

*Building Resilient and Sustainable Cities through EST Solutions & Measures ~
Realizing the 2030 Agenda for Sustainable Development*

10-12 October 2017

**Regional EST Policy Dialogue and Training Workshop for
South Asia and South-East Asia**

Asian Institute of Technology (AIT), Pathumthani, Thailand

Co-Organized by:

United Nations Centre for Regional Development (UNCRD) of Division for Sustainable
Development (DSD) / UN DESA
United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP)
Ministry of Transport (MOT), the Royal Thai Government
Asian Institute of Technology (AIT)
Ministry of the Environment of the Government of Japan (MOEJ)
The Federal Ministry for Economic Affairs and Energy, Government of Germany
German International Cooperation (GIZ)
The Sustainable Urban Transport Project (SUTP)
Transformative Urban Mobility Initiative (TUMI)
Partnership on Sustainable, Low Carbon Transport (SLoCaT)

Partners and Supporting Organizers:

The Institute for Transportation and Development Policy (ITDP), 100 Resilient Cities,
International Road Transport Union (IRU), Sustainable Development Solutions Network (SDSN)
and ASUA, Japan

1. Background

Asia is one of the most populated regions in the world with a population of 4.4 billion people and growing Asian countries are now experiencing rapid economic growth, urbanization and motorization. Vehicle fleets across Asia are doubling every 5-7 years (ADB, 2012); and energy demand is increasing by 2.7% annually (Energy Outlook for Asia and the Pacific, 2013). As a result, the region's cities face severe challenges in meeting the rising demands for public infrastructure and services, including sustainable transport and responding to traffic problems.

The social, economic, health and other costs of environmental degradation are already high in Asia. It is estimated that road congestion alone costs developing countries 2-5% of their GDP (ADB, 2010). For example, Metro Manila traffic could cost the Philippine economy US\$3.27 billion a year in lost human productivity due to wasted hours and higher freight costs, among other problems (DOTC-Philippine, 2013). In addition, the cost of environmental degradation largely driven by sprawling cities is enormous. In the case of India, sprawling cities reduce India's GDP by 5.7%, amounting US\$80 billion annually (Tewari et al., 2014).

With only 16% vehicle share, Asia accounts for almost 60% of the world's traffic fatalities per year, which cost Asian countries a further 1-4% of their GDP (Global Status Report on Road Safety, 2013). According to WHO, the total number of deaths due to road accidents in the Asian EST region in 2013 was almost 700,000 which is 55% of the global number of deaths. The total estimated cost of road accidents in the Asian EST region in 2010 was US\$ 735 billion (Wismans et al., 2017).

Developing countries in Asia are also faced with some of the most severe air pollution problems. According to the Global Burden of Disease report, in 2010, air pollution contributed to 1.2

million premature deaths in East-Asia and People's Republic of China, and 712,000 premature deaths in South Asia (WHO, 2013). The total economic cost of health impacts of outdoor air pollution in People's Republic of China and India alone accounts for about US\$1.9 trillion in 2010 (Air Pollution-Health Impacts of Road Transport-OECD, 2014).

Moreover, Asia is one of the most disaster-prone regions in the world where infrastructure and basic services are quite vulnerable to the effects of natural disasters and climate change impacts. The frequency and intensity of the climate induced catastrophic events such as storms, extreme water events, heat waves and others lead to spiraling losses of almost two million lives and property damages of US\$1.15 trillion (UN ESCAP, 2015). For example, the floods that hit South India in 2015 cost India's economy an estimated US\$15 billion (Deccen Chitonicle, 6 December, 2015). As climate change impacts grow more severe South Asia and South East Asia could lose about 1.8% of its annual GDP due to climate change impacts by 2050, and progressively up to 11% by 2100 under the business-as-usual scenarios (Assessing the Costs of Climate Change and Adaptation in South Asia, 2014).

