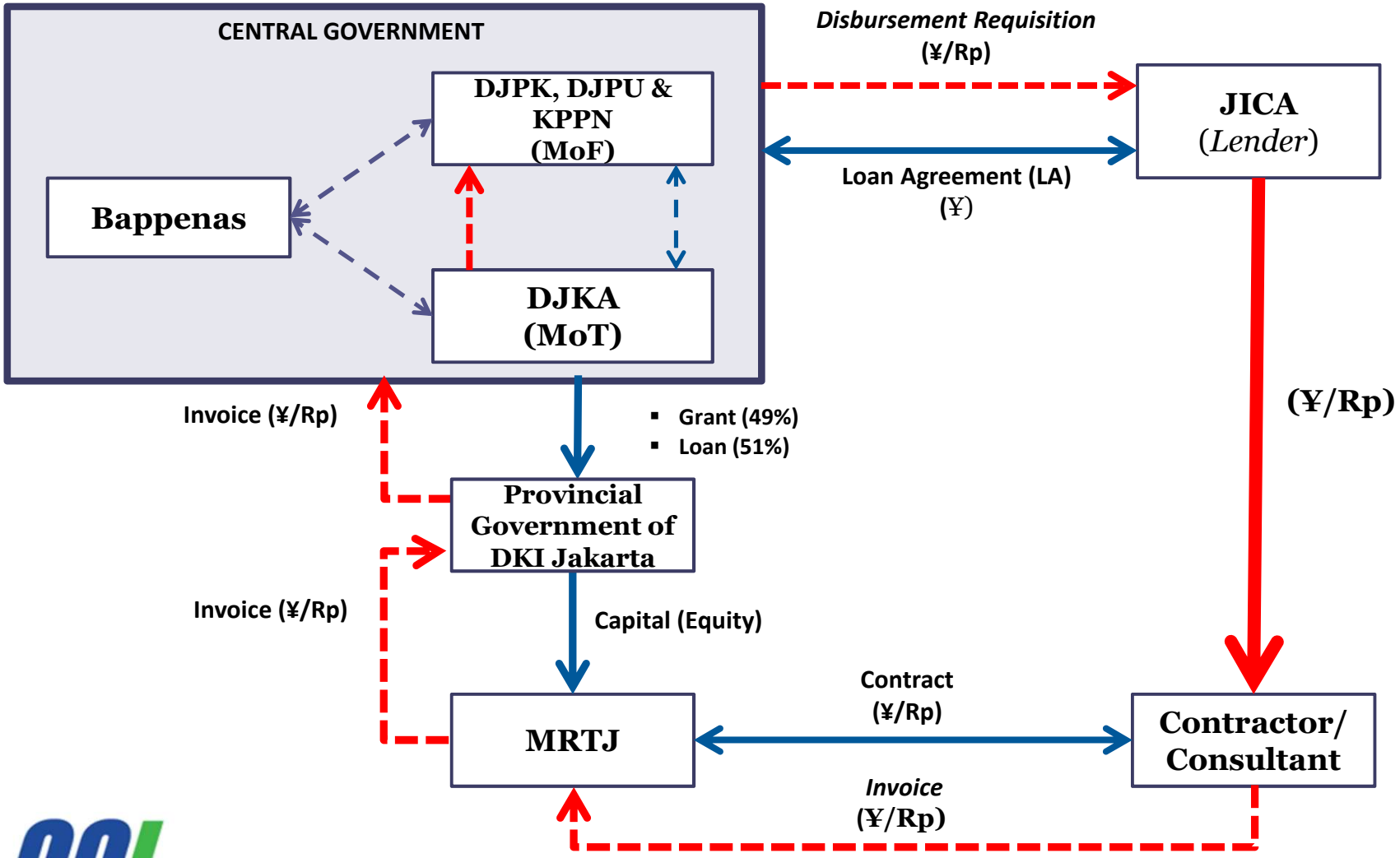


Number of Corridors (Line)	**2 Corridors** South – North Corridor East – West Corridor
Number of Stations	**21 Station** South – North Corridor **48 Stations** East – West Corridor
Length of Line	**25 Km** South – North Corridor **87 Km** East – West Corridor
Target for Operation	**2018** Phase I South – North Corridor **2020** Phase II South – North Corridor **2024-2027** East – West Corridor



