

2018/TPTWG45/PLEN2/007

Agenda Item: 2.4

IIEG Final Report

Purpose: Consideration Submitted by: Acting Chair of IIEG



45th Transportation Working Group Meeting Closing Plenary Seoul, Korea 24 April 2018

Intermodal and ITS Experts Group (IIEG) - Final Report

Summary Report for the Closing Plenary:

- 1. The IIEG meeting was acting chaired by Ms. Zhanghua and well-attended by 39 delegates representing 14 APEC Economies.
- 2. Updates were provided on two ongoing projects: one project from the United States (U.S.) entitled Promoting Supply Chain Resiliency in the APEC Region: Reviewing Progress on the 7 Principles; and one self-funded project from Chinese Taipei entitled The Study of Best VGM (Verified Gross Mass) Practices to Maintain and Enhance the Supply Chain Connectivity in the APEC Region.
- 3. A new Concept Note, which was already submitted, to TPT-WG Project Session 1 2018, for funding was presented by China entitled Promoting Digital Innovation in the Port Industry in APEC economies to Promote Supply Chain Connectivity and Regional Integration. No other new Concept Note was presented at this meeting.
- 4. A discussion was held on the Concept Note development and application procedures, as well as new possible projects and activities related to the IIEG. Three potential Concept Notes still under development were discussed.
- 5. Ten economies presented an economy update on various intermodal and ITS developments in their respective economy.
- 6. The GNSS Implementation Team (GIT) presented an update on their activities at the IIEG meeting. IIEG endorsed GIT's proposal to have GIT 23 to be held in conjunction with TPT-WG46, as a separate sub-group meeting.
- 7. IIEG members elected Ms. Zhanghua from China to be the new Chair of the IIEG, and elected Mr. Jason Taylor from Canada to be the new Deputy Chair of the IIEG.

1. WELCOME & INTRODUCTION

 Ms. Zhanghua (China), Deputy Chair of the Intermodal and ITS Experts Group (IIEG), welcomed the delegates to the IIEG meeting at 1400 hours on April 23, 2018. Ms. Zhanghua from China and Mr. Jason Taylor from Canada, took on the responsibility of the Drafting Committee. Ms. Zhanghua undertook the duties of the Acting Chair for the meeting. The attendees included 39 delegates representing 14 economies: Australia, Canada, China, Indonesia, Japan, the Republic of Korea, Malaysia, Papua New Guinea, Peru, Russian Federation, Chinese Taipei, Thailand, the United States and Viet Nam. A list of participants is included in **Attachment A**.

2. CHAIR'S REMARKS

IIEG Acting Chair Ms. Zhanghua opened the meeting with IIEG mission priorities, IIEG's key issues for TPT- WG45 in context of 2018 APEC priorities and a brief verbal report of the results from the 44th TPT-WG Meeting. The IIEG Acting Chair also stressed the importance of IIEG members to collaborate with each other and with APEC other fora for partnership and information sharing opportunities.

TPT-WG is to take into consideration the APEC priorities that Papua New Guinea, as host of APEC 2018, has identified for APEC in 2018, under the theme of "Harness Inclusive Opportunities, Embracing the Digital Future":

- i) Improving connectivity, Deepening Regional Economic Integration;
- ii) Promoting Inclusive and Sustainable Growth; and
- iii) Strengthening Inclusive Growth through Structural Reform.

To meet the Leaders' and Ministers' objectives and current APEC priorities, the TPT-WG is undertaking work to contribute to cross-modal issues, such as Supply Chain Connectivity, the Travel Facilitation Initiative, and Women in Transportation.

The Acting Chair reminded the group that IIEG should focus our projects based on the four pillars of activities:

- -- Sustainability,
- -- Capacity Building,
- -- Adoption and harmonization of technology and innovation,
- -- Supply Chain Connectivity and resiliency.

