

# The 19<sup>th</sup> JOINT WORKSHOP HELD IN BANDUNG, Indonesia

## 27<sup>th</sup> to 28<sup>th</sup> February, 2018

Institute of Road Engineering in Indonesia (IRE) and NILIM have carried out joint research of road and traffic fields. PWRI is also participating in the joint research as a cooperater of NILIM.

The 19<sup>th</sup> Joint Workshop was held in Bandung, Indonesia by PWRI and IRE on 27<sup>th</sup> to 28<sup>th</sup> February, 2018.

The activities of 19<sup>th</sup> Joint Workshop are the discussion on Tunnel and Underground Structures.

### 1. Contents

#### Discussion on Tunnel and Underground Structures

PWRI and IRE have been creating "The guideline for auxiliary method of tunnel construction at mountain area". In this workshop, the final discussion toward the completion of the guideline was conducted. After the publication of the guideline, the seminar for publicity is planned in Indonesia.

And then, IRE and PWRI discussed new themes of research, as follows.

#### ①Regarding "tunnel facilities"

PWRI advised IRE following matters;

- It is necessary to grasp the present state of Indonesia at first, for utilization of the technical knowledges of Japan.
- IRE should conduct at first the measurement of the amount and composition of the exhaust gas from vehicles that are actually used in Indonesia.

In addition, PWRI explained how to confirm, for example, the actual conditions in the tunnel after the road tunnel is serviced.

IRE agreed to carry out the above matters sequentially.

#### ②Regarding "Shield tunnel method"

PWRI offered some published literatures about past cases. Then, it was decided that IRE will begin to select the matters which they require.

In addition, as a response to demand from IRE, PWRI explained the outline of Tokyo Outer Ring Road, as the current work about shield tunnel method in Japan.

#### ③Regarding "3- dimensional numerical analysis "

Finally, IRE consulted about 3-dimensional numerical analysis for mountain tunnel which they are trying now. Therefore PWRI advised them for some questions concerning setting of conditions etc., in light of the knowledge of Japan.

In addition, on actual construction, the displacement of inside of the tunnel is important, that is one of the determined indicators when we compare measured values and analysis values,

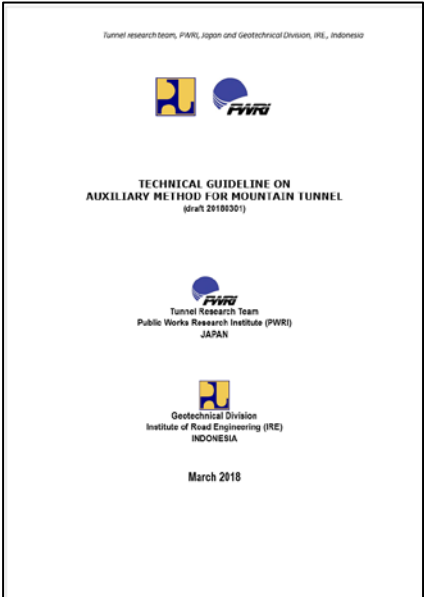
therefore PWRI explained the measuring method and notes at the time of measuring for the displacement.



Workshop members (Tunnel)



Discussion in IRE (Tunnel)



"The guideline for auxiliary method of tunnel construction at mountain area"

## 2. Reference (History of the Cooperation)

The National Institute for Land and Infrastructure Management (NILIM) and the Institute of Road Engineering (IRE) renewed cooperation arrangement in Indonesia, February 2014.

Under this agreement, NILIM and IRE have been continually sharing research information by jointly holding technical seminars and exchanging researchers to strengthen links between both research institutes and to form international human networks, thereby to contribute the growth of Indonesia.

2009.06	Pre-meeting in Jakarta and Bandung
2009.11	Tsukuba, Memorandum of Cooperation agreed
2010.03	Bandung, (1st Joint Workshop for targeting the themes)
2010.06	Tsukuba, joint meeting for Bali coming symposium
2010.10	International Symposium in Bali (2nd Joint Workshop to declare the strategy for cooperative researches)
2011.01	Jakarta, (3rd Joint Workshop to make the Road maps(1) )
2011.06	Sulawesi, (4th Joint Workshop to make the Road maps(2) and site observation
2011.09	Technical Tour in Japan for modernizing experimental Equipment and Facilities of RDCRB (IRE)
2011.10	Lombok, (5th Joint Workshop / Bilateral Seminar)
2012.03	Jakarta and Bandung, (6th Joint Workshop including River and Water Resource issue)
2012.06	Batam, (7th Joint Workshop (Bridge/ Tunnel) and Open Seminar (Long Span Bridge and Tunnel Technology))
2012.06	Trilateral Workshop for the Interim Report in Tsukuba
2013.01	Jakarta, (8th Joint Workshop (Road Environment/ IPT/ Traffic Safety/ Pavement/ Tunnel)
2013.08	Padalarang-Bandung, (9th Joint Workshop (IPT/ Traffic Safety/ Pavement/ Tunnel))
2013.11	Tokyo, (10th Joint Workshop (Tunnel/ Pavement))
2014.02	Jakarta, Labuan Bajo and Denpasar, (Cooperation Arrangement renewed, 11th Joint Workshop (Road Side Station of Corridor 5/ Road Environment/ IPT/ Tunnel/ Pavement)
2014.03	Tsukuba, (12th Joint Workshop (Michinoeki/ Pavement))
2014.10	Jakarta, (13th Joint Workshop (Tunnel))
2014.11	Bali, Flores and Buton, (14th Joint Workshop (Road environment/ Road Side Station/ AsButon)
2016.02	Tsukuba, (15th Joint Workshop and Site visit (Pavement/ AsButon/ Road Side Station)
2016.02	Jakarta, Buton Island and Bali, (16th Joint Workshop and Site visit

(Michinoeki/ Traffic Data Collection/ Pavement/ Tunnel)

2016.11 Bandung, Jakarta, (17th Joint Workshop and Site visit (Road Environment)  
2017.03 Bali, (18th Joint Workshop (Pavement)  
2017.10 Tsukuba, Tokyo, (The mid-term Conference and Site visit (Various  
infrastructure facilities)