Roughly 80 percent of major Asian cities are exposed to floods and 45 percent of urbanized locales lay in flood-prone areas (World Bank, 2014). Increasing temperatures and rising sea levels threaten more than 50% of urban populations living in low-lying coastal zones or flood plains in informal settlements in numerous cities that are located on or near shores (ADB, 2011). However, climate proofing for existing and new infrastructure is not routine practice in South and South-East Asia. As a result, Asian countries and cities have faced unprecedented damage in the past several years. Therefore, there is an urgent need in Asian countries to build their cities and communities more climate and disaster resilient.

Consequently, the Sendai Framework for Disaster Risk Reduction 2015-2030, calls for *greater public and private investments in disaster risk prevention and reduction through structural and non-structural measures to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets as well as the environment*. Similarly, the third International Conference on Financing for Development held in Addis Ababa, Ethiopia, from 13 to 16 July 2015, called for—*a new initiative to ensure sufficient investment in sustainable and resilient infrastructure, including transport, communication, water and sanitation and energy, in all countries*. Target 11.2, of the 2030 Agenda for Sustainable Development, specifically calls for inclusive, safe, resilient and sustainable cities and human settlements through *“provision of access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons by 2030”*.

Transport policy, planning, and infrastructure development can fundamentally affect all levels of social, economic and environment resilience in cities and communities. Resilient transport infrastructure and services can significantly reduce economic losses associated with less sustainable transport in the long run, and at the same time, cities and communities could be better equipped to cope with disaster events and climate impacts. Climate consideration in the overall transport policy, planning and infrastructure development is critical to the resilience of Asian cities. EST plays a key role in making cities more resilient and liveable by designing safe, smart, efficient, affordable, accessible, and sustainable transport systems and providing access for the benefit of all. It supports scaling up capacity in cities for emergency response and the ability to manage and recover urban mobility systems during and after disasters. SDG 11 of the 2030 Agenda for Sustainable Development calls for concerted actions at local, national and international level to make cities and human settlements inclusive, safe, resilient and sustainable, which is also one of the priority themes of the 2018 High-Level Political Forum on Sustainable Development.

As an integral part of the Asian EST Initiative, United Nations Centre for Regional Development (UNCRD) with the cooperation of various organizations continuously organizes regional, sub-regional and country based EST training workshop-cum-policy dialogue to support

making cities and human settlements safer, smarter, and more liveable by integrating resilience in overall policies, planning, programmes, and development. The workshop shows how national, state and local governments and agencies should orient their transport policies and programmes to increase investments towards people and environment friendly, climate and disaster resilient infrastructure and services to minimize the loss of human life and socioeconomic damage.

With this background, as recommended by the participants of the 9th Regional EST Forum held in Kathmandu in 2015, United Nations Centre for Regional Development (UNCRD) of Division for Sustainable Development (DSD) / UN DESA, United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP), Ministry of Transport (MOT), the Royal Thai Government, Asian Institute of Technology (AIT), Ministry of the Environment of the Government of Japan (MOEJ), The Federal Ministry for Economic Affairs and Energy, Government of Germany, German International Cooperation (GIZ), The Sustainable Urban Transport Project (SUTP), Transformative Urban Mobility Initiative (TUMI) and Partnership on Sustainable, Low Carbon Transport (SLoCaT) will be co-organizing the Regional EST Policy Dialogue and Training Workshop for South Asia and South-East Asia, from 10 to 12 October 2017 in Pathumthani, Thailand. The training workshop is also supported by the Institute for Transportation and Development Policy (ITDP), 100 Resilient Cities, International Road Transport Union (IRU), Sustainable Development Solutions Network (SDSN) and ASUA, Japan.