3. GNSS Implementation Team (GIT) Update

GIT Co-Chair Jaching Chou provided GIT's update. Eight APEC Economies participated in the GIT/22 meeting. Papua New Guinea was unable to attend and provided an economy report. Four GIT projects, which are RAIM prediction System from Thailand, Multi-GNSS demonstration from Japan, GNSS-based Solutions for Accident Emergency Response from Russia, and GIT Web Site from Korea, were presented and discussed. Economy reports on GNSS implementation, including update on GNSS constellations (GPS, GLONASS, BeiDou, QZSS, KASS, GAGAN), and GNSS applications in air, maritime, and land transportation were presented.

Special session, a joint meeting with AEG-SAF and IIEG, on GNSS technology and applications were held in GIT/22 to promote GNSS and its support on supply chain growth. This work is part of TPTWG Work Plan on 2017 and directed by APEC Leaders. The GIT Strategy for 2017 to 2022 was updated to reflect priorities from TMM9. This updated Strategy included: (1) economic benefit analysis of GNSS its

support on supply chain growth, (2) increasing the resiliency of GNSS through adoption of best practices, (3) evaluation of expansion of SBAS capabilities for all modes of transportation and other applications, (4) focus on use of GNSS in conjunction with other navigation and sensor technologies for unmanned applications.

TMM10 recognized the importance of GNSS and welcomed the various initiatives undertaken in all modes of transport in collaboration with GIT. GNSS also plays an important role in TPTWG Strategic Plan 2018-2021 to achieve objectives. GIT requested that the next GIT meeting, GIT/23, take place as a separate meeting with TPT-WG46 (which was endorsed by the IIEG).

4. UPDATES OF ON-GOING PROJECTS

The Study of Best VGM (Verified Gross Mass) Practices to Maintain and Enhance the Supply Chain Connectivity in the APEC Region [TPT 04 2017S]—Chinese Taipei

The research team has conducted on-spot visits and interviews this January, investigating some port-related facilities and having dialogues with some industrial people in Indonesia. The result shows that adding up the weight of the cargo, empty container and the relevant package material respectively is a widely used method to declare VGM in Indonesia. This valid method has been effectively applied in domestic ports, therefore there is no problem when the cargo going through the international ports later. It seems that this method using smaller weighting scale to measure related items respectively is more economical and workable in the developing economies, especially when they are short of larger weighting scales.

The Analytic Hierarchical Process questionnaire has just now distributed to most of the large ocean container carriers, freight forwarding companies, and large shippers so to allow the research team to quantitatively evaluate the degree of popularity of the two container weighing practices and provide reasons behind. Suggestions will be generated based on the research findings in this coming August. Furthermore, the questionnaire is planned for circulation to officials from government sectors in APEC economies.

Promoting Supply Chain Resiliency in the APEC Region: Reviewing Progress on the 7 Principles-The United States

The United States provided an update on the work being undertaken on the Supply Chain Resiliency project for the IIEG. This include sharing a brief summary of the work completed to date, and how that work aligns with the 7 Principals of Supply Chain Resilience developed in 2014. Over the last three years, the United States has hosted three Economy-level workshops (2015 - The Philippines; 2016 - Vietnam; 2017 - Papua New Guinea) that created steering committees and action plans to address the 7 Principals. The United States also shared information about a planned final workshop, planned for late 2018, that would invite all APEC Member Economies to share information learned over the last five years of the project.

5. NEW CONCEPT NOTES DISCUSSION

5.1 New Self-Funded Proposal

Promoting Digital Innovation in the Port Industry in APEC economies to Promote Supply Chain Connectivity and Regional Integration—China

China made a presentation on the Concept Note of Promoting Digital Innovation in the Port Industry in APEC economies to Promote Supply Chain Connectivity and Regional Integration, which was endorsed both by IIEG and MEG. This project aims to strengthen information sharing and enhance the capacity building of developing economies and promote Asia-Pacific Connectivity by identifying the current status and the trend of digitization in ports and analyze its impacts on port operation.

5.2 New procedures for Preparing and Submitting a Concept Note

No new Concept Note was presented at this meeting for APEC funding. The IIEG Acting Chair introduced ten steps, which are critical for PO to prepare and submit the Concept Notes with the number of changes in the way that APEC projects are selected for funding. The IIEG Acting Chair also encouraged IIEG members to consider new project proposals for Session 2 funding applications in 2018.

