Yao-Jan Wu, Ph.D., P.E.

Associate Professor
Director of Smart Transportation Lab
Director of Center for Applied Transportation Sciences (CATS)

1209 E 2nd St. Room 324F
Department of Civil and Architectural Engineering and Mechanics
University of Arizona, Tucson, AZ 85721
Office: +1 (520) 621-6570 | Fax: +1 (520) 621-2550
Email: yaojan@email.arizona.edu | Website: www.yaojan.org | LinkedIn: www.linkedin.com/in/yaojan
https://orcid.org/0000-0002-0456-7915

1   PERSONAL INFORMATION

1.1   Education

Ph.D. in Transportation Engineering   Jun. 2006 - Dec.2010
Dept. of Civil and Environmental Engineering, University of Washington (UW), Seattle

M.S. in Transportation Engineering   Sep. 2002 - Jun. 2004
Dept. of Civil Engineering, National Taiwan University (NTU), Taipei, Taiwan

B.S. in Civil Engineering *with honors*   Sep. 1998 - Jun. 2002
Dept. of Civil Engineering, National Central University (NCU), Chungli, Taiwan

1.2   Research Interests

- **Intelligent transportation systems (ITS)**
    - **Image processing and computer vision applications**
    - **Traffic detection technology development**
    - **Advanced/information technology applications**
- **Data-driven large-scale transportation system analysis and optimization**
    - **Freeway and arterial operations**
    - **Transportation system performance measurement**
    - **Big traffic data management, mining, and analysis**
    - **Travel behavior and pattern analysis**
- **Transportation safety analysis and accident modeling**
- **Sustainable transportation systems**
    - **Sustainable infrastructure**
    - **Transit system planning & operations**

1.3   Awards and Honors

- **Outstanding Reviewer ("Outstanding Contribution in Reviewing")**, Transportation Research Part C, Feb. 2018.

- **2017 LeadershipITE Fellow**. Institute of Transportation Engineers (ITE). Washington DC. Aug. 2017.

- **2014 Outstanding English Editing Chair Award**, The 14th COTA International Conference of Transportation Professionals (CICPT), Chinese Oversea Transportation Association (COTA), Jul. 7, 2014.

- **2013 Professor of the Year (Excellence at the Student Interface)**, Department of Civil Engineering and Engineering Mechanics, University of Arizona, May 13, 2014.

- **2010 Michael Kyte Award[1]**, Region X Outstanding Student of the Year, Jan. 24, 2011.

- **2010 UTC (Region X) Outstanding Student of the Year[2]**, TransNow, Region X UTC., Jan. 22, 2011.

- **Guiding Star Award[3]**, Smart Transportation Applications and Research Laboratory (STAR Lab), June 15, 2009.

- **Institute of Transportation Engineers (ITE) Scholarship: Outstanding Graduate Student in Transportation**, by ITE Washington State Section, May 13, 2008.

1.4 Work Experience

- **Founder/Director** of Center for Applied Transportation Sciences (CATS)   Jan. 2021 – Present

- **Founder/Director** of **Smart Transportation Lab**   Aug. 2013 – Present

- **Associate Professor**   July. 2019 – Present
  Department of Civil and Architectural Engineering and Mechanics (CAEM), University of Arizona (UA)

- **Assistant Professor**   Aug. 2013 – May 2019
  Department of Civil Engineering and Engineering Mechanics (CEEM), University of Arizona (UA)

- **Assistant Professor** & **Founder/Director** of **Smart Transportation Lab**   Aug. 2011 - Jul. 2013
  Department of Civil Engineering, Saint Louis University

- **Postdoctoral Research Associate**   Jan. 2011 - Jul. 2011
  Center of Transportation Studies, University of Virginia

- **ITS Intern Engineer**   Oct. 2010 - Dec. 2010
  Department of Transportation, City of Bellevue, WA

- **Traffic Engineering Intern**   May 2010 - Aug. 2010
  Traffic Engineering Division, City of Everett, WA

- **Graduate Research Assistant**   Jun. 2006~ Dec. 2010
  Smart Transportation and Application Research Laboratory (STAR Lab)
  Department of Civil and Environmental Engineering, University of Washington, Seattle

- **Research Assistant**   Mar. 2006 - Jun. 2006
  Intelligent Transportation System (ITS) Lab, National Taiwan University, Taiwan

- **Transportation Platoon Leader** (second lieutenant)   Oct. 2004 - Jan. 2006
  Subordinate Company of Brigade 904, Taiwan Army, Taichung, Taiwan

- **Graduate Research Assistant**   July 2002 - Oct. 2004
  ITS Lab, Graduate Institute of Civil Engineering, National Taiwan University, Taiwan

1.5 Licenses

- Professional Engineer (PE)
  - Civil (**Missouri**): Lic. No. 2013019132 (May 2013)
  - Civil (**Arizona**): Registration No. : 62501 (June 24, 2016)
- Engineer-In-Training (EIT) – Civil (Washington State) (Lic. No. 31596)
- Certified Tennis Coach (Class C), Taiwan (2000)
- Emergency Medical Technician 1 (EMT1), Taiwan (2003)

---

[1] Nominees for the award were Students of the Year drawn from Region X's respective University Transportation Centers (UTC).
[2] Recognized by the U.S. Department of Transportation (USDOT) at the Council of University Transportation Centers (CUTC) Banquet at the 90th Annual Transportation Research Board (TRB) meeting.
[3] Awarded to the student who made the most contributions to STAR Lab management in the areas of training, services, equipment purchases, and maintenance over the previous year.

2 RESEARCH ACTIVITIES

Summary: *38+* sponsored research projects as PI or Co-PI. *60+* refereed journal articles, *70+* peer-reviewed conference papers, *15+* technical reports, and **90**+ professional presentations (besides conference paper presentations)

2.1 <u>Projects and Grants</u>

Total Contracted Budget (<u>my credit only</u>): $3,440,394 ($3,338,249 at UArizona/$102,145 at SLU))

ID	Role	Project Title	Funding Agency	Project Period	Total Amount (Credit)
39	*PI*	*Center for Applied Transportation Sciences (CATS)*	ADOT	*07/2021- 06/2022 – Ongoing*	$50,000
			City of Tucson, AZ		$100,000
38	*PI*	*Optimizing Traffic Signals Using Multi-Source Data: Phases 1 - 5*	City of Tucson, AZ	*08/2017 - 08/2022 – Ongoing*	$625,000
37	*PI[4]*	*Feasibility Assessment for Adaptive Signal Control (ASC) System.*	Town of Gilbert, AZ	*03/2021-10/2022 – Ongoing*	$90,755
36	*PI[5]*	*Statistical Comparisons of Traffic Data for Traffic Signal Re-Timing*	City of Phoenix, AZ	*03/2021 – 05/2022 – Ongoing*	$90,000
35	*PI*	*Automated Data Collection and Analysis for Arterial Traffic Operations*	Town of Marana, AZ		
		Phase 1[6]		*11/2019 – 08/2020*	$30,000
		Phase 2[7]		*08/2020 – 08/2021 – Ongoing*	$50,000
		Phase 3			
34	*PI*	*Technical Support for Metropia Data Analytics & DynusT Modeling*	Metropia Inc.	*09/2020 – 06/2021 – Ongoing*	$99,407
33	*Co-PI[8]*	*Data-Driven Optimization for E-Scooter System Design*	National Institute for Transportation & Communities (USDOT National University Transportation Center)	*08/2020 – 07/2021 – Ongoing*	$12,848
32	PI	Traffic Data Analytics Platform Development for TSMO – Expansion of Ramp Metering Evaluation Tool	Arizona DOT	*05/2020 – 04/2022 – Ongoing*	$200,000

---

[4] Co-PI: TBD

[5] Co-PI: Dr. Abolfazl Karimpour

[6] Co-PI: Dr. Mohammad Shaon

[7] Co-PI: Dr. Abolfazl Karimpour

[8] PI: Dr. Jianqiang Cheng. Total budget: $67,619.

