

REPORT OF ACTIVITIES: 2014-2017

1. Introduction

This report summarizes the activities of the Institute of Transport Studies (ITS) at the University of Hong Kong from 1 May 2014 to 30 April 2017.

1.1 Background

Transport is important to the people and economy of Hong Kong. Many millions of dollars could have been saved if we spend less time on transport. There are over 7.3 million people in Hong Kong. If everyone in Hong Kong could save 10 minutes a day on transport through the use of intelligent transport system and better land use-transport planning and the saving is just 1 dollar per minute, we could have saved 73 million dollars a day and over 26.6 billion dollars a year. This amount would have been even much higher if we include the time that could be saved in transporting goods. Transport also closely affects the air quality and sustainability of our environment. We could save much energy and have a cleaner environment if we use more public transport and mass transit system and cleaner fuel. Although compared with other cities in Asia, we already have a very good transport system in Hong Kong. There is still much research to be carried out to improve the efficiency, equity, safety, comfort, services, and environmental friendliness of our transport system for a better Hong Kong. For example, we will have a much better living environment and make Hong Kong more competitive if we can reduce the air pollution from our transport system.

The transport sector has played a role of fundamental importance in the development of Hong Kong and will continue to do so in the future. Hong Kong's status as a global city derives in large part from the role that it plays as a key hub in the international air transport and maritime shipping systems. The future development of Hong Kong will be closely linked to its continuing role as the leading port in southern China.

1.2 Mission & Objectives

The Institute of Transport Studies is a university centre. It seeks to identify research programmes as mission oriented activities and not by traditional academic disciplines alone. In doing so it would undertake to:

- establish a database of academic staff and research students in the University engaged in transport related research, their areas of special expertise, the titles of the projects in which they are engaged,
- promote through its activities collaboration within the University on multi- and inter-disciplinary transport research and the application of research grants,
- promote inter-institutional, regional and international cooperation in transport studies,
- publicize locally and internationally the image of the University as an institution committed to transport studies in Hong Kong, the region and worldwide, and
- organize seminars, conferences, and workshops on transport studies.

1.3 Membership

The terms of the following 13 Institute Fellows of ITS were renewed during the review period:

Professor C.C. Chan is Honorary Professor at the Department of Electrical and Electronic Engineering, and President of the Electric Vehicle Association of Asia Pacific. He is Academician of the Chinese Academy of Engineering, China, and Fellow of the Royal Academy of Engineering, U.K. His fields of interests include electric and hybrid electric vehicles and intelligent transportation system.

Dr. Felix W.H. Chan is Associate Professor at the Faculty of Law. His fields of interests include shipping and logistics law, international commercial law, and use of statistical data in legal proceedings.

Dr. Timothy Doe-kwong Hau is Associate Professor at the School of Economics and Finance. His fields of interests include transportation economics, project evaluation, applied discrete choice econometrics, and public economics.

Professor P.C. Lai is Professor at the Department of Geography. Her fields of interests include geographic information systems design and applications, transport geography and network analysis, digital mapping and cartographic visualization, and urban and network geodata modeling.

Dr. Wong-hing Lam is Assistant Professor at the Department of Electrical and Electronic Engineering. His fields of interests include mobile radio communications, and intelligent transport services/systems.

Professor Dennis Y.C. Leung is Professor at the Department of Mechanical Engineering. His fields of interests include vehicular emission control, air pollution control, dispersion modeling, and energy conversion. Professor Leung was elected Fellow of the Hong Kong Institute of Acoustics in 2003, and appointed Honorary Professor of the Guangzhou Institute of Energy Conversion of the Chinese Academic of Science from 2005-2007.

Dr. Weifeng Li is Assistant Professor at the Department of Urban Planning and Design. His fields of interests include environmental sustainability, land use and transportation planning interactions and the environmental energy effects, GIS and spatial analysis in urban planning.

Professor Becky Pui-ying Loo is Professor at the Department of Geography, and Director of ITS. Her fields of interests include transportation (infrastructure, road safety, sustainable urban transport and travel behaviour), spatial analysis (surveys, applied GIS and data modeling), and economic geography (globalization and information society).