2. The above training workshop has the following objectives:

- To foster a common understanding across Asia on essential elements of EST as well as the need for an integrated approach for addressing unsustainable transport practices, and to build more liveable, sustainable, safe and resilient Asian cities;
- To gain policy insights to EST solutions and measures in enhancing the sustainability, economic competitiveness and resilience of cities;
- To help cities in establishing sustainable transport planning goals, performance targets, standards and evaluation programs; and
- To enhance the capacity of Asian cities and local authorities in better addressing SDG-11 (*Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable*) through sustainable transport solutions and measures.

3. Participants

The targeted participants, including cities of South Asia, South East Asia, Mongolia, PR China, Republic of Korea and Japan. It is expected that the training workshop will be attended by approximately 60-65 participants, including city mayors, senior officials, experts and resource persons, and representatives from the co-organizers and supporting organizations.

4. Contact for Further Information

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Provisional Programme

**Regional EST Policy Dialogue and Training Workshop
DAY 1: 10 October 2017 (Tuesday)**

Planning the Resilient City

7:30-8:30	Registration
8:30- 9:30	Official Opening
8:30 – 8:40	Welcome Remarks Prof. Worsak Kanok-Nukulchai , President of the Asian Institute of Technology, Thailand (tbc)
8:40 – 9:00	Opening Address
8:40 – 8:45	- UN ESCAP
8:45 – 8:50	- UNCRD
9:50 – 8:55	- Mr. Yoshinori Suga , First Secretary and Alternate Permanent Representative of Japan to ESCAP, Embassy of Japan in Thailand
8:55 – 9:00	- Hon. Mr. Teerapong Rodprasert , Vice Minister, Ministry of Transport, the Royal Thai Government
9:00 – 9:15	Group Photo Session
9:15 – 9:45	Tea/Coffee Break
9:45 – 10:20	Introductory Session: Roots to Resilience
9:45 – 9:55	Introducing the Asian EST Initiative and the objectives of the Policy Dialogue and Training Workshop – by UNCRD
9:55 – 10:20	<i>Roots to Resilience – Experiences of 100 Resilient Cities</i> – by Lauren N. Sorkin , Regional Director, Asia Pacific, 100 Resilient Cities
10:30 – 12:00	Module 1: Environmentally Sustainable Transport Main Principles and Impacts: International Best Practices
	<i>Principles and impacts of public transport improvements, NMT, TDM, land use planning, institutions and integration</i> – by Manfred Breithaupt (30 min.)
	Topics to be covered in Module 1:
	<ul style="list-style-type: none"> ▪ Key elements towards successful cities ▪ Why cities need to become smart, resilient, livable and sustainable? ▪ Urban resilience through EST infrastructure and low-carbon transport services ▪ Instruments such as public transport enhancement, promotion of exclusive bus lanes, new street design, traffic calming and pedestrianization ▪ The power of integration and setting the required institutional framework ▪ Best practices/case studies/good examples
	Policy discussion and dialogue: (40 min)
	Moderator : Choudhury Rudra Charan Mohanty , Environment Programme Coordinator, UNCRD/UN DESA
	Comments by: (15 min) Singapore representative (tbc) Korean representative (tbc) Japanese representative (tbc) Experts
	Q & A and open discussion (5 min)
12:00 – 13:00	Networking Lunch