31	PI	Comparative Analysis and Integration of Region-Wide Traffic Data	Pima Association of Governments (PAG)	*01/2020 – 05/2021 – Ongoing*	$133,424
30	PI	Evaluation of Emerging Transportation Technologies: Case Studies in Phoenix and Chandler.	Maricopa Association of Governments (MAG)		
		Phase 1[9]		*12/2019 – 01/2021 – Ongoing*	$84,518
		Phase 2[10]		*01/2021 – 08/2021 – Ongoing*	$56,713
29	PI	Evaluation of Emerging Transportation Technologies: MAG Public Universities Task Force Support	Maricopa Association of Governments (MAG)	*12/2019 – 12/2020 – Complete*	$13,062
28	PI[11]	*Data-Driven Mobility Strategies for Multi-Modal Transportation*	National Institute for Transportation & Communities (USDOT National University Transportation Center)	*09/2019 – 05/2021 – Ongoing*	$55,586
27	PI	Tech Support for Transportation Network Management System	Pima County DOT		
		Phase 1[12]		*05/2020 – 06/2021 – Complete*	$50,000
		Phase 2[13]		*04/2021 – 08/2021 – Ongoing*	$30,000
26	Co-PI[14]	*Development of Low-Cost Radar-Based Sensor for Multi-Modal Traffic Monitoring*	National Institute for Transportation & Communities (USDOT National University Transportation Center)	*09/2019 – 04/2021 – Ongoing*	$10,986
25	PI	*Data Analytics for Traffic Signal Optimization*	Pima County DOT	*07/2019 – 06/2021 – Ongoing*	$150,000
24	Co-PI[15]	*Land Use and Transportation Policies for a Sustainable Future with Autonomous Vehicles:*	National Institute for Transportation & Communities	*08/2018 – 08/2020*	$41,666

---

[9] Co-PI: Dr. Mohammad Shaon

[10] Co-PI: Dr. Abolfazl Karimpour

[11] Co-PIs: Dr. Xianfeng Yang, University of Utah/ Dr. Sirisha Kothuri, Portland State University. Total budget: $137,608

[12] Co-PI: Dr. Mohammad Shaon

[13] Co-PI: Dr. Abolfazl Karimpour

[14] PI: Dr. Siyang Cao, ECE Department, University of Arizona. Total budget: $66,571

[15] PI: Dr. Liming Wang, Portland State University

		Scenario Analysis with Simulations	(USDOT National University Transportation Center)		
23	**PI**	Multi-Criteria Evaluation of Advanced Traffic Management Systems	City of Phoenix, AZ	*05/2019 – 03/2020*	$78,500
22	**PI**	*Engineering Training for Traffic Signal Timing Optimization*	City of Phoenix, AZ	*12/2019 – 11/2020*	$46,398
21	**Co-PI**[16]	*Development of a Regional Plan for Enhancing Future of Mobility and Technology*	Maricopa Association of Governments (MAG) – Subcontract from ASU	*02/2019 – 12/2019*	$23,932
20	**PI**[17]	Pima County Speed Management Evaluation and Strategic Development: Data-Driven Enforcement	Pima County DOT, AZ	12/2017 – 12/2019	$80,000
19	**PI**	Data-Driven Evaluation for ADOT Ramp Metering	Arizona DOT	05/2018 – 08/2019	$120,102
18	**Key**[18]	Developing a Quality of Signal Timing Performance Measure Methodology for Arterial Operations	University of Nevada, Reno/Nevada DOT	12/2017 – 09/2019	$11,000
17	**PI**	Before-and-After Traffic Study for Indirect Left Turns on Grant Road, Tucson *– Phases 1 and 2 completed. Separate contract created for Phase 3.*	Regional Transportation Authority (RTA)	10/2016 – 05/2018	$45,193
16	**PI**	Traffic Study for Indirect Left Turns on Grant Road, Tucson – After Phase 2: Stone/Park Construction	RTA/Subcontract from Psomas Inc.	*09/2019 – 06/2020*	$17,400
15	**PI**	Evaluation of Traffic Signal Communication	Arizona DOT	*03/2016 – 09/2018*	$118,364
14	**PI**	Visualizing Performance Measures with Multi-Source Traffic Data	Jiangsu (Zhitong) Intelligent Transportation System Co, Ltd.	*10/2015 – 08/2018*	$200,000
13	**PI**	Incorporating Freeway Performance Measures into Real-Time Crash Prediction	Arizona DOT	10/2016 – 05/2018	$60,000
12	**PI**	SHRP2 Implementation Assistance Program (IAP): Reliability Data and Analysis Tools	Federal Highway Administration (FHWA)/Arizona DOT	10/2016 – 09/2017	$100,000
11	**PI**	University of Arizona Bluetooth Solution – Oracle Rd Travel Time Data Collection	Pima Association of Government (PAG) /	*11/2015 – 08/2017*	$30,000

---

[16] PI: Dr. Ram Pendyala, Arizona State University

[17] Co-PI: Dean Papajohn. Total budget: $100,000

[18] Key Personnel. PI: Dr. Zong Tian, University of Nevada, Reno

			Arizona DOT		
10	PI	Analyzing Travel Time Data: Development of Traffic Data Quality Assurance Tool	Arizona DOT	02/2016 – 12/2016	$93,482
9	PI	Metropia App Quality Assurance and Data Examination	Metropia, Inc.	09/2015 – 01/2017	$84,490
8	PI[19]	Multi-modal Arterial Performance Measurement using Multi-source ITS Data	University of California Center ON Economic Competitiveness In Transportation (UCCONNECT),	08/2014 – 10/2015	$30,000
7	PI[20]	The Real-Time Signal Timing and Traffic Information Project (Tucson Bluetooth Systems Deployment)	City of Tucson, AZ	04/2014 – 12/2015	$114,000
6	Co-PI[21]	A Real-time Online Decision Support System for Intermodal Passenger Travel	National Center for Intermodal Transportation for Economic Competitiveness (NCITEC)	08/2013 – 07/2015	$60,000
5	PI[22]	Freeway Travel Time Estimation using Existing Fixed Traffic Sensors (Phase 2)	Missouri Department of Transportation (MoDOT)	08/2013 – 12/2014	$51,423
4	PI	Development of Online Traffic Data Platform for Advanced Traffic Operations and Management	President Research Fund (PRF) at SLU	03/2013 – 02/2014 *Terminated due to leaving SLU for UA.*	$25,000
3	PI	Development of a Region-wide Traffic Emission Estimation Platform for Environmental Sustainability Evaluation	Sustainability Research Fund (Center for Sustainability at SLU)	10/2012 – 12/2013	$32,037
2	PI	Freeway Travel Time Estimation using Existing Fixed Traffic Sensors (Phase 1)	Missouri Department of Transportation (MoDOT)	09/2012 – 09/2013	$45,108
1	Co-PI[23]	Housing and Urban Development (HUD) Grant: Sustainable Communities Regional Planning Grant Program	U.S. Department of Housing and Urban Development	2010 - 2013	

[19] Co-PI: Dr. Yi-Chang Chiu's credit (50% of Total Budget of $60,000)

[20] PI's credit: about 63% of original budget of $180,000. Original PI: Dr. Larry Head.

[21] **PI**: Dr. Mengqi Hu at Mississippi State University. Total project budget: $156,726.

[22] Co-PI: Dr. Zhaozheng Yin, Missouri University of Science & Technology, Rolla. Total budget: 77,000. Matching fund project: Freeway Travel Time Estimation using Existing Fixed Traffic Sensors - A Computer-Vision-Based Vehicle Matching Approach. Matching fund of $38,681 from Mid-America Transportation Center

[23] **PI**: Dr. Sarah L. Coffin. Total budget: $4.7 million. SLU's portion: $662,191

2.2 Journal Publications

*: Student advised or co-advised. #: Co-adviser

1   Xiaofeng Li[*], **Yao-Jan Wu,** and Alireza Khani (2021). *Investigating a Small-Sized Bike-Sharing System's Impact on Transit Usage: A Synthetic Control Analysis in Tucson, Arizona*. Accepted by Public Transport.

2   Mohammad Razaur Rahman Shaon, Xiaofeng Li, **Yao-Jan Wu,** and Simon Ramos (2021). *Quantitative Evaluation of Advanced Traffic Management Systems using Analytic Hierarchy Process*. Accepted by Transportation Research Record: Journal of the Transportation Research Board.

3   Abolfazl Karimpour, Jason C. Anderson, Sirisha Kothuri, and **Yao-Jan Wu** (2021). *Estimating pedestrian delay at signalized intersections using high-resolution event-based data: a finite mixture modeling method*, Journal of Intelligent Transportation Systems, DOI: 10.1080/15472450.2021.1926246. (PDF)(Official Link)

4   Xiaofeng Li*, Peipei Xu*, and **Yao-Jan Wu** (2021). *Pedestrian Crossing Volume Estimation at Signalized Intersections using Bayesian Additive Regression Trees*. Accepted by Journal of Intelligent Transportation Systems. (PDF) (Official Link)

5   Xiaoling Luo*, Adrian Cottam*, **Yao-Jan Wu**, and Yangsheng Jiang (2021). *Hybrid-Data Approach for Estimating Trip Purposes*. Accepted by Transportation Research Record: Journal of the Transportation Research Board.