Dr. Grantham K.H. Pang is Associate Professor at the Department of Electrical and Electronic Engineering. His fields of interests include intelligent transportation systems, LEDs for signaling and communication intelligent control, and fuzzy system and neural net. Dr. Pang was invited to be a contributor to the Encyclopedia of Life Support Systems published by United Nations Educational, Scientific and Cultural Organization (UNESCO). The contributed article is entitled "Blackboard Architecture for Intelligent Control".

Dr. W.Y. Szeto is Associate Professor at the Department of Civil Engineering, and Deputy Director of ITS. His fields of interests include transport network design, transport network reliability, public transport, dynamic traffic assignment, landuse-transport-environment, transport logistics, game theoretical transport problems, and meta-heuristics for transport and logistics.

Dr. James Jixian Wang is Associate Professor at the Department of Geography. His fields of interests include port-city relationship, transportation geography, travel behavior modeling, time budget/use studies, urban public transport in Hong Kong and China, and container port systems.

Professor S.C. Wong is Francis S Y Bong Professor in Engineering, Chair of Transportation Engineering and Head of the Department of Civil Engineering. His fields of interests include traffic signals, network modeling, continuum modeling, urban taxi services, and road safety. Professor Wong received the NSFC Young Researcher Award from the National Natural Science Foundation of China in 2007, and Outstanding Researcher Award from the University of Hong Kong in 2009.

Professor Anthony G.O. Yeh is Chair Professor (Urban Planning and Geographic Information Systems) at the Department of Urban Planning and Design, and Founding Director of ITS. He is Academician of the Chinese Academy of Science. His fields of interests include land use planning, GIS, transport information system, and road signs.

The following three Institute Fellows of ITS were newly accepted during the review period:

Professor George G.Q. Huang is Professor and Head of Department at the Department of Industrial and Manufacturing Systems Engineering. His fields of interests include supply chain and logistics engineering, cyber-physical systems, smart logistics and smart manufacturing.

Dr. Jiangping Zhou is Associate Professor at the Department of Urban Planning and Design. His fields of interests include transport policy and planning, sustainable commute among university members and Big Data application in transport/ urban studies.

Dr. Pengyu Zhu is Assistant Professor at the Department of Geography. His fields of interests include travel behaviour, transportation policy and interactions between transportation, land use and economic development.

The following two Institute Fellows of ITS have departed HKU during the review period:

Dr. Nelson Yung was Associate Professor at the Department of Electrical and Electronic Engineering. He retired in early 2016.

Dr. Feng Zhang was Assistant Professor at the Department of Urban Planning and Design. He left HKU in mid-2016.

The term of one Honorary Fellow of ITS was renewed during the review period:

Professor C.K. Mak is University Fellow and Honorary Professor at the Department of Civil Engineering. His fields of interests include transport policy and planning, planning and administration of railway and transport infrastructure development, sustainable development of the built environment.

The following six Honorary Fellows of ITS were newly accepted during the review period:

Ir T.N. Cheng is President of the Hong Kong Institution of Highways and Transportation (HKIHT). His fields of interests include highways engineering, transportation planning and new town development.

Ir T.F. Leung is former Assistant Commissioner for Transport at the Transport Department, HKSAR Government. His fields of interests include road safety, Intelligent Transport Systems and traffic management.

Ir W.C. Mok is Assistant Director (Air Policy) at the Environmental Protection Department, HKSAR Government. His fields of interests include vehicular emission control and policy, electric vehicles, hybrid electric vehicles and air quality.

Ir Andrew Pickford is Director of Infrastructure and Transport Advisory Services at MVA Asia. His fields of interests include Intelligent Transport Systems, public and private sector road network operations, transport policy-making, Mobility As A Service (MAAS), electronic toll collection/ electronic road pricing, managed motorways, enforcement, procurement strategies, standardization, performance management, road network monitoring systems, mobile location services and vehicle telematics (connected/ autonomous vehicles, etc.)