13:00 – 15:00	Module 2: Zooming in on Regional Resilience Plans for Urban Transport Services and Infrastructure
	<p><i>State of urban transport in Asia and Sustainable Urban Transport Index (SUTI) for Asian cities</i>– by Madan B. Regmi, United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) (20 min.)</p> <p>City presentations: <i>Presentation by: e.g. 100Resilient Cities on resilience and transport in Asia (15 min.)</i></p> <p><i>Sendai city’s approach for resilience – by Sendai city (tbc) (15 min.)</i></p> <p>Comment by : City representative Experts</p> <p>5 World Café round tables: How to make your city more resilient (40 min) Guiding questions:</p> <ul style="list-style-type: none"> ▪ <i>Which concepts can make your city more resilient?</i> ▪ <i>How can integrated land-use planning and public transport planning help to build resilient cities?</i> ▪ <i>How can cycling and walking improve the resilience of cities?</i> ▪ <i>Which are the challenges to implement proven best practices for more resilience in your city?</i> ▪ <i>How to kick of a deepened dialogue for more resilience through land use planning and sustainable urban transport in your region?</i> <p><i>Reverting back, policy discussion and dialogue: (30 min.)</i></p> <p>Moderator : Lauren N. Sorkin, Regional Director, Asia Pacific, 100 Resilient Cities</p>
15:00 – 16:00	Module 3: Transforming the Urban Spaces through Street Design
	<p><i>Transforming the Urban Spaces through Street Design – by Deng Han, NMT & Urban Development Program Engineer, the Institute for Transportation and Development Policy (ITDP) (tbc) (20 min)</i></p> <p>Topics to be covered in Module 3:</p> <ul style="list-style-type: none"> ▪ <i>Innovative design solutions for smart, resilient, livable and sustainable cities</i> ▪ <i>Safer and people centered design (pedestrians first)</i> ▪ <i>Transport network design and route planning: How to design streets for safe and convenient access?</i> ▪ <i>Climate and disaster resilient designs</i> ▪ <i>Planning design and impact assessment</i> ▪ <i>Best practices/case studies/good examples</i> <p>Presentations: <i>Land use planning Principles and Transit-Oriented Development (TOD) for Resilient cities and Communities – by Li Wei, Senior Engineer, the Institute for Transportation and Development Policy (ITDP) (20 min.)</i></p> <p><i>TOD cases of Japan-policy, Institutions and Financial Mechanism – by (15 min.)</i></p> <p>Q & A and open discussion</p>
16:00 – 16:30	Tea/Coffee Break

16:30 – 18:00	Module 4: Tools for Resilience-Checking/Proofing from Planners’ Prospective -Including Examples of Land Use Planning
	<p>Speaker: Daniel Ernesto Moser, Sustainable Urban Mobility Consultant, GIZ (20 min)</p> <p>Presentations: <i>Toyama city’s Public Transport Planning and Development toward Resilience- Case of Toyama</i> – by Toyama City Government (15 min.) (tbc)</p> <p><i>Resilience Planning in Cities taking part in the GermanProject- Concepts and the Way forward</i> – by Friedel Sehleier, GIZ (15 min.) (tbc)</p> <p>Comments by: City representatives Experts</p> <p>Policy discussion and dialogue: (30 min.)</p> <p>Moderator : Cornie Huizenga, Secretary General, Partnership on Sustainable, Low Carbon Transport (SLoCaT) (tbc)</p> <p>Topics to be covered in Module 4:</p> <ul style="list-style-type: none"> ▪ Safer, resilient and people-centered design ▪ More resilient cities through effective land use planning ▪ Understand and estimating risks of natural disaster and climate change impacts ▪ Importance of data collection (city risk information), analysis and application ▪ Improve monitoring and control systems on transport ▪ Increase adaptation capacity to climate impact ▪ Establish organizations and institutions for resilience cities ▪ Strengthening the financial capacity for resilience of cities ▪ Promote good governance, partnerships and institutional capacity ▪ Technical assistance & capacity building for local/city officials and city residence ▪ Best practices/case studies/ good examples ▪ Lessons learned and way forward <p>Q & A and open discussion (10 min)</p>
18:00-21:00	<p style="text-align: center;">Welcome Reception</p> <p>Hosted By: Asian Institute of Technology (AIT), Pathumthani, Thailand Venue:</p>
<p>DAY 2: 11 October 2017 (Wednesday)</p> <p>Planning the Resilient City</p>	
9:00 – 10:00	Module 5: Strengthen Resilience through Improved Road Safety
	<p><i>Road safety situation in Asian countries and cities in the context of Regional Road Safety Goals and Targets for Asia and the Pacific</i>– by Ms. Thanattaporn Rasamit, United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) (tbc) (20 min)</p> <p>Policy discussion and dialogue: (30 min.)</p> <p>Moderator: Madan B. Regmi, United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP)</p> <p>Topics to be covered in Module 5:</p> <ul style="list-style-type: none"> ▪ Public transport and road safety ▪ Road safety problems in Asian cities