6   Abolfazl Karimpour[*], Robert Kluger, Chenhui Liu, and **Yao-Jan Wu** (2021). *Effects of speed feedback signs and law enforcement on driver speed*. Transportation Research Part F: Traffic Psychology and Behaviour, Vol. 77, pp. 55-72, ISSN 1369-8478 (PDF) (Official Link).

7   Xiaofeng Li[*] and **Yao-Jan Wu** (2021). Real-Time Estimation of Pedestrian Volume at Button-Activated Midblock Crosswalks Using Traffic Controller Event-Based Data. Transportation Research Part C. Vol. 122. (PDF)(Official Link)

8   Amin Ariannezhad*, Abolfazl Karimpour*, Xiao Qin, **Yao-Jan Wu**, Yasamin Salmani (2021). *Handling Imbalanced Data for Real-Time Crash Prediction: Application of Boosting and Sampling Techniques*. Journal of Transportation Engineering Part A. Vol. 137, Issue 3. (PDF)(Official Link)

9   Xiaofeng Li[*], Adrian Cottam*, **Yao-Jan Wu**, and Alireza Khani (2020). *Can a Bikesharing System Reduce Fuel Consumption? Case Study in Tucson, Arizona*. Transportation Research Part D: Transport and Environment. Vol. 89. ISSN 1361-9209. (PDF)(Official Link)

10 Xiaobo Ma*, Abolfazl Karimpour*, and **Yao-Jan Wu** (2020). *Statistical Evaluation of Data Requirement for Ramp Metering Performance Assessment*. Transportation Research Part A: Policy and Practice. Vol 141. pp. 248-261. (PDF)(Official Link)

11 Huanmei Qin, Xiuhan Yang, **Yao-Jan Wu**, Hongzhi Guan, Pengfei Wang, and Nasrin Shahinpoor (2020), *Analsyis of Parking Cruising Behaviour and Parking Location Choice*. Transportation Planning and Technology. Vol 43, Issue 7, pp. 717-734. (Official Link)(PDF)

12 Abolfazl Karimpour[*], Rob Kluger, and **Yao-Jan Wu** (2020). *Traffic Sensor Data-Based Assessment of Speed Feedback Signs.* Journal of Safety and Security. DOI: 10.1080/19439962.2020.1731038 (PDF)(Official Link)

13 Amin Ariannezhad* and **Yao-Jan Wu** (2020). *Large-Scale Loop Detector Troubleshooting Using Clustering and Association Rule Mining*. ASCE Journal of Transportation Engineering. Volume 146, Issue 7. (PDF)(Official Link)

14 Amin Ariannezhad[*], Abolfazl Karimpour[*] and **Yao-Jan Wu** (2020). *Incorporating Mode Choice into Safety Analysis in Transportation Analysis Zones*. ASCE Journal of Transportation Engineering. Vol. 146, Issue 4. (PDF)(Official Link)

15 Abolfazl Karimpour[*], Amin Ariannezhad[*] and **Yao-Jan Wu** (2019). *Hybrid-Data-Driven Approach for Truck Travel Time Imputation*. IET Intelligent Transport Systems. Volume 13, Issue 10, p. 1518 – 1524. (PDF) (Official Link)

16 Huanmei Qin[#], Jianqiang Gao[*], **Yao-Jan Wu**, and Hai Yan (2019). *Analysis on context change and repetitive travel mode choices based on a dynamic, computational model*. Transport Policy. Volume 79, Pages 155-164. (Official Link) (PDF)

17 Xiaofeng Li[*], **Yao-Jan Wu**, and Yi-Chang Chiu (2019). *Volume Estimation Using Traffic Signal Event-Based Data from Video-Based Sensors.* Transportation Research Record: Journal of the Transportation Research Board. (Official Link)(PDF)

18 Xiaofeng Li[*], Alexander Weber[*], Adrian Cottam[*], and **Yao-Jan Wu** (2019). *Impacts of Changing from Permissive/Protected Left-Turn to Protected-Only Phasing. Case Study in the City of Tucson, Arizona*. Transportation Research Record: Journal of the Transportation Research Board. (Official Link)(PDF)

19 Wenming Rao[*], **Yao-Jan Wu**, Jingxin Xia[#], Jishun Ou[*] and Robert Kluger (2018). *Origin-Destination Pattern Estimation based on Trajectory Reconstruction Using Automatic License Plate Recognition Data*. Transportation Research Part C. Vol. 95, pages 29-46.(Official Link)(PDF)

20 Jishun Ou[*], Shu Yang[*], **Yao-Jan Wu**, Chengchuan An[*], Jingxin Xia[#] (2018). *Systematic Clustering Method to Identify and Characterise Spatiotemporal Congestion on Freeway Corridors*. IET Intelligent Transport Systems. Vol. 12, Issue 8. (Official Link)(PDF)

21 Amin Ariannezhad[*] and **Yao-Jan Wu** (2018). *Effects of Adverse Weather in Different Light Conditions on Crash Severity During Arizona's Monsoon Season*. Journal of Transportation Safety & Security. Volume 11 Issue 6. Pages 579-594. (Official Link)(PDF)

22 Zheng Li[*], Robert Kluger, Xianbiao Hu, **Yao-Jan Wu**, and Xiaoyu Zhu (2018). *Reconstructing Vehicle Trajectories to Support Travel Time Estimation*. Transportation Research Record: Journal of the Transportation Research Board. Vol 2672, Issue 42, pp. 148–158 (Official Link) (PDF)

23 Huanmei Qin, Jianqiang Gao, Robert Kluger, **Yao-Jan Wu** (2018), *Effects of perception on public bike-and-ride: A survey under complex, multifactor mode-choice scenarios*, Transportation Research Part F: Traffic Psychology and Behaviour, Volume 54, April 2018, pp. 264-275. (Official Link)(PDF)

24 Shu Yang[*], Ming Chen[*], **Yao-Jan Wu**, and Chengchuan An[*] (2018). *Machine Learning Approach to Decomposing Arterial Travel Time Using a Hidden Markov Model with Genetic Algorithm*. ASCE Journal of Computing. Vol. 32, Issue 5. (Published online in advance) (Official Link) (PDF)

25 Shu Yang[*] and **Yao-Jan Wu** (2018), Travel Mode Identification Using Bluetooth Technology, Journal of Intelligent Transportation Systems. Volume 22, Issue 5, pp. 407-421 (Official link)(PDF)

26 Chengchuan An[*], **Yao-Jan Wu**, Jingxin Xia[#], and Wei Huang[#] (2018). *Real-Time Queue Length Estimation using Event-Based Advance Detector Data*. Journal of Intelligent Transportation Systems. Vol.22, Issue 4, pp.277-290. (Official Link) (PDF)

27 Shu Yang[*], Chengchuan An[*], **Yao-Jan Wu**, and Jingxin Xia[#] (2017). *Taxicab Availability: Empirical Study of Kunshan, China.* Transportation Research Record: Journal of the Transportation Research Board, No. 2650. Doi: 10.3141/2650-06. (Official Link) (PDF)

28 Jishun Ou[*], Jingxin Xia[#], **Yao-Jan Wu**, and Wenming Rao[*] (2017). *Short-Term Traffic Flow Forecasting for Urban Roads Using Data-Driven Feature Selection Strategy and Bias-Corrected Random Forests*. Transportation Research Record: Journal of the Transportation Research Board, No. 2645. Doi: 10.3141/2645-17. (Official Link)(PDF)

29 Chengchuan An[*], **Yao-Jan Wu**, Jingxin Xia[#], and Zhenbo Lu. (2017) *Investigating Impacts of Communication Loss on Signal Performance Using Event-Based Data*. Transportation Research Record: Journal of the Transportation Research Board, No. 2645. Doi: 10.3141/2645-05. (Official Link)(PDF)

30 Shu Yang[*], Chengchuan An[*], **Yao-Jan Wu**, and Jingxin Xia[#] (2017) *Origin-Destination Based Travel Time Reliability.* Transportation Research Record: Journal of the Transportation Research Board, No. 2643. doi: 10.3141/2643-16. (PDF)(Official Link)

31 Xiaolei Ma, Congcong Liu, Huimin Wen, Yunpeng Wang, and **Yao-Jan Wu** (2017). *Understanding Commuting Patterns Using Transit Smart Card Data*. Journal of Transport Geography, Volume 58, pp. 135–145 (Official Link)(PDF)