Ir W.L. Tang is Assistant Commissioner for Transport at the Transport Department, HKSAR Government. His fields of interests include transport and urban planning, traffic management, smart mobility and walkability and development of new towns and road infrastructures.

Mr W.H. Tsang is President of The Chartered Institute of Logistics and Transport in Hong Kong (The CILTHK Council 2016-2018). His fields of interests include evolution of transport demand and travel behaviour, emphasis on sustainable development and environmental measures and development of transport technologies and applications.

A new category of Student Fellowship was set up during this review period. Registered research postgraduate students in the transport and logistics field at the University of Hong Kong are eligible for appointment as Student Fellows, upon nomination by a Fellow of ITS. During the review period, the following 16 research postgraduates were accepted as Student Fellows:

Miss Yiran Cheng, Mr Baicheng Li, Ms Ying Liu, Mr Chin Shum Shui, Miss Sujun Sun, Ms Yue Wang, Mr Wai Wong, Ms Jiemin Xie, Mr Linchuan Yang and Mr Wenhan Yang, from the Department of Civil Engineering.

Mr Kevin Y.K. Leung, Mr Alhassan Siiba, Mr Ka Ho Tsoi and Mr Bo Wang, from the Department of Geography.

Miss Jing Song and Mr Fang Bian from the Department of Urban Planning and Design.

A new category of Affiliate Fellowship was set up during this review period. Full-time HKU research staff (including Research Assistants and Post-doctoral Fellows) working on transport-related projects with ITS Fellows, HKU alumni (particularly former ITS Student Fellows) whose work is related to transport studies, and former professoriate staff (especially those who have formerly served as ITS Fellows) are eligible for appointment as Affiliate Fellows. During the review period, the following two Affiliate Fellows were newly accepted:

Dr. Alice S.Y. Chow is Assistant Professor at the Department of Social Science of The Education University of Hong Kong. Her fields of interests include urban form and travel studies, sustainable transport policy, transit-oriented development and excess commuting.

Dr. Tony N.N. Sze is Assistant Professor at the Department of Civil and Environmental Engineering of The Hong Kong Polytechnic University. His fields of interests include road safety, injury prevention, driver behaviour and application of statistical methods.

2. Management

During the review period, 3 Management Committee Meetings were held on 9 February 2015, 15 March 2016 and 2 March 2017. During the review period, one Memorandum of Understanding Agreement with The University of Seoul to strengthen mutual understanding, to foster friendly cooperation, and to promote academic collaboration and exchange in the pursuit of excellence in scholarship and to stimulate research in transport studies, was renewed for five years until 31 December 2020.

3. Fund Raising

During the review period, a total donation of HK\$454,000 to support the organization of the Distinguished Transport Lecture Series 2015, 2016 and 2017, was received from the following organisations:

1. Airport Authority Hong Kong
2. AMS Public Transport Holdings Limited
3. Arup
4. Autotoll Limited
5. Buspak Advertising (Hong Kong) Limited
6. CITIC Pacific Limited
7. CKM Asia Limited
8. DEKS Air (Hong Kong) Limited
9. DHL Global Forwarding (Hong Kong) Limited
10. Hong Kong Tramways, Limited
11. Hongkong International Terminals Limited
12. Kwoon Chung Bus Holdings Limited
13. MTR Corporation Limited
14. Octopus Cards Limited
15. Pacific Air Limited
16. Shun Yuen Construction Company Limited
17. SIMX Global Limited
18. The "Star" Ferry Company, Limited
19. The Kowloon Motor Bus Company (1933) Limited
20. Worldwide Flight Services

4. Activities

4.1 Distinguished Transport Lecture Series

The Distinguished Transport Lecture Series was launched in 2009. Each year, we invite internationally renowned and distinguished experts and scholars to visit Hong Kong to deliver public lectures in the transport field, with the aims of promoting excellence in transport research and development in Hong Kong and stimulating discussion and the exchange of views between international experts and scholars and local researchers and professionals. During the review period, the following Distinguished Transport Lectures were organized:

- Distinguished Transport Lecture, “The Fascinating History of the Vehicle Routing Problem”, by Professor Gilbert Laporte, HEC Montreal, Canada; 22 Aug 2014
- Distinguished Transport Lecture, “Driving Less: Reducing Vehicle-Miles Traveled (VMT) in the Land of Freeways”, by Professor Susan Handy, The University of California, Davis, USA; 17 Dec 2014
- Distinguished Transport Lecture, “Reforming Motor Insurance Law”, Professor Rob Merkin QC, University of Exeter, UK; 27 May 2015
- Distinguished Transport Lecture, “On the Geography of Road Accidents: Challenges and Opportunities”, Professor Isabelle Thomas, Universite Catholique de Louvain, Belgium; 24 Nov 2015
- Distinguished Transport Lecture, “Tackling Traffic Congestion from both the Control and Demand Perspectives”, by Professor Gang-Len Chang, University of Maryland, U.S.A.; 16 Dec 2015
- Distinguished Transport Lecture, “Challenges and Opportunities of Hong Kong's Aviation Industry”, by Professor Anming Zhang, University of British Columbia, Canada; 20 Sep 2016
- Distinguished Transport Lecture, “How Many Cars are Too Many?”, by Professor Kay W. Axhausen, Eidgenössische Technische Hochschule (ETH) Zürich, Switzerland; 14 Oct 2016
- Distinguished Transport Lecture, “Towards the Next Generation of Integrated Urban Models”, by Professor Eric Miller, University of Toronto, Canada; 9 Dec 2016
- Distinguished Transport Lecture, “On Harnessing the New Data Landscape for Transportation-Related Behavioral Analysis”, by Professor Chandra Bhat, The University of Texas at Austin, USA; 17 Feb 2017

4.2 Collaborative Opportunities

The Institute has offered the opportunities for members to explore potential collaborative research projects. During the review period, two collaborative projects among members were completed:

“‘Walkability’ in Pedestrian Planning and Enhancement of Pedestrian Networks in Hong Kong”, PLB(Q)016/2015, funded by the Development Bureau with an amount of HK\$1,400,000 (PI: Professor Becky P.Y. Loo)

Department of Civil Engineering and Institute of Transport Studies (2015) Review for Study on Applying Adjustment/Calibration Factor to Car Journey Time Survey Conducted beyond the Regular Survey Period (Agreement No. TD 48/2015) with an amount of HK\$226,000 (PI: Professor S.C. Wong)

4.3 Seminars and Others

The following activities were organized during the review period:

- Seminar (w/ CILTHK), “30 Years of Achievement in Transportation: The Past, Present and Future”, half-day seminar with multiple speakers; 31 May 2014
- Seminar (w/ Civ Eng), “Airfield and Airport Terminal Designs” by Mr. William F. Yim, Aviation Consultant and Senior Planner, Santa Barbara County Association of Governments, California, USA (Ret.); 3 Jun 2014
- Seminar (w/ Civ Eng and HKSTS), “Game Theoretic Genetic Algorithms to Solve Network Server Assignment Problem Considering Attacks” by Professor Sadan Kulturel-Konak, Visiting Professor, The Chinese University of Hong Kong and Professor, The Pennsylvania State University, Berks, PA, USA; 10 July 2014
- Seminar (w/ Geog), “When 99.9% On Time is Not Enough” by Dr. Jacob Chak-pui Kam, Head of Operations Engineering at MTR Corporation Ltd, Hong Kong; 29 September 2014
- Seminar (w/ MATPP), “Reducing Greenhouse Gas Emissions in the Transportation Sector” by Professor Robert Noland, Edward J. Bloustein School of Planning and Public Policy, Rutgers University, USA; 21 October 2014
- Seminar (w/ Civ Eng & HKSTS), “Network Modelling for Road Closure Assessment”, Dr. James Luk, Australian Road Research Board (ARRB Group) Victoria, Australia; 23 October 2014
- Seminar (w/ MATPP), “Cycling as everyday mobility: Trends and policies in the Netherlands” by Professor Luca Bertolini, University of Amsterdam, The Netherlands; 28 November 2014
- Seminar (w/ MATPP), “Interactive Location Decisions: An Airport Example”, Professor Yupo Chan, University of Arkansas at Little Rock, USA; 26 March 2015
- Seminar (w/ Civ Eng, Ind Eng & HKSTS), “Zone-based Dynamic Facility Layout Problem”, Professor Sadan Kulturel-Konak, Visiting Professor, The Chinese University of Hong Kong and Professor, The Pennsylvania State University, Berks, PA, USA; 13 July 2015
- Seminar (w/ MATPP), “The Future of our Roads to 2020 and Beyond”, Ir Andrew Pickford, Director, Infrastructure and Transport Advisory Services, MVA; 2 Oct 2015
- Seminar (w/ MATPP), “Time Determinant in Container Shipping and Port Competitiveness”, Professor Claude Comtois, University of Montreal; 20 Nov 2015
- Seminar (w/ Civ Eng & HKSTS), “Road Pricing: An Impeccable Policy - how can we sell it?”, by Professor Juan de Dios Ortuzar, Pontificia Universidad Catolica de Chile, Chile; 2 Dec 2015
- Seminar (w/ Geog & HKSTS), “How much is too much for tolled road users: toll saturation and the implications for car commuting value of travel time savings?”, by Professor David A. Hensher, The University of Sydney, Australia; 15 Jan 2016
- Seminar (w/ Civ Eng & HKSTS), “The heterogeneous green vehicle routing and scheduling problem with time-varying traffic congestion”, by Professor Abdullah Konak, Pennsylvania State University-Berks, USA; 11 Jul 2016
- Seminar (w/ MATPP), “Flows of Finance and the Flows of a City: How One Corporation came to Control Australia's East Coast Motorways”, by Professor Phillip O'Neill, Western Sydney University, Australia; 18 Nov 2016

- Seminar (w/ MATPP), “Recent Challenges Faced by the Freight Logistics Industry”, by Mr Cliff Sullivan, Senior Vice President, A-Sonic Logistics HK; 24 Feb 2017
- Seminar (w/ MATPP), “Franchised Bus Services: Challenges, Innovation and the Way Forward”, by Mr. Roger Lee, Managing Director and Mr. Godwin So, General Manager (Corporate Planning and Business Development), The Kowloon Motor Bus Company (1933) Limited; 24 Mar 2017

The Institute has been a supporting organization for the following events

- Global Port Research Alliance (GPRA) 2015 Conference (Supporting Organization, organized by Shipping Research Centre, the Hong Kong Polytechnic University), “Port and Logistics Connectivity,” 21-22 May 2015.
- Summer School (w/ Shandong University), “The 3rd Shandong University International Summer School on Transportation – Urban Transport Management”, 31 July – 14 August 2016.
- Public Forum (Academic Supporting Partner, organized by Civic Exchange), “The Hong Kong Jockey Club Public Forum: Walking Towards a Low-Carbon Hong Kong”, Walk21 Hong Kong, the 17th annual Conference on Walking and Liveable Communities; 6 October 2016.

5. Future Plans

5.1 Distinguished Transport Lecture Series

- Distinguished Transport Lecture, “Shrinking Supply Chains and the Consequences for Ports and Maritime Logistics”, by Professor Michael Bell, The University of Sydney, Australia; 20 Oct 2017

5.2 Collaborative Opportunities

Institute members will join effort to explore collaborative opportunities with the University of Toronto (Professor Eric Miller) and The University of Texas at Austin (Professor Chandra Bhat).

5.3 Other Planned Activities

- Seminar (w/ MATPP), “Realising Innovations with Design Thinking: Examples from Transport and Beyond”, by Dr. Edmund Lee, Executive Director, Hong Kong Design Centre; 5 May 2017
- Conference (w/ HKU Civ Eng, HKUST Civ Eng and HKSTS), “The 7th International Symposium on Dynamic Traffic Assignment (DTA): Smart Transportation”, Hong Kong, 6-8 June 2018
- Conference (w/ CILTHK, tentative), “Future Smart Mobility and Logistics” (tentative), The University of Hong Kong, 2018

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