	<ul style="list-style-type: none"> ▪ <i>Key factors affecting urban road safety</i> ▪ <i>Policy measures for road safety improvement</i> ▪ <i>Road safety institutions</i> ▪ <i>Infrastructure for safety improvements</i> ▪ <i>Roadside safety - barriers and road maintenance</i> ▪ <i>Importance of vehicle safety measurements</i> ▪ <i>Use of ITS for improving road safety</i> ▪ <i>Road safety and gender considerations</i> ▪ <i>The most cost-effective road safety measures</i> ▪ <i>Road safety awareness</i> ▪ <i>Economic impact of road safety improvements</i> ▪ <i>Best practices/case studies/good examples</i> ▪ <i>Lessons learned and way forward</i> <p><i>Q & A and open discussion (10 min.)</i></p>
10:00-10:30	Tea/Coffee Break
10:30-11:30	Module 6: Green Freight and Eco-driving for Resilience and Sustainable Cities
	<p><i>Green Freight and Logistic for Resilience and Sustainable Cities – by Robert Earley (20 min) (tbc)</i></p> <p>Presentations: <i>Eco-driving for Resilience and Sustainable Cities– by Hiroshi Maji, President, ASUA, Japan (tbc) (15 min)</i></p> <p>Topics to be covered in Module 6:</p> <ul style="list-style-type: none"> ▪ <i>Green freight and logistics for resilient cities</i> ▪ <i>Benefits of green freight and logistics</i> ▪ <i>Eco-driving concept</i> ▪ <i>Advantages of driving economically</i> ▪ <i>Best practices/case studies/good examples</i> ▪ <i>Lessons learned and way forward</i> <p>Comments by: City representatives Experts</p> <p><i>Q & A and open discussion (10 min.)</i></p>
11:30 – 12:30	Networking Lunch

DAY 2: 11 October 2017 (Wednesday)	
Project Preparation -Building the Resilient City	
12:30 start	Module 7: Designing and Implementing Sustainable Transport Infrastructure and Services in Developing Nations
12:30-13:00	<p><i>Introduction (Speaker: Phil Sayeg)</i></p> <ul style="list-style-type: none"> ▪ Objectives ▪ Program timing ▪ Resources ▪ Quick introductions