32 Yang Chen[*], Shu Yang[*], Menqi Hu[#] and **Yao-Jan Wu** (2016). A Reliability-based Transit Trip Planning Model under Transit Network. Public Transport. Vol. 8, Issue 3. pp 477–496. doi:10.1007/s12469-016-0134-y (Official Link) (PDF)

33 Shu Yang[*], **Yao-Jan Wu**, John Woolschlager (2016). *Integrated Modeling Framework for Highway Traffic Pollution*

Estimation and Dispersion. American Journal of Environmental Sciences. Vol. 12, Issue 3, pp. 140-151. DOI:10.3844/ajessp.2016.140.151. ([Official Link](#))([PDF](#))

34 Shu Yang[*] and **Yao-Jan Wu** (2016*). Mixture Models for Fitting Freeway Travel Time Distributions and Measuring Travel Time Reliability*. Transportation Research Record: Journal of the Transportation Research Board. 2594, pp. 95-106 ([Official Link](#)) ([PDF](#))

35 Shu Yang[*], **Yao-Jan Wu**, Zhaozheng Yin and Yiheng Feng (2016). *Estimating Freeway Travel Times Using General Motors Model.* Transportation Research Record: Journal of the Transportation Research Board. 2594. pp. 83-94. ([Official Link](#)) ([PDF](#))

36 **Yao-Jan Wu**, Feng Chen, Chang-Tien Lu and Shu Yang[*] (2016). *Traffic Flow Prediction for Urban Networks Using a Spatio-Temporal Random Effects Model*. Journal of Intelligent Transportation Systems. Vol.20, Issue 3, pp. 282-293. DOI:10.1080/15472450.2015.1072050 ([Official Link](#)) ([PDF](#))

37 Shu Yang[*], **Yao-Jan Wu**, Bernadette Marion, and Isaac Moses (2015). *Identification of Transit Farebox Data Errors: Impacts on Transit Planning*. Public Transport, pp. 1-17. ([Official Link](#)) ([PDF](#))

38 Shu Yang[*], Xuan Liu[*], **Yao-Jan Wu**, John Woolschlager and Sarah Coffin (2015). *Can Freeway Traffic Volume Information Facilitate Urban Accessibility Assessment? - Case Study of the City of St. Louis*. Journal of Transport Geography, Vol. 44, pp. 65-75. ([Official Link](#)) ([PDF](#))

39 Zhenbo Lu[#], Wenming Rao[*], **Yao-Jan Wu**, Li Guo, and Jingxin Xia[#] (2015). *A Kalman Filter Approach to Dynamic OD Flow Estimation for Urban Road Networks Using Multi-Sensor Data*, Journal of Advanced Transportation. Vol. 49, No. 2, 2015, pp. 210-227. ([Official Link](#)) ([PDF](#))

40 Shu Yang[*], Arif Malik[#] and **Yao-Jan Wu** (2014). *Travel Time Reliability using Hasofer Lind-Rackwitz Fiessler Algorithm and Kernel Density Estimation*. Transportation Research Record: Journal of the Transportation Research Board, Vol. 2442, pp. 85-95. ([Official Link](#)) ([PDF](#))

41 Xiaolei Ma**, Yao-Jan Wu**, Yinhai Wang, Feng Chen, and Jianfeng Liu (2013). *Mining Smart Card Data for Transit Riders' Travel Patterns*. Transportation Research Part C: Emerging Technologies, Vol. 36, pp. 1-12. ([Official Link](#)) ([PDF](#))

42 **Yao-Jan Wu**, Tanveer Hayat[*], Andres Clarens[#], and Brian L. Smith[#] (2013). *Climate Change Effects on Transportation Infrastructure - Scenario-Based Risk Analysis Using Geographic Information Systems*. Transportation Research Record: Journal of the Transportation Research Board, Vol. 2375, pp. 71-81. ([Official Link](#)) ([PDF](#))

43 Jianyang Zheng, Xiaolei Ma, **Yao-Jan Wu**, and Yinhai Wang (2013). *Measuring Signalized Intersection Performances in Real-Time with Traffic Sensors*. Journal of Intelligent Transportation Systems, Vol. 17, Issue. 4, pp. 304-316. ([Official Link](#)) ([PDF file](#))

44 Huanmei Qin[*], Hongzhi Guan[#], and **Yao-Jan Wu** (2013). *Analysis of Park-and-Ride Decision Behavior based on Decision Field Theory*. Transportation Research Part F: Traffic Psychology and Behaviour, vol. 18, pp. 199-212. ([Official Link](#)) ([PDF file](#))

45 Tang-Hsien Chang[#], Shang-Min Yu[*], and **Yao-Jan Wu** (2013). *Dilemma Zone Avoidance Development – An Onboard Approach*. Intelligent Transport Systems, IET, Vol. 7, No. 1, 2013, pp. 87-94. ([Official Link](#)) ([PDF file](#))

46 James H. Lambert[#], **Yao-Jan Wu**, Haowen You[*], Andres Clarens and Brian Smith (2013). Climate Change Influence on Priority Setting for Transportation Infrastructure Assets. Journal of Infrastructure Systems, Vol. 19, No. 1, pp. 36-46. ([Official Link](#)) ([PDF file](#))

47 **Yao-Jan Wu**, Guohui Zhang, and Yinhai Wang (2012). *Link Journey Speed Estimation for Urban Arterial Performance Measurement using Advance Loop Detector Data under Congested Conditions*. ASCE Journal of Transportation Engineering. Vol. 138, Issue 11, pp. 1321–1332. ([Official Link](#)) ([PDF](#))

48 Yunteng Lao, **Yao-Jan Wu**, Yinhai Wang, and Xiaoguang Yang (2012). *Applicability of Single and Double Phase Midblock Crossings*. Proceedings of the Institution of Civil Engineers - Transport, Vol. 166, Issue. 3, pp. 126-136. ([Official Link](#))([PDF](#)) *[Note: This is a journal article, not a conference paper]*

49 Yunteng Lao, **Yao-Jan Wu**, Yinhai Wang, and Kelly McAllister (2012). *Fuzzy Logic-based Mapping Algorithm for Improving Animal-Vehicle Collision Data*. ASCE Journal of Transportation Engineering. Vol. 138, No. 5, 2012, pp. 520-

526. (Official Link) (PDF)

50   Xianye Ben, Mingyan Jiang, **Yao-Jan Wu**, Weixiao Meng (2012). *Gait Feature Coupling for Low-Resolution Face Recognition*. IET Electronics Letters. Volume 48, Issue 9, p.488–489. (Official link)(PDF)

51   **Yao-Jan Wu**, Shi An, Xiaolei Ma, and Yinhai Wang (2011). *Development of Web-Based Analysis System for Real-Time Decision Support on Arterial Networks*. Transportation Research Record: Journal of the Transportation Research Board, 2215, pp 24-36. (Official Link) (PDF)

52   Xiaolei Ma, **Yao-Jan Wu**, and Yinhai Wang (2011). *DRIVE Net: An E-Science of Transportation Platform for Data Sharing, Visualization, Modeling, and Analysis*. Transportation Research Record: Journal of the Transportation Research Board, 2215, pp 37-49. (Official link) (PDF)

53   Jonathan Corey, Yunteng Lao, **Yao-Jan Wu**, and Yinhai Wang (2011). *Detection and Correction of Inductive Loop Detector Sensitivity Errors Using Gaussian Mixture Models*. Transportation Research Record: Journal of the Transportation Research Board, 2256, pp. 120-129. (Official Link)(PDF)

54   Yunteng Lao, Guohui Zhang **Yao-Jan Wu**, and Yinhai Wang (2011). *Modeling Animal-Vehicle Collisions Considering Animal-Vehicle Interactions*. Accident Analysis and Prevention Journal, Vol. 43, Issue 6, pp. 1991-1998. (Official Link) (PDF)

55   **Yao-Jan Wu**, Mark E. Hallenbeck, Yinhai Wang, and Kari Edison Watkins (2011). *Evaluation of Arterial and Freeway Interaction for Determining the Feasibility of Traffic Diversion*. ASCE Journal of Transportation Engineering. Vol. 13, Issue 8, pp. 509-519. (Official Link) (PDF)

56   Yunteng Lao, **Yao-Jan Wu**, Jonathan Corey, and Yinhai Wang (2011). *Modeling Animal-Vehicle Collisions Using Diagonal Inflated Bivariate Poisson Regression*. Accident Analysis and Prevention Journal, Vol. 43, Issue 1, pp. 220-227. (Official Link). (PDF)