Travel Time	30 minutes
Distances between station	0.8 – 2.2 km
Headway	5 minutes (2018)
Targeted Passengers	173.400 passengers/day (2018)

Funding Scheme of MRT Jakarta Project

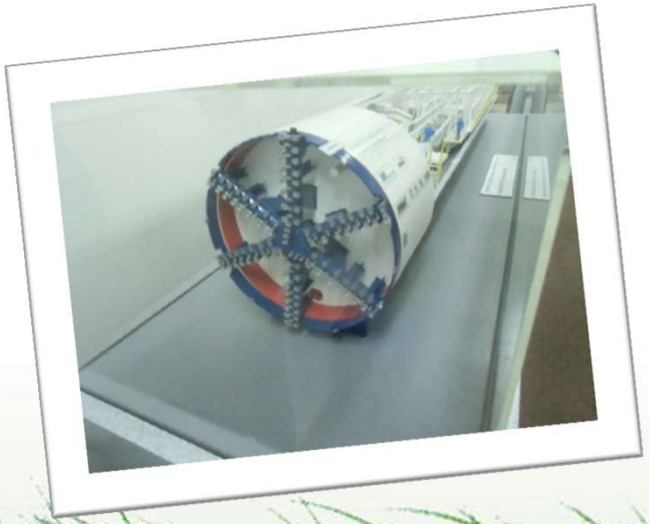


mrt jakarta
increasing mobility, improving life quality

Actual situation

Construction Technology

1. TBM (Tunnel Boring Machine) is a machine to make a tunnel with diameter = 6.6 m and total length = 11 m

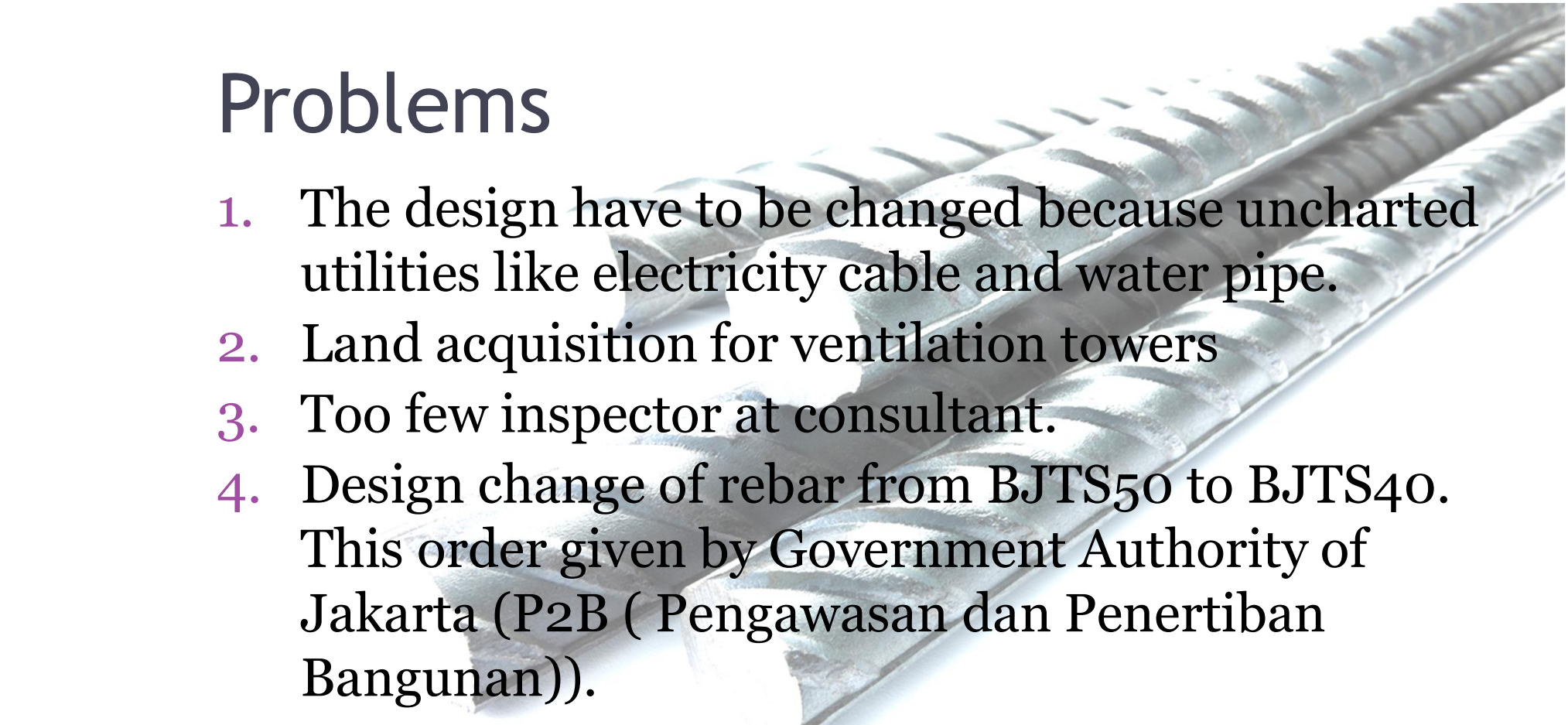


2. JMRT project use Top Down method for underground construction method and Bottom up method only for under pinning construction of pemuda statue.
3. To make the D-wall, the project used hydraulic grub D-wall Excavation Machine.
4. Koden test device, ultrasonic device to check any settlement of soil or land around the MRT construction area.

Project Management Technique

1. JMRT project used software named Primavera or Microsoft Project to manage time schedule. Through this program, we can find critical path method or critical activity
2. Separation of contract package CP 101 – CP 106, it easier estimate the under period efficient.
3. JICA Loan Schemes

Problems

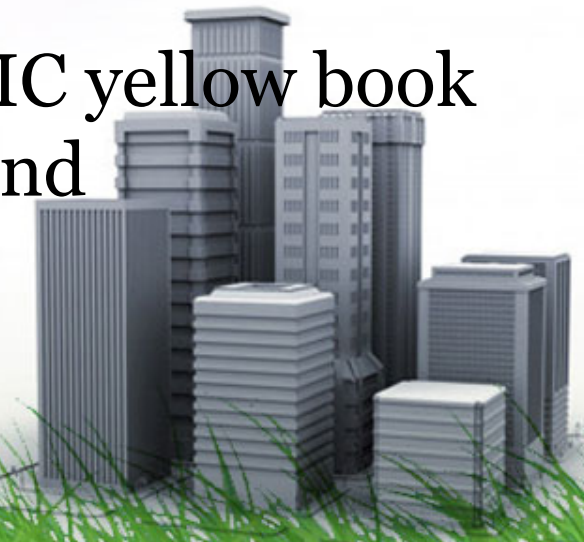


1. The design have to be changed because uncharted utilities like electricity cable and water pipe.
2. Land acquisition for ventilation towers
3. Too few inspector at consultant.
4. Design change of rebar from BJTS50 to BJTS40. This order given by Government Authority of Jakarta (P2B (Pengawasan dan Penertiban Bangunan)).
5. Climate change problem like heavy rain can caused flood.

What do you strongly feel from the project ?

We learn about project management technique between 3 parties and contract package. Beside that, tranparancy information is very important , when we make detail design of a construction project.It will minimize any design changed that caused any delay of construction.

This project contract based on FIDIC yellow book to manage cost and time also risk and maintenance .



JICA also shown us about how the mechanism of JMRT project loan scheme between central government, owner and contractor/consultant.

In this big project like Jakarta MRT, safety must come first for all of the labor that working in a site construction. Helmet, jacket and boot should be used to all of the labor and employee.

What is the most important thing to become a civil engineer ?

In our group opinion, knowledge, understanding and attitude are the most important things to become a civil engineer. Knowledge that we have can lead us to know method or idea to solve construction problem . Understanding and attitude is very important because it will make us be open minded with everything around us, so it will make us easy to communicate and cooperate between each other as engineer.

How do you use and utilize the knowledge for the future ?

We will use the knowledge to increase future indonesia or japan infrastructure and transportation as public need. Knowledge about Mechanism of loan scheme and project management will help us for futher if we are have opportunity to joint a project like Jakarta MRT Project. For example, how we can do feasibility study before the project will conduct.

How do you think this program can be improved to benefit more you and your interest in studying civil engineering ?

Through this program, our knowledge and skill in civil engineering is increase and getting better. Our ability and skill for speaking english also improve good to communicate and stimulate to learn and develop skills to choose become Contractor or consultant. More communication to develop in next workshop.

THANK YOU