FULL NAME: Ta-Yin Hu
TITLE: Professor
Department of Transportation and Communication Management Science & Institute of Telecommunication Management
National Cheng Kung University, Taiwan
DATE OF BIRTH: 12/11/1963
CITIZENSHIP: Taiwan

EDUCATION

1990-1995:   **The University of Texas at Austin**, Austin, TX, U.S.A.
Ph.D. in Civil Engineering; Major Area: Traffic and Transportation Analysis
1985-1987   **National Chiao Tung University**, Taiwan, R.O.C.
Master of Science in Traffic and Transportation Engineering
1981-1985   **National Cheng Kung University**, Taiwan, R.O.C.
Bachelor of Science in Civil Engineering

CURRENT AND PREVIOUS ACADEMIC POSITIONS:

Affiliation	Department	Position	Date
National Cheng Kung University	Department of Transportation and Communication Management Science & Institute of Telecommunication Management	Professor	2005/08-present
Northwestern University	Northwestern University transportation Center (NUTC)	Visiting Scholar	2016/01-2016/09
National Cheng Kung University	Department of Transportation and Communication Management Science & Institute of Telecommunication Management	Professor and Chairman	2012/08-2015/07
National Cheng Kung University	Department of Transportation and Communication Management Science & Institute of Telecommunication Management	Professor and Director of University Development Division	2011/08-2012/07
National Cheng	Department of	Professor	2005/08-2011/07

Kung University	Transportation and Communication Management Science & Institute of Telecommunication Management		
Feng Chia University	Dept. of Traffic and Transportation Engineering and Management	Professor	2002/08 – 2005/07
Feng Chia University	Dept. of Traffic and Transportation Engineering and Management	Professor and Chairman	2002/08~ 2003/07
Feng Chia University	Dept. of Traffic and Transportation Engineering and Management	Associate Professor and Chairman	1999/08~ 2002/07
Feng Chia University	Dept. of Traffic and Transportation Engineering and Management	Associate Professor	1995/08 ~ 2002/07
The University of Texas at Austin	Center for Transportation, Department of Civil Engineering	Research Associate	1995/05 ~ 1995/08
The University of Texas at Austin	Center for Transportation, Department of Civil Engineering	Graduate Research Assistant	1990/09 ~ 1995/04
Institute of Transportation, MOTC	High Speed Rail Project Office	Transport Planner	1989/06 ~ 1990/05

Research Interests:

Impact of Climate Change on Transportation Planning

Resilience for Transportation Infrastructure

Smart City and Smart Mobility

Autonomous Vehicles and Its Applications

Transport Sustainability

Transportation Planning,

Traffic Simulation,

Dynamic Vehicle Routing Problems,

Traffic Flow Theory,

Recent Academic Activities
- 2015, General Chair of the 3rd International Conference on Evacuation Modeling and Management
- 2012, General Chair of the Annual Meeting of Chinese Institute of Transportation

-   2001, General Chair of the 5th Conference on Network Analysis and Modeling in Taiwan

PUBLICATIONS:

A. Referred Journal Papers in International Journals

01. Tsai-Yun Liao, **Ta-Yin Hu**, and Yi-Ni Ko (2018), "A Resilience Optimization Model for Transportation Networks under Disasters," Natural Hazards. https://doi.org/10.1007/s11069-018-3310-3. (SCI)

02. **Ta-Yin Hu**, Chee-Chung Tong, Tsai-Yun Liao and Li-Wen Chen (2018), "Dynamic Route Choice Behaviour and Simulation-Based Dynamic Traffic Assignment Model for Mixed Traffic Flows", KSCE Journal of Civil Engineering, Vol. 22, No. 2, pp. 813-822 (SCI)

03. Tsai-Yun Liao, **Ta-Yin Hu**, and Yu-Wen Wu (2017), "A Time-Dependent Vehicle Routing Algorithms For Medical Supplies Distribution Under Emergency," Operations and Supply Chain Management: An International Journal, Vol. 10, No. 3, 2017, pp. 161 – 169.

04. Tsai-Yun Liao, **Ta-Yin Hu**, Ya-Han Chang, and Chia-Fan Hsu (2017), "A Multi-objective Compromise Weight Model for Hazmat Transportation Problems with the Consideration of Response Capability," Accepted for publication in the Journal of the Eastern Asia Society for Transportation Studies.

05. **Ta-Yin Hu** and Wei-Ming Ho (2016) A modified entropy-based dynamic gravity model for the evacuation trip distribution problem during typhoons, Journal of the Chinese Institute of Engineers, Vol. 39, No. 5, pp. 548-555.

06. **Ta-Yin Hu** and You-Shiuan Wu (2016) ,"Transportation Resilience Optimization Model Under Disaster with the Consideration of Sustainability," Transportation Planning Journal, Vol. 45, No. 4, pp. 277-300. (TSSCI) (in Chinese)

07. **Ta-Yin Hu** and Ya-Han Chang (2016), "Hazardous Materials Transportation with Multiple Objectives: A Case Study in Taiwan," Journal of the Transportation Research Forum, Vol. 55, No. 3, pp. 97-109.

08. **Ta-Yin Hu** and Wei-Ming Ho (2015), "Prediction of the Impact of Typhoons on Transportation Networks with Support Vector Regression", ASCE Journal of Transportation Engineering. Vol. 141, Issue 4, 04014089 pp. 1-11.

09. **Ta-Yin Hu** and Chin-Ping Chang (2015), "A revised branch-and-price algorithm for dial-a-ride problems with the consideration of time-dependent travel cost", Journal of Advanced Transportation, Volume 49, Issue 6, October 2015, Pages: 700–723.