57   **Yao-Jan Wu,** Guohui Zhang, and Yinhai Wang (2010). *Volume Data Correction for Single-channel Advance Loop Detectors at Signalized Intersections*. Transportation Research Record: Journal of the Transportation Research Board, 2160, pp. 128-139. (Official Link) (PDF)

58   **Yao-Jan Wu** and Yinhai Wang (2009). *An Interactive Web-based System for Urban Traffic Data Analysis*. International Journal of Web Applications, Vol. 1, No 4, pp. 241-252. (Official Link) (PDF)

59   Yegor Malinovskiy, **Yao-Jan Wu**, and Yinhai Wang (2009). *Video-Based Vehicle Detection and Tracking Using Spatiotemporal Maps*. Transportation Research Record: Journal of the Transportation Research Board, 2121, pp. 81-89. (Official Link) (PDF)

60   Yegor Malinovskiy, **Yao-Jan Wu**, and Yinhai Wang (2008). *Video-Based Monitoring of Pedestrian Movements at Signalized Intersections*. Transportation Research Record: Journal of the Transportation Research Board, 2073, pp. 11-17. (Official Link) (PDF)

61   **Yao-Jan Wu**, Feng-Li Lian, Chun-Po Huang, and Tang-Hsien Chang (2007). *Image Processing Techniques for Lane-Related Information Extraction and Multi-Vehicle Detection in Intelligent Highway Vehicles*. International Journal of Automotive Technology, Vol. 8, No. 4, pp. 513-520. (Official Link) (PDF)

2.3 **Book Chapter**

1.   Abolfazl Karimpourand **Yao-Jan Wu** (2020). Freeway to arterial interfaces, Encyclopedia of Transportation. Accepted for publication.

2.   Shu Yang and **Yao-Jan Wu** (2019). Chapter 4 - Data-Driven Approaches for Estimating Travel Time Reliability, Data-Driven Solutions to Transportation Problems, Pages 81-110, Elsevier, NY, USA. (Official Link)

2.4 **Peer-reviewed Conference Papers (with Proceedings)[24]**

*: Student advised or co-advised. #: Co-adviser

1. Peipei Xu*, Xiaofeng Li*, **Yao-Jan Wu,** and Hyunsoo Noh (2021). Estimating Network-Level Turning Movement Counts using Traffic Controller Event-Based Data. Presented at the 100th Annual Meeting of the Transportation Research Board.

2. Liang Xia*, Xiaofeng Li*, Mohammad Razaur Rahman Shaon, **Yao-Jan Wu**, Xinguo Jiang (2021). Arterial Signal Offset Optimization Using Crowdsourced Speed Data. Presented at the 100th Annual Meeting of the Transportation Research Board.

3. Xiaofeng Li* and **Yao-Jan Wu** (2021). Estimating Real-Time Pedestrian Volume at Button-Activated Midblock Crosswalks.   Presented at the 100th Annual Meeting of the Transportation Research Board.

4. Xiaofeng Li*, Peipei Xu*, and **Yao-Jan Wu** (2021). Estimating Pedestrian Crossing Volume at Signalized Intersections. Presented at the 100th Annual Meeting of the Transportation Research Board.

5. Adrian Cottam*, Xiaofeng Li*, Mohammad Razaur Rahman Shaon, and **Yao-Jan Wu** (2021). Investigating the Impacts of E-Scooters on Bike-sharing System Ridership: A Data-Driven Study in Tucson, Arizona. Presented at the 100th Annual Meeting of the Transportation Research Board.

6. Adrian Cottam*, Xiaobo Ma*, Xiaofeng Li*, and **Yao-Jan Wu** (2021). Large-scale Freeway Traffic Volume Estimation using Crowdsourced Speed Data: A Case Study in Arizona. Presented at the 100th Annual Meeting of the Transportation Research Board.

7. Abolfazl Karimpour*, Jason Anderson, Sirisha Kothuri, and **Yao-Jan Wu** (2021). Estimating Pedestrian Delay at Signalized Intersections Using Finite Mixture Modeling. Presented at the 100th Annual Meeting of the Transportation Research Board. *(also accepted for publication in Journal of Intelligent Transportation Systems)*

8. Abolfazl Karimpour*, Mohammad Razaur Rahman Shaon, and **Yao-Jan Wu** (2021). Fine-Tuning Time-of-Day Signal Timing Using Signal Performance Measures. Presented at the 100th Annual Meeting of the Transportation Research Board.

9. Xiaoling Luo*, Xiaobo Ma*, Matthew Munden, **Yao-Jan Wu**, and Yangsheng Jiang (2021).   Queue Length Estimation for Metered On-Ramps: A Multi-Source Data Approach. Presented at the 100th Annual Meeting of the Transportation Research Board.

10. Mohammad Razaur Rahman Shaon, Xiaofeng Li, **Yao-Jan Wu**, Simon Ramos (2021). Quantitative Evaluation of Advanced Traffic Management Systems using Multi-Criteria Decision Analysis. Presented at the 100th Annual Meeting of the Transportation Research Board. *(also accepted for publication in Transportation Research Record)*

11. Xiaobo Ma*, Abolfazl Karimpour*, and **Yao-Jan Wu** (2020). Statistical Evaluation of Data Requirement for Ramp Metering Performance Assessment: A Case Study of SR-51, Arizona. Presented at the 99th Annual Meeting of the Transportation Research Board.

12. Yang Liang, Xiaoqing Zeng, Xiaofeng Li*, Adrian Cottam*, and **Yao-Jan Wu** (2020). Quantifying Mobility Impact of Pedestrian Hybrid Beacon Signal on Arterial Traffic: Case Study in Tucson, Arizona." Presented at the 99th Annual Meeting of the Transportation Research Board.

13. Abolfazl Karimpour*, Robert Kluger, Chenhui Liu, and **Yao-Jan Wu** (2020). Does Periodic Law Enforcement Enhance the Effectiveness of Speed Feedback Sign? A Case Study in Pima County, Arizona. Presented at the 99th Annual Meeting of the Transportation Research Board.

14. Feng Jin, Arindam Sengupta, Siyang Cao, and **Yao-Jan Wu** (2020). MmWave Radar Point Cloud Segmentation using GMM in Multimodal Traffic Monitoring. IEEE International Radar Conference 2020.

---

[24] Note that TRB proceeding papers published in other journals are included because Paper Numbers can be used to identify sessions and online materials. Also note that starting from 2018, TRB no longer provide full papers but TRB papers are considered as proceedings.

15. Melrose Pan, Xiaofeng Li*, Robert Kluger, and **Yao-Jan Wu** (2019). Red-Light Violation Identification Using GPS Trajectories. Presented at the 98th Annual Meeting of the Transportation Research Board.

16. Xiaofeng Li*, **Yao-Jan Wu**, and Yi-Chang Chiu (2019). *Volume Estimation Using Traffic Signal Event-Based Data from Video-Based Sensors.* Presented at the 98th Annual Meeting of the Transportation Research Board.

17. Xiaofeng Li*, Alexander Weber*, Adrian Cottam*, and **Yao-Jan Wu** (2019). *Impacts of Changing from Permissive/Protected Left-Turn to Protected-Only Phasing. Case Study in the City of Tucson, Arizona*. Presented at the 98th Annual Meeting of the Transportation Research Board.

18. Amin Ariannezhad* and **Yao-Jan Wu** (2019). *Application of Clustering and Association Rule Mining in Large-Scale Loop Detector Troubleshooting*. Presented at the 98th Annual Meeting of the Transportation Research Board.

19. Abolfazl Karimpour* and Robert Kluger, **Yao-Jan Wu**, and Tobias Bennett-Gold (2019). *Quantifying the Impact of Speed-Feedback Signs on Arterial Operations.* Presented at the 98th Annual Meeting of the Transportation Research Board.

20. Amin Ariannezhad*, **Yao-Jan Wu** and Vahid Goftar (2018). *Real-Time Crash Prediction Using Data Mining Techniques.* Presented at the 97th Annual Meeting of the Transportation Research Board.

21. Chengchuan An*, Robert Kluger, **Yao-Jan Wu**, Xiaoyu Guo, and Jingxin Xia[#] (2018). *An Integrated Data Approach for Constructing Arterial Shockwave Profiles.* Presented at the 97th Annual Meeting of the Transportation Research Board.

22. Zuoyu Miao*, **Yao-Jan Wu**, K. Larry Head[#], and Shu Yang (2018). *A Functional Data Analysis Based Approach For Freeway Volume Data Imputation*. Presented at the 97th Annual Meeting of the Transportation Research Board.

