

Xianfeng (Terry) Yang, Ph.D.

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PROFESSIONAL EXPERIENCE

University of Utah, Salt Lake City, UT

(08/2017-Present)

Assistant Professor, Department of Civil & Environmental Engineering

Sponsored Projects:

- PI. Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation. Sponsored by National Science Foundation (sub-award to U of Utah). Total Amount: \$63,450. September 2017 – August, 2019

San Diego State University, San Diego, CA

(08/2015-08/2017)

Assistant Professor, Department of Civil & Environmental Engineering

Sponsored Projects:

- Co-PI. Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation. Sponsored by National Science Foundation. Total Amount: \$465,189. September 2016 – August, 2019
- PI. Preparing Workzones for Connected Automated Vehicles. Sponsored by U.S. Department of Transportation SAFE-D Center. Total Amount: \$60,000. January 2017 – December, 2017
- PI. Integrating of Freeway and Local Intersection Controls for San Diego I-15 Corridors. Sponsored by University Grant Program. Total Amount: \$9,723. January 2016 – June, 2017

University of Maryland, College Park, MD

(08/2009-08/2015)

Graduate Research Assistant

EDUCATION

Ph.D. Transportation Engineering

January 2012- August 2015

Department of Civil and Environmental Engineering, University of Maryland, College Park

- Dissertation: *Integrating of Arterial Signal and Freeway Off-ramp Controls for Commuting Corridors*
- Advisor: Dr. Gang-Len Chang

M.S. Transportation Engineering

August 2009- December 2011

Department of Civil and Environmental Engineering, University of Maryland, College Park

B.S. Civil Engineering

August 2005- August 2009

Department of Civil Engineering, Tsinghua University, Beijing, China

PEER-REVIEWED JOURNALS (*INDICATE UU STUDENT)

1. Lyu, P., Lin Y., Wang, L., and Yang, X., (2017), Variable Speed Limit Control for Delay and Crash Reductions at Freeway Work Zone Area, *Journal of Transportation Engineering, Part A: Systems*. In press, 06/23/2017.
2. Xu, L., Yang, X., & Chang, GL, (2017), "Computing Minimal U-Turn Offset for Unsignalized Superstreet", *Journal of Transportation Research Board: Transportation Research Record*. Accepted, 02/28/2017.
3. Yang, X. & Gang, GL, (2017), "Estimation of Time-Varying Origin-Destination Patterns for Design of Multipath Progression on a Signalized Arterial", *Journal of Transportation Research Board: Transportation Research Record*. Accepted, 02/28/2017.
4. Lin, Y., Yang, X., & Zou, N., (2017) "Passive Transit Signal Priority for High Transit Demand: Model Formulation and Strategy Selection", *Transportation Letters: the International Journal of Transportation Research*. Published, 02/23/2017.
5. Yang, X., Lu, Y., & Hao, W., (2017), "Origin Destination (O-D) Estimation using Probe Vehicle Trajectory and Link Counts", *Journal of Advanced Transportation*, vol. 2017, Article ID 4341532. Published, 01/23/2017.
6. Yang, X. & Cheng, Y., (2017), "Development of Signal Optimization Models for Asymmetric Two-Leg Continuous Flow Intersections", *Transportation Research Part C, Vol (74)*, pp. 306-326. Published, 01/01/2017.
7. Hao, W*, Kamga, C., Yang,X., Zhong, M., & Wu, C.,(2016), "Driver Injury Severity Study for Truck Involved Accidents at Highway-rail Grade Crossing in the United States", *Transportation Research Part F*, vol. 43, pp. 379-386. Published, 12/01/2016.
8. Yang, X., Cheng, Y., & Chang, G. L. (2016). Operational Analysis and Signal Design for Asymmetric Two-Leg Continuous-Flow Intersection. *Transportation Research Record: Journal of the Transportation Research Board*, (2553), pp. 72-81. Published, 07/30/2016.
9. Yang, X., Lu, Y., & Lin, Y. (2016). Optimal variable speed limit control system for freeway work zone operations. *Journal of computing in civil engineering*, 31(1), 04016044. Published, 07/21/2016.
10. Dong, Z., Wang, M., Yang,X. (2016), "The Application of Public Private Partnerships in Public Transportation: Comparative Study between China and United States", *Journal of Modern Transportation*, vol. 24 (3), pp. 215-223. Published, 04/23/2016.
11. Lu, X., Yu, J.*, Yang, X., Pan, S., & Zou, N., Franz, M. (2016), "Flexible Transit Route Design to Enhance System Accessibility in Urban Area", *Journal of Advanced Transportation*, vol. 50 (4), pp. 507-521. Published, 12/15/2015.
12. Yang, X., Lu, C.Y., & Chang, G.L., (2015), "A Dynamic Signal Priority Control Strategy to Mitigate the Off-ramp Queue Spillback to the Freeway Mainline Segment", *Journal of*