5.3 Discussion of possible new projects

Three new proposals for potential Concept Notes, which have not yet been formally submitted for funding in Session 2, 2018, were discussed. Canada is considering putting forward a project regarding best practices in the cold supply chain. The United States is considering submitting a Concept Note that will examine best practices on shared mobility, such as car and bike-sharing and demand-responsive bus and van services. This Concept Note would seek to explore how other APEC Member Economies are addressing new, app-based technologies, and develop a set of best practices that could be shared through workshops or pilot programs. Chinese Taipei is considering to submit a Concept Note that will build capacity on how to introduce new ICT (information and communication technology) in multi-model transportation management. The potential proposal will focus on sharing experience on cutting-edge development on intelligent transport system and mobility as a service.

6. ECONOMY REPORTS

IIEG regards it more and more important for economies to share information in the fields of intermodal and ITS developments. Ten economies presented an economy update on various intermodal and ITS developments in their respective economy.

Australia

Australia advised it is currently preparing a new national freight strategy and further work to consider approaches to automated vehicle and other future transport technologies. Australia will look to update the IIEG on the progress of this work in future. Australia also advised that it has reorganized some government functions to

bring its cities planning and policy function into the Infrastructure and Transport portfolio, recognizing the critical link between transport and cities.

Australia also noted that the possible concept reports proposed separately by Canada and the United States addressed themes that are likely to be highly relevant to the IIEG and the broader TPT-WG. Australia will consider intersessionally if it can cosponsor these proposals or otherwise assist in their development.

Canada

This Economy Report provided an overview of Canada's plans for connected and automated vehicles (CV/AVs). Innovation is a key element that features prominently in Transportation 2030 – Canada's Minister of Transport's long-term vision for transportation in Canada (announced in 2016). Transportation 2030 includes commitments to supporting the safe adoption of connected and automated vehicles on public roads to improve road safety, reduce congestion, increase mobility, and protect the environment. Canada is investing \$50 million to develop regulations and standards for CV/AVs and drones, and to work with stakeholders to ensure the safe integration of these technologies. The \$10.5 million Advance Connectivity and Automation in the Transportation System (ACATS) program is helping Canadian jurisdictions prepare for the technical, regulatory and policy issues that are emerging as a result of increased connectivity and automation in the transportation sector. Finally, proposed amendments to the Motor Vehicle Safety Act will help ensure public safety, while not hindering innovation and technologies that can benefit Canadians.

Canada has several leading centres of expertise for technology research, testing, and deployment of CV/AVs, including:

- Transport Canada's Motor Vehicle Test Centre a leader in testing, crash avoidance and human factors research;
- Waterloo Centre for Automotive Research (WatCAR) Canada's largest automotive/academic enterprise and leader in the development of real-time wireless communication solutions for seamless connectivity between vehicles, roadside infrastructure, and personal mobile devices; &
- Active-Aurora Canada's first network of test beds, which allows public and private sector organizations to test and operationally evaluate new and emerging connected vehicle systems.

China

The Chinese government has attached great importance to the development of multimodal transport in recent years. Progress has been made through efforts such as planning guidance, policy support, adopting standards, and pilot demonstrations. However, multimodal transport in China at present is still at the beginning stage of development, with limited quality, small proportion in total transport volume and inappropriate structures. In the next step, China will continue to promote the healthy

and sustainable development of multimodal transport by means of demonstration projects, transportation structure adjustment, organizing model innovation, standardized development.

ITS in China has roughly gone through four stages: the initial stage, key technology research stage, breakthrough stage and innovation stage.

At present, China's ITS has several successful applications, such as ETC, Road Network Operation Monitoring System, Integration of Transportation Card, Intelligent Roads. China also attaches great importance to the development of automated driving.

At present, ITS in China presents the following features:

- (1) The promoters are changing from government to capital and companies with a background in internet technology;
- (2) The focus is turning to automated driving, travel and service, and smart logistics;
- (3) The development model is that the products and services will experience social research, social application, rapid iterative research, and develop to industry monopoly.
- (4) The trend of development is intelligentization, electrification and networking.
- (5) The application objects are mainly urban tourism and logistics.