23. Zheng Li*, Robert Kluger, Xianbiao Hu, **Yao-Jan Wu**, and Xiaoyu Zhu (2018). *Reconstructing Vehicle Trajectories to Support Travel Time Estimation*. Presented at the 97th Annual Meeting of the Transportation Research Board. *(also accepted for publication in Transportation Research Record)*

24. Jishun Ou*, Shu Yang*, **Yao-Jan Wu**, and Jingxin Xia[#] (2018). *Systematic Clustering Approach to Identifying and Characterizing Spatiotemporal Congestion on Freeway Corridors.* Presented at the 97th Annual Meeting of the Transportation Research Board.

25. Amin Ariannezhad[*], **Yao-Jan Wu**, Vahid Goftar, David Riley and Reza Karimvand (2017). *Systematic Approach for Large-Scale Loop Detector Troubleshooting: Identifying Data Error Patterns*. Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

26. Chengchuan An[*], **Yao-Jan Wu**, Jingxin Xia[#], and Zhenbo Lu (2017). *Investigating Impacts of Communication Loss on Signal Performance Using Event-Based Data*. Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

27. Chengchuan An[*], **Yao-Jan Wu**, Jingxin Xia[#], Shu Yang and Feng Qiu[#] (2017). *Real-Time Queue Length Estimation using Event-Based Advance Detector Data*. Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

28. Shu Yang[*], Chengchuan An[*], **Yao-Jan Wu**, and Jingxin Xia[#] (2017). *Origin-Destination Based Travel Time Reliability.* Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

29. Shu Yang[*], Chengchuan An[*], **Yao-Jan Wu**, and Jingxin Xia[#] (2017) *Region-Wide Travel Time Reliability Estimation Using Robust Statistics.* Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

30. Shu Yang[*], Chengchuan An[*], **Yao-Jan Wu**, and Jingxin Xia[#] (2017). *Taxicab Availability: Empirical Study of Kunshan, China.* Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

31. Jishun Ou[*], Jingxin Xia[#], **Yao-Jan Wu**, and Wenming Rao[*] (2017). *Urban Traffic Flow Forecasting Using Bias-corrected Random Forests*. Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

32. Congcong Liu, Xiaolei Ma, Huimin Wen, Yunpeng Wang, and **Yao-Jan Wu** (2017), Understanding Commuting Patterns Using Transit Smartcard Data. Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

33. Sen Luan, Xiaolei Ma, **Yao-Jan Wu**, Chuan Ding and Yunpeng Wang (2017), Spatial Interpolation of Annual Average Daily Traffic Data Using Copula-Based Geostatistical Models. Presented at the 96th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

34. Amin Ariannezhad[*], **Yao-Jan Wu,** Yi-Chang Chiu and Aichong Sun (2016). *Incorporating Mode Choice into Safety Analysis in Transportation Analysis Zones.* Presented by Amin at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper 16-4022.

35. Amin Ariannezhad[*] and **Yao-Jan Wu** (2016). *Effects of Adverse Weather in Different Light Conditions on Crash Severity During Arizona's Monsoon Season*. Presented by Amin at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper 16-6880.

36. Ming Chen[*], Shu Yang[*] and **Yao-Jan Wu** (2016). *An Innovative Approach to Improving Bluetooth-Based Arterial Travel Time Data: Mitigating Missing Data.* Presented by Shu Yang at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper 16-3959.

37. Ming Chen[*], Shu Yang[*], **Yao-Jan Wu**, and Chengchuan An (2016). *A Machine Learning Approach to Decomposing Arterial Travel Time Using a Hidden Markov Model with Genetic Algorithm*. Presented by Shu Yang at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper: 16-6555.

38. Shu Yang[*] and **Yao-Jan Wu**. *Probability Distribution Selection for Measuring Freeway Travel Time Reliability* (2016). Presented by Shu Yang at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper: 16-3847.

39. Shu Yang[*], **Yao-Jan Wu**, Zhaozheng Yin and Yiheng Feng (2016). *Estimating Freeway Travel Times Using General Motors Model.* Presented by Shu Yang at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper: 16-3844. (*also published in Transportation Research Record*).

40. Shu Yang[*], **Yao-Jan Wu** and Xiaolei Ma (2016). *A Generalized Transit Service Reliability Measure Using Mixture Models*. Presented by Shu Yang at the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. Paper: 16-3321.

41. Shu Yang[*] and **Yao-Jan Wu** (2015). *Minimum Sample Size for Measuring Travel Time Reliability*. Presented by Shu Yang at the 94th Annual Meeting of the Transportation Research Board, Washington, D.C., USA

42. Wenchao Jiang, Haohan Li, Zhaozheng Yin, and **Yao-Jan Wu** (2015). Vehicle Reidentification in Low-Resolution Videos for Travel Time Estimation. Presented by Wenchao Jiang and Haohan Li at the 94th Annual Meeting of the Transportation Research Board, Washington, D.C., USA

43. Jingxin Xia[#], Wenming Rao[*], **Yao-Jan Wu** and Li Guo (2014). *Dynamic O-D Estimation for Urban Road Network Using Multisensor Traffic Data*. Presented by Wenming Rao at the 93rd Annual Meeting of the Transportation Research Board, Washington, D.C., USA

44. Shu Yang[*], Arif Malik[#] and **Yao-Jan Wu** (2014). *Travel Time Reliability using Hasofer Lind-Rackwitz Fiessler Algorithm and Kernel Density Estimation*. Presented by Shu Yang at the 93rd Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*).

45. Shu Yang[*], Sijia Lu[*], and **Yao-Jan Wu** (2013). *Cost Estimation of Traffic Accidents in St. Louis using Geographic Information Systems*. 13th International Conference of Chinese Transportation Professionals (ICCTP 2013), Shenzhen, China, Aug. 13~16, 2013. (Official Link) (PDF)

46. **Yao-Jan Wu**, Tanveer Hayat[*], Andres Clarens, and Brian L. Smith (2013). *Scenario-based Climate Change Risk Analysis for Transportation Infrastructure using GIS*. Presented by **Yao-Jan Wu** at the 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*).

47. Aivis Grislis, Yunteng Lao, **Yao-Jan Wu,** and Yinhai Wang (2013). *Parameters Influencing Single-Vehicle Large Truck Accidents on Rural Two-Lane Roads in Washington State*. Presented at 92nd Annual Meeting of the Transportation

Research Board, Washington, D.C., USA

48. Xiaolei Ma, **Yao-Jan Wu**, Yinhai Wang, Feng Chen, and Jianfeng Liu (2013). *Mining Smart Card Data for Transit Riders' Travel Patterns*. Presented at 92nd Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (also published in Transportation Research Part C).

49. Yang Chen, Feng Chen, Jing Dai, T. Charles Clancy, and **Yao-Jan Wu** (2012). *Student Based Robust Spatio-Temporal Prediction*. Presented by Feng Chen at IEEE International Conference on Data Mining (ICDM), Brussels, Belgium, December 10~13, 2012. (Official Link) (PDF)

50. **Yao-Jan Wu**, Feng Chen, Chang-Tien Lu, Brian Smith, and Yang Chen (2012). *Traffic Flow Prediction for Urban Network Using Spatio-Temporal Random Effects Model*. Presented by **Yao-Jan Wu** at 91st Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

51. **Yao-Jan Wu**, Mark E. Hallenbeck, and Yinhai Wang (2010). *Impacts of Freeway Traffic Congestion on En-Route Traveler's Diversion*. Presented by **Yao-Jan Wu** at 89th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 10-3602. (also published in ASCE Conf. Proc. doi:10.1061/41186(421)407 Proceedings of the 11th International Conference of Chinese Transportation Professionals (ICCTP 2011)). (Official Link)

    Please cite: Wu, Y., Hallenbeck, M., and Wang, Y., Impacts of Freeway Traffic Congestion on En-Route Traveler's Diversion. ICCTP 2011: pp. 4077-4090. doi: 10.1061/41186(421)407

52. Xiaoyue Liu, Guohui Zhang, **Yao-Jan Wu**, and Yinhai Wang (2011). *Measuring the Quality of Service for High Occupancy Toll (HOT) Lanes Operations*. Presented by Dr. Yinhai Wang at 6th International Symposium on Highway Capacity and Quality of Service (ISHC), Stockholm, Sweden, June 28 ~ July 1, 2011.