13:00-13:15	<p><i>Transport & the global agendas (Speaker: Nikola Medimorec, SLoCaT)</i></p> <ul style="list-style-type: none"> ▪ Transport targets in the Sustainable Development Goals – transport is an enabler/ derived demand ▪ Why transport is important to the Paris Climate Agreement ▪ Other global agendas (road safety, finance, UN-Habitat – urban agenda). ▪ Significance of social versus climate benefits of transport ▪ Timing & role of technology versus behavioral change/ shift approaches – we discuss both in more detail in program
13:15-13:45	<p><i>How are projects prepared? (Speaker: Phil Sayeg and Chanin Manopiniwes)</i></p> <ul style="list-style-type: none"> ▪ Key steps of project cycle ▪ How does project cycle relate to government strategy & programs ▪ Importance of Concept ▪ Role of Project Preparation ▪ Key components of project preparation (technical, demand, business case, safeguards etc.) ▪ Being mindful of what you cannot manage ▪ Role of results measurement
13:45-15:00	<p><i>Why is concept important? (Speaker: Phil Sayeg and Chanin Manopiniwes)</i></p> <ul style="list-style-type: none"> ▪ Problem identification in theory and in practice – analysis, stakeholders ▪ Identification of needs – alternative approaches ▪ Importance of wide range of options ▪ How to identify needs, formulating responses, impacts, where to get the information? ▪ Discussion/ exercise
15:00 – 15:30	Tea/Coffee Break
15:30-16:30	<p><i>Closer look at project preparation (Speaker: Phil Sayeg and Chanin Manopiniwes)</i></p> <ul style="list-style-type: none"> ▪ Responsibilities for project preparation: in context of case study ▪ How project preparation fits in with sector plans and programs ▪ Business case versus project preparation ▪ Optimism bias – overestimating demand and underestimating cost ▪ Potential for technical optimization ▪ Scope of economic evaluation and significance of benefits – why economics is important, more in afternoon ▪ Why development institutions may focus on managing social and environmental safeguard risks ▪ Approaches for improving social and environmental outcomes ▪ Enhancing environmental outcomes through regulatory/ financing options ▪ Discussion/ exercise: Putting your Terms of Reference together and specifying what skills you need
16:30-17:00	<p><i>Innovative approaches (Speake: Phil Sayeg and Chanin Manopiniwes)</i></p> <ul style="list-style-type: none"> ▪ Innovative approaches needed to overcome non-functioning governments, harness the potential of local governments/ private sector. Real-life examples.
DAY 3: 12 October 2017 (Thursday)	
9:00–10:30	Module 7: Designing and Implementing Sustainable Transport Infrastructure and Services in Developing Nations...continued
9:00 – 9:45	<p><i>Demand and economic benefits (Speaker: David Bray)</i></p> <ul style="list-style-type: none"> ▪ Demand assessment approaches – survey of existing use are always useful, treatment of induced demand

	<ul style="list-style-type: none"> ▪ Importance of user utility functions for demand assessment and economic evaluation ▪ Revealed choice versus Stated Preference for determining utility functions ▪ Designing BRT to maximize welfare (economic perspective)
9:45 – 10:30	<p><i>Exercise in benefits estimation (Speaker: David Bray)</i></p> <ul style="list-style-type: none"> ▪ Evaluation of a bus lane ▪ The benefit equations ▪ How to apply them ▪ Common-sense checks
10:30-11:00	Tea/Coffee Break
11:00-12:00	<p><i>Risk allocation & private sector participation (Speaker: David Bray)</i></p> <ul style="list-style-type: none"> ▪ What are risks? ▪ Creating a risk register ▪ How different procurement modalities may treat risk ▪ Integrating risk assessment into project evaluation ▪ <i>Exercise:</i> identifying key risks for a BRT and think through how different parties may manage them
12:00 – 12:30	Wrap-up/ discussion (<i>Phil Sayeg and David Bray</i>)
12:30 – 13:30	Networking Lunch
13:30-17:00	Module 8: Interactive Session - Planning for the Future of your City <i>Strengthen planning and institutional capacity for city resilience</i>
	<p>Interactive Session- Planning for the Future of your City by ((Speaker: <i>Manfred Breithaupt</i>)</p> <p>Interactive development and debate of a SUT Plan considering people orientation, cost-effectiveness and integration</p> <p><i>Consideration to be given to (among other items):</i></p> <ul style="list-style-type: none"> ▪ <i>Proper demand assessment</i> ▪ <i>Alternative analyses</i> ▪ <i>People oriented infrastructure design</i> ▪ <i>Evaluating institutional arrangements for project viability</i> ▪ <i>Supporting TDM measures</i> ▪ <i>Setting up an appropriate financing framework to ensure maintenance and expansion of the SUT system</i> ▪ <i>Assessing the right moment for project implementation</i> <p>Group Work: Diving into detail - Work at roundtables (Each group presenting its results)</p>
17:00 – 17:30	Wrap up, Course Evaluation and Handout of Certificates
18:00-21:00	Technical Field Trip cum Reception: Visit to Inland Water System in the Chao Phraya River Hosted By: ASUA, Japan