In the future, we will focus on transportation infrastructure energy supply system; open, shared and coordinated road transport service system; and the new generation of carrier tools and transportation systems.

Indonesia

The development of Intelligent Transport System in Indonesia is based on the capacity of infrastructure, the availability of technology, the number of vehicles, and the behavior of road users. There are Area Traffic Control Systems (ATCS) in 63 (Sixtythree) urban areas and proposed to integrate ATCS throughout Indonesia. E-toll cards have been implemented in all toll roads since 2017. Jakarta as the capital city of Indonesia has implemented car parking ticketing system in certain roads and has conducted trials of road pricing implementation in several streets in 2014 and currently the provincial government of DKI Jakarta is conducting the procurement process for the implementation of road pricing in Jakarta.

Japan

Japan briefed the IIEG on the new developments under its ETC 2.0 project as well as some regulatory concepts it has begun to re-examine to prepare for the advent of automated vehicles. With respect to ETC 2.0, originally launched in 2014, private-sector applications have lately been on the rise, such as parking fees and drive-in purchase. Concerning automated vehicles, Japan mentioned that existing frameworks such as vehicle inspection and maintenance, as well as cybersecurity measures, would need to be significantly adjusted to account for electronic systems.

Republic of Korea

The Ministry of Land, Infrastructure and Transport of Korea (MOLIT) aims to secure traffic safety and seamless traffic flow by introducing several cutting-edge ITS services that described as below;

- Cooperative-ITS: The Republic of Korea had finished the first pilot project on C-ITS last year. Currently, MOLIT is planning to initiate new pilot projects in Seoul and Jeju island, to improve basement for future deployment.
- Lane Departure Warning System (LDWS) and Advanced Emergency Braking System (AEBS): Both central government and local governments will support on budget for installation of both LDWS and AEBS to secure traffic safety.
- Advanced Traffic Signal System: MOLIT is going to improve the efficiency of cycle of traffic signal by analyzing traffic volume data, so that there will be increase in road capacity and decrease in congestion on major intersections. In addition, trafficactuated signal will be introduced to increase road capacity and decrease signal violation.
- Big-data analysis: MOLIT is going to use big-data for assessment on risk of road network, so that the result can be used to reduce black-spots.

Malaysia

Malaysia updated the meeting regarding their current ongoing initiative which is the development of the "Digital Free Trade Zone (DFTZ)". The DFTZ is an initiative to capitalize on the confluence and exponential growth of the internet economy and cross-border e-Commerce activities. It is set up to facilitate seamless cross-border trade and enable local businesses to export their goods with a priority for e-Commerce. With the launch of the world's first DFTZ, Malaysia will serve as a regional e-Fulfillment center and become the regional hub for SMEs, marketplaces and monobrands. By 2025, the DFTZ is expected to increase SMEs goods export to USD38 billion, create over 60,000 jobs and support USD65 billion worth of goods moving through the DFTZ.

The DFTZ consists of three components:

- (i) an e-Fulfilment Hub which will help SMEs/businesses to export their goods easily with the help of leading fulfilment service providers;
- (ii) a Satellite Services hub that will connect SMEs/businesses with leading players who offer services like financing, last mile fulfilment, insurance and other services which are important in cross-border trade; and
- (iii) an e-Services Platform that will efficiently manage cargo clearance and other processes needed for cross-border trade.

The DFTZ will benefit SMEs and Malaysian manufacturers/brands looking to export, global brand owners looking to set-up a regional hub to reach ASEAN customers, marketplaces looking to source from and use Malaysia as a hub as well as local and global service providers by:

- (i) Providing market access to SMEs for them to reach global customers with the help of leading marketplaces;
- (ii) Simplifying and accelerating cargo clearance process with the help of eServices platform;
- (iii) Providing end-to-end support to businesses for cross-border trade, networking and knowledge sharing to drive innovation within the internet ecosystem;
- (iv) Leading e-Fulfilment services (warehousing, pick, pack, labelling, and others);
- (v) Providing access to eCommerce ecosystem players (financing, last mile fulfilment, insurance, digital marketing, and others); and
- (vi) Providing the right ecosystem and facilities for brands to use Malaysia as a transshipment hub to reach ASEAN customers.