53. **Yao-Jan Wu**, Shi An, Xiaolei Ma, and Yinhai Wang (2011). *Development of a Web-based Arterial Network Analysis System for Real-time Decision Support*, Presented by **Yao-Jan Wu** at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

54. Yunteng Lao, Guohui Zhang **Yao-Jan Wu**, and Yinhai Wang (2011). *Modeling for Animal-Vehicle Collisions Considering Animal-Vehicle Interactions*, Presented by Yunteng Lao at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. *(also published in Accident Analysis and Prevention.)*

55. Yunteng Lao, **Yao-Jan Wu**, Jonathan Corey, and Yinhai Wang (2011). *Modeling Animal-Vehicle Collisions Using Diagonal Inflated Bivariate Poisson Regression*, Presented by Yunteng Lao and Jonathan Corey at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. *(also published in Accident Analysis and Prevention.)*

56. Yunteng Lao, **Yao-Jan Wu**, Yinhai Wang, and Kelly McAllister (2011). *Fuzzy Logic-based Mapping Algorithm for Improving Animal-Vehicle Collision Data*. Presented by Yunteng Lao at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

57. Jonathan Corey, Yunteng Lao, **Yao-Jan Wu**, and Yinhai Wang (2011). *Detection and Correction of Inductive Loop Detector Sensitivity Errors Using Gaussian Mixture Models*, Presented by Jonathan Corey at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

58. Xiaolei Ma, **Yao-Jan Wu**, and Yinhai Wang (2011). *DRIVE Net: An E-Science of Transportation Platform for Data Sharing, Visualization, Modeling, and Analysis*, Presented by Yinhai Wang at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

59. **Yao-Jan Wu**, Guohui Zhang, and Yinhai Wang (2011). *Link Journey Speed Estimation for Urban Arterial Performance Measurement using Advance Loop Detector Data under Congested Conditions*, Presented by **Yao-Jan Wu** and Guohui Zhang at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. *(also published in ASCE Journal of Transportation Engineering)*

60. Yegor Malinovskiy, Un-Kun Lee, **Yao-Jan Wu**, and Yinhai Wang (2011). *Investigation of Bluetooth-Based Travel Time Estimation Error on a Short Corridor*. Presented by Yegor Malinovskiy at the 90th Annual Meeting of the Transportation Research Board, Washington, D.C., USA.

61. **Yao-Jan Wu**, Guohui Zhang, and Yinhai Wang (2010). *Volume Data Correction for Single-channel Advance Loop Detectors at Signalized Intersections*, Presented by **Yao-Jan Wu** at the 89th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 10-3447. (*also published in Transportation Research Record*)

62. Yegor Malinovskiy, **Yao-Jan Wu**, Yinhai Wang, and Un-Kun Lee (2010). *Field Experiments on Bluetooth-based Travel Time Data Collection*. Presented by Yegor Malinovskiy at the 89th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 10-3134.

63. Guohui Zhang, **Yao-Jan Wu**, Xiaoyue Liu, and Yinhai Wang (2010). *Impacts of High Occupancy Toll (HOT) Lane Operations on High Occupancy Vehicle (HOV) Travelers*. Presented by Guohui Zhang at the 89th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 10-3515. (*also published as a regular paper Presented by Dr. Yinhai Wang at the 13th International IEEE Annual Conference on Intelligent Transportation Systems (ITSC), Madeira Island, Portugal. Sep.2010.*)

> ➤ Please cite: Zhang, G., Y.-J. Wu, X. Liu, and Y. Wang, *Impacts of High Occupancy Toll Lane Operations on High Occupancy Vehicle Travelers*, Intelligent Transportation Systems (ITSC), 2010 13th International IEEE Conference on, 2010, pp. 1594-1599. (Official Link) (PDF)

64. Xiaoyue Liu, Guohui Zhang, **Yao-Jan Wu**, and Yinhai Wang (2010). *Analyzing System Performance for Washington State Route 167 High Occupancy Toll (HOT) Operations*. Presented by Xiaoyue Liu at the 89th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 10-2816.

65. Yegor Malinovskiy, **Yao-Jan Wu**, and Yinhai Wang (2009). *Video-Based Vehicle Detection and Tracking Using Spatiotemporal Maps*, Presented by Yegor Malinovskiy at the 88th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 09-1580. (*also published in Transportation Research Record*)

66. Hee-Jung Hwang, Un-Kun Lee, Kwang-Ryul Baek, **Yao-Jan Wu**, and Yinhai Wang (2009), *Stereo Image Processing Algorithm for Preceding Vehicle Detection Using Lane-Related Information*, Presented by Un-Kun Lee and **Yao-Jan Wu** at the 88th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 09-0502.

67. **Yao-Jan Wu,** Mark Hallenbeck, and Yinhai Wang (2009). *Interaction Between Arterial and Freeway Performance: Case Study*, Presented by **Yao-Jan Wu** at the 88th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 09-2413.

68. Yunteng Lao, **Yao-Jan Wu**, Yinhai Wang, and Xiaoguang Yang (2009). *Applicability of Signalized Single and Double Phase Midblock Crossings in Highly Populated Areas*, Presented by Yunteng Lao at the 88th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 09-3366.

69. **Yao-Jan Wu** and Yinhai Wang (2008). *Google-Map-Based Online Platform for Arterial Traffic Information and Analysis*, Presented by **Yao-Jan Wu** at the 87th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 08-2944.

70. Yegor Malinovskiy, **Yao-Jan Wu**, and Yinhai Wang (2008). *Video-Based Monitoring of Pedestrian Movements at Signalized Intersections*, Presented by Yegor Malinovskiy at the 87th Annual Meeting of the Transportation Research Board, Washington, D.C., USA. (*also published in Transportation Research Record*)

71. Atli Bjorn Levy, **Yao-Jan Wu**, and Yinhai Wang (2008). *Accident Risk Modeling for Two-Lane Rural Roads in Washington State*, Presented by **Yao-Jan Wu** at the 87th Annual Meeting of the Transportation Research Board, Washington, D.C., USA, Paper Number: 08-2365.

72. **Yao-Jan Wu**, Yinhai Wang, and Dalin Qian (2007). *A Google-Map-Based Arterial Traffic Information System*, Presented by **Yao-Jan Wu** at the 10th IEEE International Conference on   Intelligent Transportation Systems, Seattle, Washington, USA. //On 10th makes no sense to me

73. **Yao-Jan Wu**, Feng-Li Lian, and Tang-Hsien Chang (2006). *Traffic Monitoring and Vehicle Tracking using Roadside Cameras*, Presented by Feng-Li Lian at the 2006 IEEE International Conference on Systems, Man, and Cybernetics, Taipei, Taiwan.

74. **Yao-Jan Wu**, Chun-Po Huang, Feng-Li Lian and Tang-Hsien Chang (2004). *Vision-based Driving Environment Identification for Autonomous Highway Vehicles*, Presented by **Yao-Jan Wu** at the IEEE International Conference on

Networking, Sensing and Control, Taipei, Taiwan.

75. Tang-Hsien Chang, Chun-Hung Lin, Chih-Sheng Hsu, and **Yao-Jan Wu** (2003). *A Vision-Based Vehicle Behavior Monitoring and Warning System*, Presented by **Yao-Jan Wu** at the IEEE International Conference on Intelligent Transportation Systems, Shanghai, China.

76. Jiann-Sheng Wu and **Yao-Jan Wu** (2002). *Analysis of the Relationship between Ramp Deployment and Potential Risks on the Expressway: A Case Study of Taipei Metropolitan Area*, (In Chinese). Presented by **Yao-Jan Wu** at the 17th Annual Conference for the Chinese Institute of Transportation, Chayi, Taiwan.

2.5 **Technical/Project Reports**

1. **Yao-Jan Wu**., Xianfeng (Terry) Yang, Sirisha Kothuri, Abolfazl Karimpour, Qinzheng Wang, and Jason Anderson. *Data-Driven Mobility Strategies for Multimodal Transportation*. NITC-RR-1298. Portland, OR: Transportation Research and Education Center (TREC), 2021 (Official Link)

2. **Yao-Jan Wu**, Mohammad Razaur Rahman Shaon, and Xiaofeng Li (2020). *Multi-Criteria Evaluation of Advanced Traffic Management Systems (ATMS)*. City of Phoenix. May 2020.

3. **Yao-Jan Wu**, Adrian Cottam, and Xiaobo Ma (2019). *Data-Driven Evaluation for ADOT Ramp Metering: Developing Ramp Metering Evaluation Tool*. Nov. 2019.

4. **Yao-Jan Wu**, Rob Kluger, and Chengchuan An (2018). *Evaluation of Traffic Signal Communication, Arizona Department of Transportation (ADOT)*. Sep. 2018.