- Transportation Research Board: Transportation Research Record, vol. 2438, pp 1-11. Published, 07/30/2015.
13. Lu, C.Y., Yang, X., Chang, G.L. (2015), "A Detector-error Screening Algorithm based on Temporal and Spatial Information", Journal of Transportation Research Board: Transportation Research Record, vol. 2443, pp. 40-48. Published, 07/29/2015.
 14. Yang, X., Lu, Y. C., & Chang, G. L. (2015). Exploratory analysis of an optimal variable speed control system for a recurrently congested freeway bottleneck. Journal of Advanced Transportation, 49(2), 195-209. Published, 07/21/2015.
 15. Yang, X., Cheng, Y., & Chang, G. L. (2015). Integrating Off-Ramp Spillback Control with a Decomposed Arterial Signal Optimization Model. Transportation Research Record: Journal of the Transportation Research Board, (2487), pp. 112-121. Published, 07/06/2015.
 16. Lin, Y., Yang, X., Zou, N., & Franz, M. (2015). Transit signal priority control at signalized intersections: a comprehensive review. Transportation letters, 7(3), pp. 168-180. Published, 07/05/2015.
 17. Yang, X., Cheng, Y., & Chang, G.L. (2015), "A Multi-path progression model for synchronization of arterial traffic signals", Transportation Research, Part C, vol. 53 pp.93-111. Published, 02/01/2015.
 18. Lu, Y. & Yang, X., (2014), "Estimating Dynamic Queue Distribution in a Signalized Network through a Probability Generating Model", IEEE Transactions on ITS, vol. 15(1), 334-344. Published, 02/01/2015.
 19. Yang, X., Chang, G.L., & Rahwanji, S., (2014), "Development of a Signal Optimization Model for Diverging Diamond Interchange", Journal of Transportation Engineering, vol. 140(5), 04014010. Published, 07/18/2014.
 20. Yang, X., & Zhu, S. (2014). Solution to the Multidepot Inventory Slack-Routing Problem at the Planning Stage. Journal of Computing in Civil Engineering, 30(1), 04014115. Published, 07/15/2014.
 21. Pan, S., Yu, J., Yang, X., Liu, Y., & Zou, N. (2014). Designing a flexible feeder transit system serving irregularly shaped and gated communities: determining service area and feeder route planning. Journal of Urban Planning and Development, 141(3), 04014028. Published, 07/15/2014.
 22. Yang, X., & Feng, L. (2013). Inventory routing problem: Routing and scheduling approach with the objective of slack maximization. Transportation Research Record: Journal of the Transportation Research Board, (2378), 32-42. Published, 09/26/2013.
 23. Yang, X., Chang, G.L., Rahwanji, S., Lu, Y., (2013), "Development of Planning-Stage Models for Analyzing Continuous Flow Intersections". Journal of Transportation Engineering, vol. 139(11), pp. 1124-1132. Released, 07/24/2013.

24. Lin, Y., Yang, X., Zou, N., Jia, L., & Pan, S., (2013), "A Passive Transit Signal Priority Control at Urban Arterials". *Journal of Northeastern University: Natural Science*, vol. 34(9), pp. 1227-1231. Published, 07/23/2013.
25. Lin, Y., Yang, X., Zou, N., Jia, L., (2013) "Real-Time Bus Arrival Time Prediction: A Case Study for Jinan, China", *Journal of transportation engineering*, vol. 139(11), pp. 1133-1140. Published, 07/17/2013.
26. Lin, Y., Yang, X., Chang, G.L., Zou, N., (2013), "Transit Priority Strategies for Multiple Routes under Headway-Based Operations", *Journal of Transportation Research Board: Transportation Research Record*, vol. 2356(1), pp. 34-43. Published, 07/15/2013.
27. Yang, X., Lu, Y., & Lin, Y. (2013). Interval optimization for signal timings with time-dependent uncertain arrivals. *Journal of Computing in Civil Engineering*, 29(5), 04014057. Published, 05/22/2013.