010. **Ta-Yin Hu** and Chin-Ping Chang (2013), "Exact Algorithm for Dial-A-Ride Problems with Time-Dependent Travel Cost," Journal of the Eastern Asia Society

for Transportation Studies Vo. 9, pp. 916-933.

011.Li-Wen Chen and **Ta-Yin Hu** (2013), " Closure to "Traffic Signal Optimization with Greedy Randomized Tabu Search Algorithm by Ta-Yin Hu and Li-Wen Chen", ASCE Journal of Transportation Engineering. Vol. 139, No. 9, pp. 957-959.

012.Tsai-Yun Liao, **Ta-Yin Hu**, and Wei-Ming Ho (2012), " Simulation studies of traffic management strategies for a long tunnel", Tunnelling and Underground Space Technology incorporating Trenchless Technology Research Vol. **27**, No. 1, pp. 123-132 (SCI)

013.**Ta-Yin Hu**, and Li-Wen Chen (2012), "Traffic Signal Optimization with Greedy Randomized Tabu Search Algorithm", ASCE Journal of Transportation Engineering, Vol. 138, No. 8, pp. 1040-1050. (SCI)

014.Li-Wen Chen and **Ta-Yin Hu** (2012), "Flow Equilibrium under Dynamic Traffic Assignment and Signal Control – An illustration of Pre-timed and Actuated Signal Control Policies", IEEE Transactions on Intelligent Transportation Systems, Vol. 13, No. 3, pp. 1266-1276. (SCI)

015.Liao T.Y., Wang S.J. and **Ta-Yin Hu** (2012), "A Solution Algorithm for On-line Vehicle Routing Problems: A Hybrid Meta-heuristic Algorithm Approach," Journal of the Chinese Institute of Transportation, Vol. 24, No. 4, pp. 497-528. (TSSCI) (in Chinese)

016.**Ta-Yin Hu**, Chee-Chung Tong, Tsai-Yun Liao and Wei-Ming Ho (2012), "Simulation-Assignment Based Travel Time Prediction Model for Traffic Corridors", IEEE Transactions on Intelligent Transportation Systems Vol. 13, No. 3, pp. 1277-1286. (SCI)

017.**Ta-Yin Hu**, Tong, C.C., Ho, W.M. and Chien, Y.T. (2011), "Development of Simulation-assignment Based Travel Time Prediction Models," Journal of the Chinese Institute of Transportation, Vol. 23, No. 4,pp. 477-500. (TSSCI) (in Chinese)

018.**Ta-Yin Hu** and Su, T.H. (2011), "Impact of Traffic Characteristics on Inter-Vehicle Communications," Journal of Vehicle Engineering, Vol.8, pp. 109-133. (TSSCI) (in Chinese)

019.**Ta-Yin Hu** and Wu, T.Y. (2011), "An Optimal Control Model on Traffic Corridors with Route Guidance," Transportation Planning Journal, Vol. 40, No.1, pp. 31-62. (TSSCI) (in Chinese)

020.**Ta-Yin Hu** and Tsai-Yun Liao (2011), "An empirical study of simulation-based dynamic traffic assignment procedures", Transportation Planning and Technology, Vol. 34, No. 5, pp. 467-485. (SCI)

021.Tsai-Yun Liao and **Ta-Yin Hu** (2011), "An Object-Oriented Evaluation

Framework for Dynamic Vehicle Routing Problems under Real-Time Information ", Expert Systems with Applications Vol. 38, No. 10, pp. 12548－12558, (SCI).

022. **Ta-Yin Hu** and Chin-Ping Chang (2011), "Time-Dependent Dial-a-Ride Problems: Formulation Development and Numerical Experiments," Journal of the Eastern Asia Society for Transportation Studies Vo. 9, pp. 690-701.

023. Tsai-Yun Liao, Shiang-Jeng Wang and **Ta-Yin Hu** (2011), "On-line Vehicle Routing Problems: A Hybrid Meta-Heuristic Approach," Journal of the Eastern Asia Society for Transportation Studies Vo. 9, pp. 660-675.

024. Tsai-Yun Liao, **Ta-Yin Hu**, Li-Wen Chen, and Wei-Ming Ho (2010), " Development and Empirical Study of Real-Time Simulation-based Dynamic Traffic Assignment Model", ASCE Transportation Engineering, Volume 136, No. 11, pp. 1008-1020. (SCI)

025. Li-Wen Chen and **Ta-Yin Hu** (2010), " Dynamic Equilibrium for Combined Signal Settings and Time-dependent Traffic Assignment", Asian Transport Studies, Vol. 1, No.4.