Papua New Guinea

PNG Air Services Ltd (PNGASL) is now implementing its Modernization Program that commenced in 2012, as enshrined in its Development Plan. The holistic Program covers modernization of systems, processes and most importantly, people.

The introduction of modern infrastructure and state of the art technologies, improved capability through the engagement of a modern and well-educated workforce will ensure PNGASL meets global standards in aviation safety and efficiency for our domestic and international airline customers.

Projects under the Modernization Program include:

NIUSKY PROJECT

NiuSky Project is aimed at providing a new Air Traffic Management (ATM) platform to process data from different sources of communications, navigations, surveillance and associated systems and facilities for the delivery of an effective Air Traffic Management (ATM) Service. The project will also deliver the Automatic Dependent Surveillance – Broadcast (ADS-B) Surveillance system throughout the entire airspace and initially for aircrafts flying above 24,000 feet asl.

The ATM system was fully installed in late 2017 with operational transition now progressing to get critical services provided using new technology well before the APEC Leaders' Summit in November 2018.

Two ADS-B sites have been installed and others are in the process of being installed later this year. With these, safety benefits will be enhanced as Controllers will have real time actual aircraft positions within the PNG airspace.

AERONAUTICAL RADIO COMMUNICATIONS PROJECTS

 Aeronautical Radio Communications is a critical aspect of ATM service provision as PNGASL controllers need to maintain close contact with pilots as they are flying through the airspace. PNGASL is therefore replacing its radio communications facilities with IP based VHF and HF radios. Part of the projects involve providing new hybrid power supply systems using solar, generator sets and battery banks as energy sources. All three aeronautical communication projects namely, VHF1, VHF2 and HF Coverage Improvement Projects aimed at improving radio communication contact between controllers and pilots are fundamental for the safety of aviation operations and are progressing with expected completion in 2019.

SECONDARY SURVEILLANCE PROJECT

- The Secondary Surveillance Radar (SSR) Project Jacksons International airport involves the replacement of the existing SSR that has been in operation since 1994. The new radar will be able to be integrated into the new state of the art ATM system. The benefit of maintaining Surveillance Capability to allow our Air Traffic Controllers to have visibility and are better equipped to monitor and guide aircraft operations within 200 nautical mile radius of Jackson's International Airport remains the ultimate objective. The new SSR will complement the ADS-B surveillance tool and is expected to be commissioned in August this year.
- Global Navigation Satellite System (GNSS) PROJECT

PNGASL signed its GNSS Project contract with IDS Corporation of Australia in early 2017. The project was for the provision of the design of RNP APCH LNAV and design of RNP APCH LNAV/VNAV approaches at up to 45 selected airports throughout PNG that can support such procedures and to provide SIDs and STARs for Jackson's International Airport. The number of airports has reduced to 34 due to terrain constraints, unsuitability, and aerodrome closure.

There was and still remains an opportunity to provide GNSS approaches to additional airports/airstrips and this will require additional WGS-84 Surveys to be conducted as well.

As at the end of contract completion date, approach design for 21 aerodromes were completed and approved. These approaches are scheduled to undergo Ground Validation in May, which is the prerequisite to enable Flight Validation expected to occur during June. The expected regulatory approval will in turn enable publication of the GNSS approach designs on September 13, 2018.

Due to a number of factors outside the control of PNGASL and the Contractor, the project remains incomplete and both parties are now in close consultation to agree on a revised completion date to ensure that all activities are satisfactorily completed this year and within the same contracted price.

CAPACITY BUILDING

PNGASL maintains that human capital is a key asset and is fundamental to its advancement in technology and growth and as such, the company places a very high priority and focus on developing the capacity and capability of its workforce through ongoing Learning and Development Program across the Company. Specialist training as well as generic soft skill training are being pursued vigorously.

PNGASL continues to strive towards contributing to the development of PNG's aviation sector to meet global standards of service and operational excellence and will continue to implement key projects deemed relevant towards achieving these objectives.