REFERRED CONFERENCE PROCEEDINGS

28. Xu, L., Yang, X.*, Chang, G.L., Rahwanji, S., (2017), "Computing the of Minimal U-turn Offset for an Un-Signalized Superstreet", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2645
29. Yang, X.*, Chang, G.L. (2017), "Estimation of time-varying origin-destination patterns for design of multi-path progression on a signalized arterial";, 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2643
30. Yang, X.*, Cheng, Y., Sanchez, J. (2017), "Arterial Corridor Decomposition Model for Improving Signal Progression Efficiency", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-3522
31. Yang, X.*, Chang, G.L. (2017), "Integrating of Adaptive Signal Control and Freeway Off-ramp Priority Control for Commuting Corridors";, 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2566
32. Yang, X., Lu, Y., (2017), "A Two-Stage Solution Algorithm for a Meanderable Urban Logistic Problem";, 96th Transportation Research Board Annual Meeting, Washington D. C. #17-3651
33. Xu, L., Yang, X.*, Chang, G.L. (2017), "Two-stage Signal Optimization Model for Signalized Superstreet", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2544
34. Qiao, W.*, Zhu, T., Yang, X., Liu, J. (2016), "Transit Signal Priority Control Algorithm with Gaming Theory: An Application in Beijing, China", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-5498
35. Lin, Y., Yang, X.*, Dong, Z., Xing, J. (2016), "Passive Transit Signal Priority on Local Arterials: Model Formulation and Strategy Selection", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4671

36. Xu, L., Yang, X.*, Chang, G.L., Rahwanji, S. (2016), "Development of Interval-based Planning Models for Evaluating the Geometric Features of Signalized Superstreet" , 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4287
37. Cheng, Y., Yang, X.*, Chang, G.L. (2016), "DUALBAND: A Signal Progression Model to Synchronize both Through and Turning Traffic on Local Arterials", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4255
38. Yang, X., Cheng, Y., Chang, G.L. (2016), "Operational Analysis and Signal Design for Asymmetric Two-Leg Continuous Flow Intersections", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4155
39. Cheng, Y., Yang, X.*, Chang, G.L. (2015), "A bus-based progression system for arterials with heavy transit flows", 94th Transportation Research Board Annual Meeting, Washington D. C.
40. Yang, X., Cheng, Y.*, Chang, G.L. (2015), "Integrating off-ramp spillback control with the decomposed arterial signal optimization model", 94th Transportation Research Board Annual Meeting, Washington D. C.
41. Yang, X.*, Lu, C.Y., Chang, G.L., (2014) "Integrated Control of an Urban Freeway Off-ramp and Neighboring Intersections", 20th Conference of the International Federation of Operational Research Societies (IFORS), Barcelona, Spain.
42. Yang, X.*, Cheng, Y., Chang, G.L., (2014) "Real-Time Traffic Queue Length Estimation at the Freeway Off-ramp Using Dual-Zone Detectors", ITS World Congress, Detroit, Michigan.
43. Lu, C.Y.*, Yang, X., Chang, G.L., 2014 "A Detector-Error Screening Algorithm Based on Temporal and Spatial Information", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-2214., also published in TRR.
44. Pan, S., Yu, J.*, Yang, X., Liu, Y., Zou, N., 2014 "Flexible Feeder Transit System for Chinese Cities: Service Area Determination and Feeder Route Planning", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3043.
45. Yang, X.*, Lu, C.Y., Chang, G.L., 2014 "Dynamic Signal Priority Control Strategy to Mitigate Off-ramp Queue Spillback to Freeway Mainline Segment", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-0419.
46. Yang, X.*, Lu, C.Y., 2014 "Development of Optimal Variable Speed Limit Control System for Freeway Work Zone Operations", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3591.
47. Pan, S., Yang, X., Zou, N.*, Franz, M., 2014, "Flexible Transit Designs to Enhance the Transport Accessibility of Disabled and Senior Passengers", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3031.
48. Lin, Y.*, Yang, X., Zou, N., 2014, "Dynamic Controls for Bus Rapid Transit System at the Station-Neared Intersections", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3557.

49. Yang, X., Lin, Y.*, Lu, Y., Zou, N., 2013 "Optimal Variable Speed Limit Control for Real-time Freeway Congestions". 13th COTA International Conference of Transportation Professionals (CICTP), Shenzheng, China.
50. Lin, Y.*, Yang, X., Zou, N., Jia, L., 2013 " Development of model-based transit signal priority control for local arterials", 13th COTA International Conference of Transportation Professionals (CICTP), Shenzheng, China.
51. Lin, Y.*, Yang, X., Pan, S., Zou, N., 2013, "Transit Signal Priority Control for Multi-conflicted Routes under Headway-based Service". The 2nd International Conference on Transportation Information and Safety (ICTIS 2013), Wuhan China.
52. Lin, Y.*, Yang, X., Zou, N., Jia, L., 2013, "Real-Time Bus Arrival Time Prediction: Application to Case of Chinese Cities". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3355.
53. Lin, Y.*, Yang, X., Chang, G.L., Zou, N., 2013, "Transit Priority Strategies for Multiple Routes Under Headway-Based Operations". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3190, also published in TRR.
54. Yang, X.*, Feng, L., 2013, "Routing and Scheduling Approach for Urgent Material Distribution Problem". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-4343, also published in TRR.
55. Yang, X.*, Chang, G.L., Lu, Y., Rahwanji, S., 2013, "Development of Planning Framework for Geometric Design of Continuous-Flow Intersections". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3809.
56. Yang, X.*, Chang, G.L., Rahwanji, S., 2013, "Multistage System for Planning Analysis and Signal Design of Diverging Diamond Interchange". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3245.
57. Yang, X.*, Lu, Y., Chang, G.L., 2013, "Proactive Optimal Variable Speed Limit Control for Recurrently Congested Freeway Bottlenecks". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3139.