026. **Ta-Yin Hu**, Ho, W.M. and Chang, C.Y. (2010), "Dta-Based Dynamic Origin-Destination Demands Estimation and Prediction Model," Transportation Planning Journal, Vol. 39, No.1, pp. 73-98. (TSSCI) (in Chinese)

027. **Ta-Yin Hu**, Tong, C.C., Hu, S.R., Chen, L.W. and Huang, Y.K. (2010), "Applications of DynaTAIWAN for Transportation Planning-An Example of Taoyuan County," Journal of the Chinese Institute of Transportation, Vol. 22, No. 1, pp. 1-20. (TSSCI) (in Chinese)

028. **Ta-Yin Hu**, Wu, T.Y. and Chiang, L.J. (2010), "A Study on Integrated Traffic Corridor Management Model," Journal of Vehicle Engineering, Vol. 7, pp. 83-107. (TSSCI) (in Chinese)

029. **Ta-Yin Hu**, Huang, H.Y. and Hsu Y.H. (2010), "Signal-Coordination Improvement Strategies for Urban Traffic Networks," Transportation Planning Journal, Vol. 39, No.3, pp. 323-358. (TSSCI) (in Chinese)

030. **Ta-Yin Hu**, Liao, T.Y. and Chen, D.J. (2009), "An Evaluation Framework for Dynamic Vehicle Routing Problems with Real-time Traffic Information," Journal of the Chinese Institute of Transportation, Vol. 21, No. 2, pp. 207-249. (TSSCI) (in Chinese)

031. **Ta-Yin Hu** and Ho, W.M. (2009), "Estimation of Time-Dependent Origin-Destination Demands Through Flow Simulation Approach," Transportation Planning Journal, Vol. 38, No.3, pp. 247-273. (TSSCI) (in Chinese)

032. **Ta-Yin Hu** and Li-Wen Chen (2007), "Impact of Real-Time Information on Dynamic Vehicular Flows under Mixed Traffic Conditions", Journal of the

Eastern Asia Society for Transportation Studies Vo. 7, pp.1338-1353.

033. Tsai-Yun Liao, **Ta-Yin Hu**, and Hsin-Hwa Kuo (2007), "Dynamic Fleet Management under Real-time Information", Journal of the Eastern Asia Society for Transportation Studies Vo. 7, pp.1070-1082.

034. **Ta-Yin Hu** and Da-Tung Li (2007), "Calibration and Estimation of Dynamic Traffic Assignment Procedures", Journal of the Eastern Asia Society for Transportation Studies, Vo. 7, pp.586-599.

035. **Ta-Yin Hu** (2007), "Study of Real-Time Traffic Assignment: A Rolling Horizon Approach," Journal of the Chinese Institute of Civil & Hydraulic Engineering, Vol. 19, No. 2, pp. 263-274. (TSSCI) (in Chinese)

036. **Ta-Yin Hu** (2007), "Macroscopic Traffic Stream Models for Mixed Traffic Flows," Engineering Science & Technology Bulletin, NSC, No. 93, pp. 58-61. (TSSCI) (in Chinese)

037. **Ta-Yin Hu** and Su, Y.R. (2006), "A Demand Predictive Control Model for Supply Chain Management," Journal of the Chinese Institute of Transportation, Vol. 18, No. 4, pp. 419-450. (TSSCI) (in Chinese)

038. **Ta-Yin Hu**, Tsai-Yun Liao, Ying-Chih Lu (2003), "A Study on the Solution Approach for Dynamic Vehicle Routing Problems under Real-time Information", Transportation Research Record 1857., pp. 102-108. (SCI, EI)

039. **Ta-Yin Hu** (2002), "CORBA-Based Distributed GIS-T for Emergency Medical Services", Transportation Research Record 1800.

040. **Ta-Yin Hu** (2001), "Evaluation Framework of Dynamic Vehicle Routing Strategies Under Real-Time Information", Transportation Research Record 1774. pp. 115-122.

041. **Ta-Yin Hu** and Wei, C.T., (2001) "Impact of Pre-Trip Route Choice Behavior on Network Flow Distributions," Journal of the Chinese Institute of Transportation，Vol. 13, No. 1,pp. 26-48. (TSSCI) (in Chinese)

042. **Ta-Yin Hu** (2000), "A Study of Micro-Simulation based Dynamic Traffic Assignment", Transportation Planning Journal，Vol. 30, No.1, pp. 1-32. (in Chinese)

043. **Ta-Yin Hu** and Wei, C.T., (2000) "Impact of Real-Time Information In a Traffic Network" ,Journal of the Chinese Institute of Civil and Hydraulic Engineering, Vol. 12, No. 2, pp.353-362. (in Chinese)

044. **Ta-Yin Hu** and Chang, Jason (1999), "A Study and Comparison of High Speed Rail Projects Between Texas and Taiwan ", Construction Management, No. 197, pp. 11-21. (in Chinese)

045. **Ta-Yin Hu** (1999), "Micro-Simulation Based DTA and Its Applications in Advanced Traffic Management Systems", Journal of Civil Technologies, Vol. 16,

No.1, pp. 71-88. (in Chinese)

046. Jou, R.C., **Ta-Yin Hu** and Wei, C.T., (1998), "Advanced Pre-Trip Information Systems", Journal of Civil and Hydraulic Engineering, Vol. 24, No. 4, pp. 89-120. (in Chinese)

047. **Ta-Yin Hu** (1998), "Dynamic Network Simulation-Assignment Model--DYNAMSART and Its Applications in Taichung City", Journal of the Chinese Institute of Transportation，Vol. 9, No. 3, September, pp. 1-24. (in Chinese)

048. Wei, C.T., Jou, R.C., and **Ta-Yin Hu** (1997), "Development and Implementation Strategies for Pre-Trip Information Systems in Taiwan", Road News Quarterly, Vol. 36, No. 3, pp. 3-18. (in Chinese)

049. Jou, R.C., **Ta-Yin Hu**, Lin, C.W. (1997), "Empirical Results From Taiwan and Their Implications for Advanced Travelers' Pre-Trip Information Systems", Transportation Research Record 1607, pp. 126-133.

050. **Ta-Yin Hu** and Mahmassani, H.S. (1997),"Evolution of Network Flows Under Real-Time Information and Responsive Signal Control Systems," Transportation Research C, Vol. 5, No.1, pp. 51-69.