Chinese Taipei

Chinese Taipei launched its new 4-year ITS Plan in 2017. Six main programs have been implemented under the guidance of Ministry of Transportation and Communications (MOTC) at selected regions to overcome the transport challenges, which are recurrent road congestion on main corridors, high traffic-related injuries and fatalities, inconvenient public transport service in rural areas, and response to the innovative technological opportunities by adopting ITS technologies.

The programs in Chinese Taipei's ITS Plan include the Integrated Corridor Management (ICM) program, the rural area advanced public transportation program, the ITS safety program, the MaaS (mobility as a service) program, the connected vehicles program and the ITS R&D (research and development) program. More than US\$ 100 million new budget will be invested in these ITS Plans. The planning philosophy and policy formulation of Chinese Taipei's ITS Plan 2017- 2020 are highlighted. The target of the next four-year ITS plan in Chinese Taipei is to conquer the three challenges and to fulfill the motto of a 5-S transport system –Safe, Smooth, Sharing, Seamless and Sustainable.

According to statistics, driving negligence is the main cause for motorcycle accidents. Hence, this study adopted V2X technology to avoid traffic accidents caused by driving negligence. The technology behind the project is vehicle to infrastructure (V2I) technology. The system includes three parts: on-board device, roadside units and cloud-based analysis server. With respect to on-board device, motorcycles in this project, about 9,000 motorcycles, will be installed on-board devices to send GPS and speeds to roadside units. In addition, on-board devices will receive warning signal from roadside units. In terms of roadside unit, the components include radar sensors, CCTV, WiFi receivers and a flashed CMS. Roadside units will be installed on high accidental rate intersections and dangerous road segments. If the roadside units detect that a potential collision risk will occur, the roadside unit will send a message to on-board devices to give a warning to drivers and the flashed CMS will flash. All the data including motorcycle GPS traces, CCTV images will sent back to a cloud server for safety analysis.

In order to build ITS technological capacity for East and Southeast Asian economies, Chinese Taipei held an 'International Smart and Sustainable Transportation Workshop' between April 11th and 13th in 2018. Thirty members from 7 Asia-Pacific economies were invited to participate in the workshop. The 3-day workshop aimed to bring young professionals in the public service in Asia-Pacific together to discuss the challenges which commonly faced by cities in the region – sustainable urban mobility, smart public transport, intelligent transport technology, and traffic safety. The workshop has been cooperated by transportation experts from public and private sectors in Chinese Taipei as well as from ICLEI EcoMobility. This workshop brought

experts of the sphere together to deliberate how intelligent transportation technologies and EcoMobility can leapfrog to a greener, smarter, more seamless, efficient and sustainable cities.

Thailand

Thailand has formulated a 20-year Thailand Transport Systems Development Strategy (2017 – 2036), focusing on 3 fundamental concepts including 1) transport efficiency, 2) green and safe transport and 3) inclusivity. The strategy aims to employ both innovation and new technologies in the management and development of transport infrastructure and services.

Currently, Thailand is conducting a study to develop Thailand ITS Master Plan and Smart Bangkok Metropolis ITS Master Plan for transport development to achieve Thailand Smart Transportation.

The ITS Master Plan in Thailand set its vision as "Traffic and Intelligent Transportation System drive Smart Transportation in Thailand". The mission is "to develop traffic information system and ITS management for transport strategy support aiming Thailand Smart Transport". The master plan comprises 6 strategies: Strategy 1: Smart Transportation Data; Strategy 2: Smart Traffic Mobility; Strategy 3: Smart Public Transport; Strategy 4: Smart Transport Safety; Strategy 5: Smart Logistics Transport; and Strategy 6: Smart Transport Environment.

The ITS Development Master Plan in Bangkok Metropolitan set as its vision "Intelligent traffic and transport to enhance the metropolis to smart metropolis" and its mission "Developing ITS for managing travel demand to be balance". The Plan includes 5 strategies: Strategy 1: Develop Assistive Public Transport; Strategy 2: Develop Interactive Demand Management; Strategy 3: Develop Automotive Traffic Management; Strategy 4: Improving Efficiency of Intensive Transport Safety; and Strategy 5: Develop Integrative Mobility Center Aiming for Smart Metropolis.