PRESENTATIONS AND NON-REFEREED PROCEEDINGS

58. Yang, X.*, Lin, Y., (2015), "Dynamic Speed Control of Connected Vehicles to Enhance Operational Efficiency and Safety at Freeway Work-zones", the 7th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, San Francisco, CA.
59. Yang, X.*, (2015), "Integrated Corridor Signal Control of Freeway off-ramp and Local Arterial", 94th Transportation Research Board Annual Meeting, Washington D. C.
60. Yang, X., Cheng, Y.*, Chang, G.L., Kim, M., Rahwanji, S., (2014), "Maryland Unconventional Intersection Design (MUID): A Useful Tool to Design and Evaluate Alternative Intersections", Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

61. Chang, G.L.*, Yang, X., Rahwanji, S., (2014), “Development of a Multi-stage Design System for Diverging Diamond Interchange”, Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.
62. Yang, X.*, Song, X., Kim, H., Chang, G.L., Rahwanji, S., (2014), “Design and Performance Evaluation for Superstreet Intersections”, Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

OTHER PUBLICATIONS

1. Chang, GL., Lu, Y., Yang, X. (2011), “An Integration Computer System for Analysis, Selection, and Evaluation of Unconventional Intersections”, submitted to Maryland SHA, MD-11-SP909B4H.

TEACHING EXPERIENCE

University of Utah, Salt Lake City, UT

Assistant Professor

- **CVEEN 5920/6920 Optimization in Transportation** *Fall 2017*

San Diego State University, San Diego, CA

Assistant Professor

- **CIVE 580: Traffic Engineering Design** *Spring 2017*
- **CIVE 621: Transport Demand Analysis** *Fall 2016*
- **CIVE 481: Transportation Engineering** *Spring 2016*
- **CIVE 620: Traffic Flow Control** *Fall 2015*

University of Maryland, College Park, MD

Instructor/Guest Lecturer

- **ENCE 470: Highway Engineering** *Fall 2014*
- **ENCE 688C: Traffic Signal Design and Analysis** *Spring 2015 & 2014*
- **ENCE 370: Introduction to Transportation Engineering and Planning** *Spring 2014*

MASTERS STUDENTS SUPERVISED

- Zhehao Zhang, Master Student, University of Utah, expected Fall 2019
- Jayesh Dongre, Master Student, San Diego State University, expected Fall 2017
- Nathan Sadrai, Master Student, San Diego State University, Fall 2016
- Evan Stensvad, Master Student, San Diego State University, Fall 2016
- Jonathan Sanchez, Master Student, San Diego State University, Spring 2016
- Sepehr Dastgheibi, Master Student, San Diego State University, Spring 2016

REFEREE SERVICES

- Transportation Research Board Annual Meeting
- IEEE Transaction on Intelligent Transportation Systems
- PLOS One

- Journal of Intelligent Transportation Systems: Technology, Planning, and Operations
- Journal of Transportation Engineering (ASCE)
- Journal of Advanced Transportation
- Transportation Research Part A
- Transportation Research Part B
- Transportation Research Part C
- Journal of the Transportation Research Board
- Journal of Computing in Civil Engineering
- Journal of Urban Planning and Development
- ITS World Congress
- International Symposium on Highway Geometric Design
- Advances in Mechanical Engineering
- Logistics

PROFESSIONAL SERVICES

- 2017 Area Editor, the 17th COTA International Conference of Transportation Professionals (CICTP2017)
- 2017 – Now Member, Traffic Signal System committee, Transportation Research Board
- 2016 Co-Chair, AAAI workshop: Artificial I for Connected Automated Vehicles

AWARDS AND HONORS

- 2015 GREW Fellowship, San Diego State University
- 2015 CEE Fellowship, University of Maryland
- 2015 Best Ph.D. Research Award, University of Maryland
- 2014 CEE Fellowship, University of Maryland
- 2013 Future Faculty Fellowship, University of Maryland
- 2012 CEE Fellowship, University of Maryland
- 2009 Han Yinzheng Scholarship, Tsinghua University, China
- 2008 The 3rd prize of National Scholarship, Tsinghua University, China
- 2008 The 2nd prize of Transportation Competition, Tsinghua University, China
- 2006 Tsinghua Fellowship, Tsinghua University, China