051. **Ta-Yin Hu** (1996), " Dynamic Network Simulation-Assignment Model: DYNASMART," Journal of the Chinese Institute of Transportation, Vol. 9, No. 3, September, pp. 1-24. (in Chinese)

052. **Ta-Yin Hu** and Mahmassani, H.S. (1995), "Evolution of Network Flows under Real-Time Information: A Day-to-Day Dynamic Simulation-Assignment Framework," Transportation Research Record 1493, pp. 46-56.

053. Jayakrishnan, R., Mahmassani, H.S., and **Ta-Yin Hu** (1994), "DYNASMART: An Evaluation Tool for ATIS/ATMS in Urban Traffic Netmorks," Transportation Research C, Vol. 2, No.3, pp. 129-147.

B. International Conference Papers

2017

Ta-Yin Hu and Tsai-Yun Liao (2017), "Simulation Studies of Autonomous Vehicles Under Mixed Traffic Flows," presented and published in the Proceedings of the 15th ITS Asia Pacific Forum 2017, Hong Kong.

Ta-Yin Hu, Guan-Chun Zheng and Tsai-Yun Liao (2017), "Smart Mobility: Evaluation of Demand-Responsive Transit Systems in Chiayi City," presented and published in the Proceedings of the 3rd IEEE International Conference on Smart City 2017, Wuxi, China.

Ta-Yin Hu, Guan-Chun Zheng and Tsai-Yun Liao (2017), "A Multi-objective Model for Dial-a-Ride Problems with Service Quality and Eco-efficiency," presented and published in the IEEE 20th International Conference on Intelligent Transportation Systems, Yokohama, JAPAN.

2016

Ta-Yin Hu, Tsai-Yun Liao, and Wan-Ting Lin (2016), "A Multi-objective Algorithm for Eco-Efficient Demand Responsive Transit Systems (DRTS)," presented and published in the Proceedings of the 23th World Congress on Intelligent Transportation Systems, Melbourne, Australia.

Ta-Yin Hu and Ya-Han Chang, (2016), "Hazardous materials transportation with multiple objectives: A case study in Taiwan," presented at the 2016 The Joint Annual Conference of the CTRF/TRF, Toronto, Canada

Tsai-Yun Liao, Ta-Yin Hu, and Yu-Wen Wu (2016), "A Vehicle Routing Algorithm for Medical Supplies Distribution with the Consideration of Traffic Congestion," presented and published in the Proceedings of the7th International Conference on Operations and Supply Chain Management, Phuket, Thailand

2015

Ta-Yin Hu and Yu-Hsuan Wu (2015), "An Integrated Traffic Corridor Control Model for Emergency Evacuation," presented at the 94th Annual Meeting of the Transportation Research Board.

Ta-Yin Hu, Yi-No Ko and You-Shiuan Wu (2015), A Resilience Optimization Model for Transportation Networks under Disasters," presented at the 2015 International Conference on Evacuation Modeling and Management, Tainan, Taiwan

Wei-Ming Ho, Li-Wen Chen, and Ta-Yin Hu (2015), "A Modified Entropy-based Dynamic Gravity Model for the Trip Distribution Problem under Typhoons," presented at the 2015 International Conference on Evacuation Modeling and Management, Tainan, Taiwan

2014

Ta-Yin Hu, and Wan-Ting Lin (2014), "A Multi-objective Evolutionary Algorithm for Eco-efficient DRTS Problems," published in the proceedings of the 19th International Conference of Hong Kong Society for Transportation Studies.

2013

Ta-Yin Hu and Wei-Ming Ho (2013), "Prediction of Typhoon Impact on Transportation Networks with Support Vector Regression," presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., USA

Ta-Yin Hu, Hui-Ching Ou and Wei-Ming Ho (2013), "A Bi-level Model for Optimal Shelter Selection in Emergency Evacuation Operations," presented at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., USA

Ta-Yin Hu, Wei-Ming Ho, Yi-No Ko, Li-Wen Chen (2013), "Emergency Distribution Center Selection with Network Reliability Consideration," published in the proceedings of the the EASTS Conference, Vol. 9.

Ta-Yin Hu, Wei-Ming Ho, and Yi-No Ko, (2013), "Resilience Assessment under Natural Disasters," published in the proceedings of the 18th International Conference of Hong Kong Society for Transportation Studies.

2012

Tsai-Yun Liao, Ta-Yin Hu and Wei-Ming Ho (2012), "Travel Time Prediction Models with Reliabilities for Urban Arterial Streets", Proceedings of the 19th

World Congress on Intelligent Transportation Systems, Vienna, Austria.

Wei-Ming Ho, Li-Wen Chen and Ta-Yin Hu (2012), "Impact Assessment of Network Reliability with Route Information under Severe Weather", published in the Proceedings of the IEEE ITSC, Anchorage, Alaska , USA.

Tsai-Yun Liao, Wei-Ming Ho and Ta-Yin Hu (2012), "Fuel Consumption and Emission Models Development and Application for Advanced Traffic Management Strategies", published in the Proceedings of the IEEE ITSC, Anchorage, Alaska , USA.

Ta-Yin Hu, Hui-Ching Ou and Wei-Ming Ho, (2012), "An Optimal Shelter Selection Model for Emergency Evacuation Planning," published in the proceedings of the 17th International Conference of Hong Kong Society for Transportation Studies.