United States

The United States shared several of its key ongoing domestic projects, including work on automated vehicles as well as on infrastructure development. In regards to automated and connected vehicles, the United States released a set of voluntary guidance on the testing of autonomous vehicles in September 2017, known as "AV 2.0," and plans to release a set of follow-up guidance in July called "AV 3.0." With respect to infrastructure development, the United States intends to leverage US\$200 billion in government funding to leverage US\$1.5 trillion in infrastructure investment through Public-Private Partnerships and other innovative finance structures.

7. NOMINATION AND ELECTION

IIEG members elected Ms. Zhanghua from China to be the new Chair of the IIEG, and elected Mr. Jason Taylor from Canada to be the new Deputy Chair of the IIEG.

8.CLASSIFICATION OF MEETING DOCUMENTS

There were no documents tabled at the meeting that were considered to require restricted access.

ACKNOWLEDGEMENT

The IIEG would like to express its appreciation for the wonderful hospitality of the Republic of Korea in hosting the APEC TPT-WG 45 meeting. In particular, the IIEG thanks the officials of the Republic of Korea and APEC Secretariat for their excellent support to the IIEG.

The IIEG also thanked all the IIEG participants for their valuable contribution to the meeting.

ATTACHMENT A - IIEG MEETING ATTENDEE LIST

No	Given Name	Last Name	Economy	Department/Ministry	Division/Office	Position	E-Mail
1	Куоо Но	LEE	APEC Secretariat	-	-	Director	lkh@apec.org
2	Richard	Wood	Australia	Australian Government Department of Infrastructure, Regional Development and Cities	Portfolio Coordination and Policy Division	Acting Executive Director	Richard.wood@infrastru cture.gov.au
3	Jason	TAYLOR	Canada	Transport Canada	International Relations	A/Senior Policy Analyst	jason.taylor@tc.gc.ca
4	Weijun	FEI	China	China Waterborne Transport Research Institute	-	Deputy President	fwj@wti.ac.cn
5	Dawei	REN	China	Dept. of Comprehensive planning, Ministry of Transport	Comprehensive planning Division	Deputy Director	tiantil@sina.com
6	Fansheng	XING	China	Department of Science & Technology / Ministry of Transport	Technology innovation and development	Principal staff member	xingfs@mot.gov.cn
7	Hua	ZHANG	China	China Waterborne Transport Research Institute	Executive Office	Deputy Director	zhangh@wti.ac.cn nadia_zhang@126.com
8	Ellis	SIMBOLO N	Indonesia	Ministry of Transport	Directorate of Multimodal and Transport	Chief of Multimodal Transport Business Supervision	Ellis.simbolon@gmail.c om
9	Desi	WALUYAN TI	Indonesia	Ministry of Transport	Directorate of Land Transportation Traffic	Chief of Traffic Management	Desi_waluyanti@yahoo. com
10	Agus	NURDIYA NTO	Indonesia	Ministry of Transport	Directorate of Land Transportation Traffic	Traffic Policy Maker	agusnurdiyanto@yahoo .com