Ta-Yin Hu, Tsai-Yun Liao, Y.H. Wu and S.R. Chang, (2012), "A Queue Management Model for Oversaturated Networks," published in the proceedings of the 17th International Conference of Hong Kong Society for Transportation Studies.

2011

Ta-Yin Hu, and Li-Wen Chen (2011), " Traffic Signal Optimization with Greedy Randomized Tabu Search Algorithm", presented at the Transportation Research Board Annual Meeting, Jan.21-25.

Ta-Yin Hu and Wei-Ming HO (2011), "Travel Time Prediction Models with Delay Considerations for Urban Arterial Streets," presented in the 2011 ITS Asia-Pacific Forum Conference.

Ta-Yin Hu, Wei-Ming HO and Hao-Lun Chang (2011), "Impact of Climate Change on Transportation Planning," presented in the EASTS Conference.

Ta-Yin Hu and Chin-Ping CHANG (2011), "Time-Dependent Dial-a-Ride Problems: Formulation Development and Numerical Experiments," presented in the EASTS Conference..

Tsai-Yun Liao, Shiang-Jeng Wang and Ta-Yin Hu (2011), "On-line Vehicle Routing Problems: A Hybrid Meta-Heuristic Approach," presented in the EASTS Conference.

Ta-Yin HU and Wei-Ming HO, "Impact of Climate Change on Transportation Planning," presented in The 2011 International Conference on Modeling, Simulation and Control (ICMSC 2011)

Ta-Yin HU, Wei-Ming HO, Hao-Lun CHANG and Yi-Yen CHEN (2011), Impact Assessment of Network Reliability under Heavy Precipitation," presented in the 16th International Conference of Hong Kong Society for Transportation Studies (HKSTS).

Li-Wen CHEN, Ta-Yin HU and Shao-Rung CHANG (2011),"Optimization of Integrated Ramp Metering for Urban Freeways," presented in the 16th International Conference of Hong Kong Society for Transportation Studies (HKSTS).

2010

Ta-Yin Hu and Li-Wen Chen (2010),"Real-Time Implementation of Simulation-based Dynamic Traffic Assignment Model", Presented at the The 23rd ICTPA Annual Meeting, Tainan, Taiwan.

Ta-Yin Hu, and Tung-Yu Wu (2010), "An optimal control model for Corridor Management", published in Proceedings of the 17th World Congress on Intelligent Transportation Systems, Busan, Korea.

Ta-Yin Hu and Wei-Ming Ho (2010), " Travel Time Prediction for Urban Networks: The Comparison of Simulation-Based and Time-Series Models ", published in Proceedings of the 17th World Congress on Intelligent Transportation Systems, Busan, Korea. (Tavel Award Prize)

Tsai-Yun Liao, Ta-Yin Hu and Huei-Yu Guo (2010), " A Meta-Heuristic Approach for On-line Travelling Repairman Problem - A Case Study of Signal Repair Problems", published in Proceedings of the 17th World Congress on Intelligent Transportation Systems, Busan, Korea.

2009

Li-Wen Chen and Ta-Yin Hu (2009), "Dynamic Flow Equilibrium for Flow-Responsive Signal Settings and Time-dependent Traffic Assignment," published in the proceedings of the 12th International IEEE Conference on Intelligent Transportation Systems, St. Louis, MO,USA. (EI)

Ta-Yin Hu and Wei-Ming HO (2009), "Simulation-Based Travel Time Prediction Model for Traffic Corridors," published in the proceedings of the 12th International IEEE Conference on Intelligent Transportation Systems, St. Louis, MO,USA. (EI)

Ta-Yin Hu and Wei-Ming HO (2009), "Empirical Study of Assignment-based Dynamic Origin-Destination Estimation and Predictions," published in the Proceedings of the EASTS Conference.

2008

Tsai-Yun Liao, Ta-Yin Hu, Hsin-Hwa Kuo (2008), "An Object-Oriented Evaluation Framework for Dynamic Vehicle Routing Problems under Real-Time Information", published in the proceedings of Transportation Research Board Annual Meeting, Jan.21-25. (EI)

Ta-Yin Hu, Chee-Chung Tong, Tsai-Yun Liao and Li-Wen Chen, (2008), "Simulation-Based Dynamic Traffic Assignment Model for Mixed Traffic Flows", published in the proceedings of Transportation Research Board Annual Meeting, Jan.13-17. (EI)

Ta-Yin Hu and Li-Wen Chen (2008), "Real-Time Implementation of Simulation-based Dynamic Traffic Assignment Model," published in the proceedings of the 11th International IEEE Conference on Intelligent Transportation Systems, Beijing, China. (EI)

2007

Ta-Yin Hu, Tsai-Yun Liao, Li-Wen Chen, Yung-Kuei Huang, Min-Ling Chian (2007), "Dynamic Simulation-Assignment Model (DynaTAIWAN) under Mixed Traffic Flows for ITS Applications", published in the Proceedings of Transportation Research Board Annual Meeting, Jan.21-25.

Ta-Yin Hu, and Li-Wen Chen (2007), "Impact of Real-Time Information on Network Vehicular Flows under Mixed Traffic Conditions", published in Proceedings of the 14th World Congress on Intelligent Transportation Systems, Beijin, China.

Ta-Yin Hu, Li-Wen Chen, Pai-Hsien Hung, Der-Chyr Huang, Yung-Kuei Huang, Min-Ling Chiang (2007), "Rolling Horizon Implementation of Simulation-Based Dynamic Traffic Assignment Model for Real-Time Applications", published in Proceedings of the 14th World Congress on Intelligent Transportation Systems, Beijin, China.

2006

Ta-Yin Hu, Li-Wen Chen, and Pai-Hsien Hung (2006), "Convergence and Stability Properties of Simulation-Based Dynamic Traffic Assignment Models", presented in the INFORMS International Conference HK 2006, Hong Kong

Tsai-Yun Liao, Ta-Yin Hu, Hsin-Hwa Kuo (2006), "Dynamic Fleet Management under Real-Time Information", published in Proceedings of the 13th World Congress on Intelligent Transportation Systems, London, U.K.

Ta-Yin Hu, Li-Wen Chen, Pai-Hsien Hung, Yung-Kuei Huang, Min-Ling Chiang (2006), "A Simulation-Based Dynamic Traffic Assignment Model with Consideration of Mixed Traffic Flows", published in Proceedings of the 13th World Congress on Intelligent Transportation Systems, London, U.K.

Ta-Yin Hu, Li-Wen Chen, Pai-Hsien Hung, Yung-Kuei Huang, Min-Ling Chiang (2006), "An Object-Oriented Simulation-Assignment Model with Consideration of Mixed Traffic Flows for ITS Applications", published in the Proceedings of the IEEE ITSC 2006, Toronto, Canada. (**EI**)

2005

Ta-Yin Hu, Li-Wen Chen, Pai-Hsien Hung, Yung-Kuei Huang, Min-Ling Chiang (2005), "A New Simulation-Assignment Model DynaTAIWAN for Mixed Traffic Flows", Proceedings of the 12th World Congress on Intelligent Transportation Systems, San Francisco, U.S..

2004

Ta-Yin Hu, Peter Chung, and Tsai-Yun Liao (2004), "Evaluation Framework and Solution Strategies for Traveling Salesman Problems Under Real-Time Informatio", Presented at the CORS/INFORMS International Annual Meeting, Canada, Banff, 2004.

Ta-Yin Hu, Wei-Nan Chen, and Li-Wen Chen (2004), "Development of Dynamic Transportation Planning Procedures", Presented at the 11th World Congress on Intelligent Transportation Systems, Nagoya, Aichi 2004, Japan.

Tsai-Yun Liao and Ta-Yin Hu (2004), "A Tabu Search Algorithm for Dynamic Vehicle Routing Problems", Presented at the 11th World Congress on Intelligent Transportation Systems, Nagoya, Aichi 2004, Japan.

2003

Tsai-Yun Liao, Ta-Yin Hu, Pai-Hsien Hung (2003), "Applications of KSP in a CORBA-Based Distributed System for Advanced Information Systems ", presented at Transportation Research Board Annual Meeting, Jan.12-16.

Ta-Yin Hu, Tsai-Yun Liao, Ying-Chih Lu (2003), " A Study on the Solution Approach for Dynamic Vehicle Routing Problems under Real-time Information ", presented at Transportation Research Board Annual Meeting, Jan.12-16.

2002

Ta-Yin Hu (2002), "CORBA-Based Distributed GIS-T for Emergency Medical Services ", presented at Transportation Research Board Annual Meeting.

Ta-Yin Hu, Tsai-Yun Liao, Pai-Hsien Hung(2002), "Applications of KSP in a CORBA-Based Distributed System for ITS", presented at 5th Asia-pacific ITS Forum in Seoul.

Tsai-Yun Liao, Ta-Yin Hu, Ying-Chih Lu(2002), "A Study on the Solution Approach for Dynamic Vehicle Routing Problems under Real-time Information", presented at 5th Asia-pacific ITS Forum in Seoul.

2001

Ta-Yin Hu (2001), "Evaluation Framework of Dynamic Vehicle Routing Strategies Under Real-Time Information", presented at Transportation Research Board Annual Meeting, Jan.7-11.

Ta-Yin Hu, Pei-Sieng Hung. (2001), "CORBA-Based GIS-T for Emergency Medical Services," In Proceeding of International Symposium on Asia GIS.

Ta-Yin Hu, Pei-Sieng Hung, Chi-Hwa Lee (2001), "Integration of Web Interface with CORBA-Based Simulation- Assignment Model", presented at 9th World Conference on Transportation Research, July 22-27.

1999

Ta-Yin Hu, Chien-Wei Chen, and Pei-Shing Hung(1999), "Evaluation of Dynamic Vehicle Routing Strategies Under Real-Time Information", 1st Taiwan's ITS Internation Conference, May 8-10, 1999.

Ta-Yin Hu, Tsai-Yun Liao, Chien-Wei Chen, and Pei-Shing Hung(1999), "Evaluation Framework of Dynamic Vehicle Routing Strategies Under Real-Time Information", presented at 6th World Congress on Intelligent Transportation Systems, Nov. 7-12, 1999.

1998

Hu, T.Y. and Mahmassani, H. S. (1998), "Simulation-Assignment Model-DYNASMART with Multiple Vehicle Classes", presented at the 8th World Conference on Transportation Research Meeting, July.

Hu, T.Y. and Yang, C.Z. (1998), "Comparisons of Air Travel Demand Forecast Methodologies", presented at the 8th World Conference on Transportation Research Meeting, July.

1997

Hu, T.Y. and Mahmassani, H. S. (1997), " Simulation of Day-to-Day Behaviour Dynamics in Traffic Networks" Proceedings of the International Association of Travel Behavior Research 8th Meeting, September.

1996

Hu, T.Y., and Mahmassani, H.S. (1996), "Evolution of Network Fiows under Real-Time Information and Responsive Signal Control," presented at the 75th Annual Meeting of the TRB.