11	Masafumi	SUGANO	Japan	Ministry of Land, Infrastructure, Transport and Tourism	International Cooperation Office	Director	sugano- m2wg@mlit.go.jp
12	Keisuke	MAENO	Japan	Ministry of Land, Infrastructure, Transport and Tourism	International Cooperation Office	Deputy Director	maeno-k2ri@mlit.go.jp
13	Yoojin	CHANG	The Republic of Korea	Ministry of Land, Infrastructure and Transport	ITS and Road Safety Division	Assistant Director	Upjang80@korea.kr
14	Jang Ho	YUN	The Republic of Korea	The Korea Transport Institute	Department of Global Transport Cooperation	Research Fellow	jyun@koti.re.kr
15	Goang sung	JIN	The Republic of Korea	The Korea Transport Institute	Department of Global Transport Cooperation	Research Fellow	thomasjin@koti.re.kr
16	Seokcheon	YOON	The Republic of Korea	Intelligent Transport Society of Korea	International Cooperation Division	Associate Researcher	ysc88@itskorea.kr
17	Nurulhake em	HASIM	Malaysia	Ministry of Transport	Strategic Planning and International Division	Principal Assistant Secretary	hakeem@mot.gov.my
18	Misrun	TIMIN	Malaysia	Ministry of Transport	Strategic Planning and International Division	Undersecretary	misrun@mot.gov.my
19	Ted Mai	PAKII	Papua New Guinea	PNG Air Services Limited	Office of the CEO	Chief Executive Officer	ceo@pngairservices.co m.pg-
20	Philip	HABON	Papua New Guinea	Department of Transport	Office of Deputy Secreatry	Deputy Secretary	phabon@transport.gov. pg
21	Francis	KULUWA H	Papua New Guinea	Department of Transport	Transport Security Policy	Acting Director	fkuluwah@gmail.com
22	Telmo	DE LA CRUZ MUSCARI	Peru	Ministry of Transport	OGPP- Statistics	Director	tdelacruz@mtc.gob.pe
23	Irina	BYKOVA	The Russian Federation	Ministry of Transport	International Cooperation	Adviser	BykovalV@mintrans.ru
24	Hsin-Hsun	HUANG	Chinese Taipei	Ministry of Transportation and Communications	Institute of Transportation	Deputy Director General	lance@iot.gov.tw

25	Chien- Pang	LIU	Chinese Taipei	Ministry of Transportation and Communications	Office of Science and Technology Advisors	Engineer	chienpang.liu@gmail.co m
26	Jaching	CHOU	Chinese Taipei	Ministry of Transportation and Communications	Institute of Transportation	Senior Transportatio n Analyst	sltcv@iot.gov.tw
27	Pei-Chun	CHIOU	Chinese Taipei	Institute of Transportation / Ministry of Transportation and Communications	Information Systems Division	Researcher	pcchiou@iot.gov.tw
28	Chun-Yu	YEN	Chinese Taipei	Taiwan Institute of Economic Research	Division V	Group Leader	d19693@tier.org.tw
29	Yu-Shen	LIU	Chinese Taipei	Taiwan Institute of Economic Research	Division V	Associate Research Fellow	d32862@tier.org.tw
30	Jintawadee	SUKSRI	Thailand	Office of Transport and Traffic Policy and Planning	Planning Bureau	Plan and Policy Analyst	jintawadee.suk@otp.go. th
31	Jatuporn	NIEMSUK	Thailand	Ministry of Transport	International Affairs Division, Office of Permanent Secretary	Director	jniemsuk@yahoo.com
32	Mallika	PLOYNOI	Thailand	Ministry of Transport	International Affairs Division, Office of Permanent Secretary	Transport Technical Officer, Professional Level	mploynoi@gmail.com
33	Jirungruk	HUAYHO NGTHON G	Thailand	Ministry of Transport	Office of Transport and Traffic Policy and Planning	Policy and Plan Analyst (Professional Level)	poo.jirungruk@gmail.co m
34	Jason	HILL	The United States	U.S. Department of Transportation	Office of the Secretariat of Transportation	Senior Advisor	jason.hill@dot.gov
35	Joseph	TRAINI	The United States	U.S. Department of Transportation	Office of the Secretary of Transportation	Senior Regional Manager for Asia-Pacific	joseph.traini@dot.gov
36	Kristen Leigh	DAVIS	The United States	U.S. Department of Transportation	Office of International Aviation	Senior Negotiator	kristen.davis@dot.gov

37	Tuan Anh	LE	Viet Nam	Ministry of Transport	International Cooperation Department	Director General	anhlt@mt.gov.vn
38	Nguyen Viet Hung	DO	Viet Nam	Ministry of Transport of Vietnam	International Cooperation Department	Offcial	dnvhung85@gmail.com
39	Thi Phuong Hien	NGUYEN	Viet Nam	Ministry of Transport	Transport Development and Strategy Institute	Deputy Director General	ntphien@gmail.com