Hu, T.Y. and Mahmassani, H.S. (1996), " Invidual Behavioure-Based Traffic Simulation for Intelligent Transportation Systems", 4th Meeting of EURO Work Group on Transportation.

Hu, T.Y. and Mahmassani, H.S. (1996), " Evaluation of Time-Dependent Network Flows under Different Information Supply Strategies " published in the Proceedings of 1996 International Road Federation Asia-Pacific Regional Meeting, pp. III-59-66.

1995

Ta-Yin Hu and Hani S. Mahmassani (1995)"Evolution of Network Flows under Real-Time Information: A Day-to-Day Dynamic Simulation-Assignment Framework," accepted for the presentation at the 74th Annual Meeting of the Transportation Board, Washington D.C., January 1995.

Mahmassani, H.S., and Hu, T.Y. (1995), "Evaluation of Network Conditions With Advanced Information Systems in a Day-to-Day Framework" published in the proceedings of the 2nd World Congress of Intelligent Transport Systems.

1994

Mahmassani, H.S., Peeta, S., Hu, T.Y., and Ziliaskopoulos, A., (1994), "Route Guidance and Network Performance with Multiple User Information Availability Classes," presented at the 73 Annual Meeting of the Transporation Research Board.

Hani S. Mahmassani, Srinivas Peeta, and Ta-Yin Hu (1994), "Real-Time Assignment and Route Guidance in Congested Networks with Multiple User Information Availability," presented at the TRISTAN II Conference, Capri, Italy, June.

Hani S. Mahmassani, Ta-Yin Hu, Srinivas Peeta and Athanasios Ziliaskopoulos (1994)."Dynamic Network Assignment: A Microsimulation-Based Algorithm and Applications to Real-Time Information Systems," presented at the Seventh International Conference on Travel Behavior, Santiago, Chile, June.

Ta-Yin Hu and Hani S. Mahmassani (1994) "Network Dynamics under Advanced Information Systems and Responsive Traffic Control," presented at the EURO XIII/ OR 36 Conference, Glasgow, Scotland, July.

Hani S. Mahmassani, Srinivas Peeta and Ta-Yin Hu (1994)."Multiple User Classes Quasi-Real Time Traffic Assignment for On-Line ATIS/ATMS Applications," presented at the ORSA/TIMS meeting, Detroit, October

Mahmassani, H.S., Hu, T.Y., and Peeta, S. (1994), "Microsimulation-Based Procdures for Dynamic Network Traffic Assignment," published in the proceedings of the PTRC conference.

1993

Hani S. Mahmassani, Ta-Yin Hu, Srinivas Peeta and Athanasios Ziliaskopoulos "Dynamic Network Assignment with Multiple User Information Availability Classes for ATIS/ATMS Applications," presented at the Pacific Rim Tran Tech Conferences: Advanced Technologies/IVHS," July.

Hani S. Mahmassani, Ta-Yin Hu, Srinivas Peeta and Athanasios Ziliaskopoulos "Dynamic Traffic Assignment with Multiple User Classes for Real-Time ATIS/ATMS Applications," presented at ATMS Conference on Management of Large Urban Traffic Systems, October.

Hani S. Mahmassani, Ta-Yin Hu, and Athanasios Ziliaskopoulos "DYNASMART: A Simulation-Assignment Model for ATIS/ATMS," presented at ATMS Conference on Management of Large Urban Traffic Systems, October.

1992

Hani S. Mahmassani and Athanasios Ziliaskopoulos. Ta-Yin Hu, "Implementation and Testing of a K-Shortest Path Algorithm in a Vector and Parallel Processing Environment," presented at Computer Science and Operations Research: New Developments and their Interfaces Conference, Williamsburg VA, January.

Hani S. Mahmassani Ta-Yin Hu, and R.Jayakrishnan (1992)."Dynamic Traffic

Assignment and Simulation for Advanced Network Informatics," presented at the 2nd International Capri Seminar on Traffic Networks, Capri, Italy, July.

Hani S. Mahmassani and Ta-Yin Hu (1992), "Dynamic Simulation Assignment Model for Real-Time Network Control," presented at the 34th joint ORSA/TIMS meeting, San Francisco, CA, November.

C. Local Conference paper (in Chinese)

1996-2018, more than 150 papers

RESEARCH FUNDING (Principal or Co-Principal Investigator):

A. National Science Council/ Ministry of Science and Technology (Principal Investigator):

Project Topic	Funding（NT$）	Date
A study of Multiple OD pairs HAZMAT Transportation problems: multiple-objective approach	NT$2,457,000	2016.08-2019.07
Development of Mathematical Model and Solution Algorithms for Eco-efficient Fleet Dispatching	NT$1,186,000	2015.08-2017.07
An Empirical Study of Transport Resilience under Disaster	NT$854,000	2015.08-2016.07
An Optimization Model for Transportation Resilience under Disaster	NT$854,000	2014.08-2015.07
A Measure of Transportation Resilience under Disaster	NT$825,000	2013.08-2014.07
A Mathematical Model for Evacuation Trip Distribution and Network Reliability Model under Natural Disasters	NT$687,000	2012.08-2013.07
An Evacuation Model under Typhoons	NT$586,000	2011.08-2012.07
A Study on Integrated Traffic Corridor Management	NT$488,000	2009.08-2010.07
Competitive Analysis for On-line Vehicle Routing Problems	NT$393,000	2008.08-2009.07
An Integrated Simulation Framework for Inter-Vehicle Communications	NT$646,000	2007.08-2008.07
Development of Solution Algorithms for On-line Vehicle Routing Problems	NT$646,000	2006.08-2007.07
A Study of Dynamic Routing Problems	NT$766,000	2005.08-2006.07
Development of Macroscopic Mixed Traffic Stream Models	NT$268,000	2005.08-2006.07
Development of Dynamic Transportation Planning Procedures (II) – Integration With Public Transit Systems	NT$560,600	2004.08-2005.07
Development of Dynamic Transportation Planning Procedures (I)	NT$620,400	2003.08-2004.07
Dynamic Vehicle Routing Problems: An application of L-shaped Models	NT$392,100	2002.08-2003.07
An Object-Oriented Decision Support Systems for Emergency Management	NT$345,600	2001.08-2002.07
Development of Day-to-Day Dynamic Simulation-Assignment Model	NT$381,600	2000.08-2001.07
A Study of CORBA-BASED Distributed Simulation-Assignment Model	NT$438,300	2000.08-2001.07
Vehicle Routing Problems Under Real-Time Information	NT$342,900	1999.08-2000.07
Development and Experiment of Real-Time	NT$341,300	1998.8 - 1999.7

Dynamic Traffic Assignment		
Development and Experiment of Micro-Simulation Based Dynamic Traffic Assignment	NT$360,400	1997.08-1998.07
Development of Dynamic Network Simulation-Assignment Model in a Mixed Traffic Flow Conditions	NT$217,000	1996.08-1997.07

B. Other Sponsors (Principal or Co-Principal Investigator):

Title	Funding （NT$）	Sponsor	Date
Regional Transportation Center for Tainan Areas	NT$4,000,000	Institute of Transportation, MOTC	2015.08-2018.12
Traffic Management Strategies For Tainan City	NT$2,000,000	Tainan City Government	2012.01-2012.12
A Study of VII Policy	NT$2,000,000	Ministry of Economic Affairs	2011.01-2011.12
Evaluation of LED on Traffic Signals and Signs	NT$100,000	Tainan City Government	2010.10-2010.12
Intelligent Traffic Corridor Development for Taiwan Northern Freeways	NT$2,430,000	CECI Consulting, Inc.	2008.09-2009.08
The Demonstration and Outreach Project of the Real-Time Real-Time and Dynamic Module for the Traffic Analysis and Prediction Systems(DynaTAIWAN)(2/3)	NT$1,850,000	Institute of Transportation, MOTC	2008.01-2008.12
The Demonstration and Outreach Project of the Real-Time Real-Time and Dynamic Module for the Traffic Analysis and Prediction Systems(DynaTAIWAN)(1/3)	NT$1,160,000	Institute of Transportation, MOTC	2007.02-2007.12
Traffic Analysis and Estimation Model Development for Real-Time Traffic Management Systems	NT$2,150,000	Institute of Transportation, MOTC	2006.02 – 2006.12
Applications of DYNASMART-P and DYNASMART-X on Taiwan Freeway Systems	NT$1,300,000	CECI Consulting, Inc.	2005.10 – 2006.20
Adjustment and Coding Management of Provincial and County Highways (Principal Investigator: Prof. Wen, C.H. of FCU)	$1,572,000	Institute of Transportation, MOTC	2004.06 – 2005.02
Demonstration Project for Regional Intelligent Transportation Systems: Traffic Analysis and Prediction Systems (II)	$2,100,000	Institute of Transportation, MOTC	2004.02 – 2004.12
A Study of Highway Maintenance and Rehabilitation (I)	$950,000	Institute of Transportation, MOTC	2003.04 – 2003.11

Demonstration Project for Regional Intelligent Transportation Systems: Traffic Analysis and Prediction Systems (I)	$3,670,000	Institute of Transportation, MOTC	2003.03 – 2003.11
Development of Criteria for New Constructions of Highway Interchanges	$790,000	Institute of Transportation, MOTC	2002.07 – 2002.11
Integrated Dynamic Traffic Prediction and Pricing systems for Ramp-based Toll Collection (Principal Investigator: Prof. Cho of NCTU)	$2,100,000	National Expressway Engineering Bureau, MOTC	2001.03 – 2001.12
CORBA-Based Distributed GIS-T in EMS Services	$1,200,000	SFIT Research Foundation	2001.01-2002.12
A Study of Parking Management for the Taichung City	$915,000	Taichung City Government	2000.11-2001.03
Highway Classification and Management in Taiwan Area	$890,000	National Highway Administration, MOTC	2000.10-2001.05
The Development of GIS Decision Support Systems for Public Transit Management (Principal Investigator: Mr. Huang)	$1,950,000	Institute of Transportation, MOTC	2000.03 – 2001.01
Traffic Performance Investigation and Improvement for Taichung County Government	$1,920,000	Taichung County Government	1999.09-2000.08
The Survey and Development of GIS System for the 4th Nuclear Plant	$2,250,000	National Nuclear Council	1999.2 - 2000.1
Study of National Highway Systems (Principal Investigator: Prof.. Hsu, Y.T. of FCU)	$3,866,000	National Highway Administration, MOTC	1998.10 – 2000.03
Feasibility Study of Airport Transfer from Hsu-Nan Civil Airport to CKS Military Airport (Principal Investigator: Prof.. Yang, L.S. of FCU)	$880,000	Institute of Transportation, MOTC	1998.08 – 1999.12
Development of Pre-Trip Information in Taiwan (Principal Investigator: Prof.. Jou, R.C. of FCU)	$1,500,000	Institute of Transportation, MOTC	1995.11 – 1996.11