5. **Yao-Jan Wu** and Amin Ariannezhad (2017). *Incorporating Freeway Performance Measurement into Real-Time Crash Prediction*, Arizona Department of Transportation (ADOT). Dec. 2017.

6. **Yao-Jan Wu** and Amin Ariannezhad (2017). Analyzing Travel Time Data: Development of Traffic Data Quality Assurance Tool, Arizona Department of Transportation (ADOT). Mar. 2017.

7. **Yao-Jan Wu**, Yi-Chang Chiu, and Shu Yang (2016). Multi-modal Arterial Performance Measurement using Multi-source ITS Data, Submitted to University of California Center ON Economic Competitiveness In Transportation (UCCONNECT), Sep. 2016.

8. Mengqi Hu, **Yao-Jan Wu**, Yang Chen, and Shu Yang (2015). A Real-time Online Decision Support System for Intermodal Passenger Travel. Submitted to the National Center for Intermodal Transportation for Economic Competitiveness (NCITEC). (Web link)

9. **Yao-Jan Wu**, Zhaozheng Yin, Shu Yang and Wenchao Jiang (2014). *Freeway Travel Time Estimation Using Existing Fixed Traffic Sensors - Phase 2*. Missouri Department of Transportation. TR201407. (Web link)

10. **Yao-Jan Wu**, John Woolschlager and Shu Yang (2013). *Development of a Region-wide Traffic Emission Estimation Platform for Environmental Sustainability Evaluation*. Center for Sustainability, Saint Louis University.

11. **Yao-Jan Wu**, Shu Yang and Saber Abdoli (2013). *Freeway Travel Time Estimation Using Existing Fixed Traffic Sensors – Phase 1*. Missouri Department of Transportation. TR201311. (Web link)

12. Yinhai Wang, **Yao-Jan Wu**, Xiaolei Ma, and Jonathan Corey (2010). *Real-time Travel Time Prediction on Urban Traffic Network*, Transportation Northwest (TransNow), Project 61-7212.

13. Yinhai Wang, Yegor Malinovskiy, **Yao-Jan Wu**, Un Kun Lee (2010). *Error Modeling and Analysis for Travel Time Data Obtained from Bluetooth MAC Address Matching*, Transportation Northwest (TransNow), Project 61-8390.

14. Yinhai Wang, Yunteng Lao, **Yao-Jan Wu**, and Jonathan Corey (2010). *Identifying High-Risk Locations of Animal-Vehicle Collision for Washington State Highway,* Washington State Department of Transportation, Washington State Transportation Center (TRAC) and Transportation Northwest Regional Center X (TransNow).

15. Peter M. Briglia Jr., Emily Fishkin, Mark E. Hallenbeck, and **Yao-Jan Wu** (2010). *An Analysis of the Puget Sound In Vehicle Traffic Map Demonstration*, Washington State Department of Transportation, Report Number: WA-RD 737.1.

16. Yinhai Wang, Jonathan Corey, Yunteng Lao, and **Yao-Jan Wu** (2009). *Development of a Statewide Online System for*

Traffic Data Quality Control and Sharing, Transportation Northwest (TransNow), Project 61-6022.

17. Yinhai Wang, Yegor Malinovskiy, and **Yao-Jan Wu** (2008). *Occlusion Robust Vehicle and Environment Insensitive Algorithm for Vehicle Detection and Tracking Using Surveillance Video Cameras*, Transportation Northwest Regional Center X (TransNow).

18. Mark E. Hallenbeck and **Yao-Jan Wu** (2007). *Review of Private Sector Data for Roadway Monitoring*, Washington State Transportation Center; University of Washington, Seattle; Federal Highway Administration.

19. Yinhai Wang, Ngan Ha Nguyen, Atli Björn E. Levy, and **Yao-Jan Wu** (2007). *Cost Effective Safety Improvements for Two-Lane Rural Roads*, Transportation Northwest Regional Center X (TransNow).

2.6 <u>Non-Peer-Reviewed Publications</u>

1. **Yao-Jan Wu** and Tang-Hsien Chang (Aug. 2005). Intelligent Road Special Issue: Let's Make Driving Safer, Monthly Science, No. 428 (In Chinese), Taiwan.

2.7 <u>Professional Presentations</u>

Invited Talks

1. *Data-Driven Approaches for Traffic Operations. Invited* by Dr. Huey-Kuo Chen at National Central University, Chung-Li, Taiwan. Dec. 17th 2020.

2. *Data-Driven Approaches for Traffic Operations. Invited* by Dr. Yu-Chiun Chiou at National Chiao-Tung University, Taipei, Taiwan. May. 6th 2020.

3. *Human Library: Transportation Research**. Invited by** Principal Yao-Wen Hsu*. National Taichung Second Senior High School, Taiwan, July 7th, 2020

4. *Data-Driven Approaches To Traffic Operations. Invited* by Dr. Yu-Ting Hsu at National Taiwan University, Taiwan. Apr. 6th 2020.

5. *Data-Driven Solutions To Arterial and Freeway Operations Issues. **Invited** by Dean Xiaobo Liu, Southwest Jiaotong University, Chengdu, China. July 11, 2019*

6. *Importance of Educating for the Future Technologies of Multimodal TSMO. **Invited** by ADOT, Advancing Multimodal TSMO in Arizona Technical Summit, June 19, 2019.*

7. *Data-Driven Approaches for Traffic Operations and Management. Invited* by Prof. Jingxin Xia, ITS Institute of Southeast University, Nanjing China, May 29, 2019.

8. *Data-Driven Approaches for Traffic Operations and Management. Invited* by Prof. Cheng-Chieh (Frank) Chen, Department of Business Administration, & Graduate Institute of Logistics Management, National Dong Hwa University, Hualian, Taiwan, May 24, 2019.

9. Invited **Keynote**. *Handling traffic operations issues with data-driven approaches*. *Invited* by Dean Liang-Tai Lin, International Forum on Smart Cities, Feng-Chia University, Taichung, Taiwan, May 18, 2019.

10. Lunch **Keynote**: UA Transportation Research Institute: Overview., *Invited* by Pacific Southwest Regional University Transportation Center, PSR UTC Congress, Tucson AZ, Apr. 9, 2019

11. *UA Transportation Research Institute: Overview*. *Invited* by UA Tech Park, SWIFT Summit. Tucson, AZ, Jan 23, 2019.

12. *Optimizing Signals with Multi-Source Data, Case Studies and Best Practices in Tucson, AZ. Invited* by TRB Traffic Signal Systems Committee Summer Meeting, Flagstaff, AZ, July 22~23, 2018

13. Monitoring Network-Wide Arterial Performance: Practical Approaches and Research Methods. *Invited* by (Chinese Overseas Transportation Association) International Conference of Transportation Professionals (CICTP), Beijing, China, July 6~8, 2018.

14. Region-Wide Signal Performance Measurement – Case Studies and Best Practices in Arizona, USA. ***Invited*** by International Traffic Signal Control Forum, Tianjin, China, July 4, 2018

15. Data-Driven Approaches for Traffic Monitoring and Management - Case Studies in Arizona, USA. ***Invited*** by Dr. Yu-Min Su, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan. June 4, 2018

16. Data-Driven Approach for Arterial Traffic Management and Operations, ***Invited*** by Roads and Streets Conference, Tucson AZ, Mar. 9, 2018

17. Data-Driven Research for Arterial Traffic Operations. ***Invited*** by Prof. Zong Tian, University of Nevada, Reno, Feb. 8, 2018.

18. *24/7 Video-Sensor-Based Traffic Data Collection – Lesson Learned and Best Practices in the City of Tucson*. ***Invited*** by Southern Arizona Institute of Transportation Engineers. Feb. 16, 2018 (Co-presented with Paul Burton)

19. Data-Driven Performance Measurement and Analysis – Case Studies in Arizona. ***Invited*** by Brent Cain at ADOT TSMO Division. Jan 19, 2018.

20. How to Get Involved In A TRB Standing Committee: Secrets from the Pros. ***Invited*** by the National Operations Center for Excellence <u>as a panelist</u>. Oct. 11, 2017.

21. State-of-the-Art ITS Data-Driven Applications in Arizona, U.S. ***Invited*** by Prof. Kenji Doi. Osaka University and [International Association of Traffic and Safety Sciences (IATSS)](). July 10, 2017.

22. Applications of Multi-Source Traffic Data on Arterial Streets: Case Studies in Tucson, Arizona, Fujian University of Technology, June 28, 2017. ***Invited*** by Prof. Tang-Hsien Chang.

23. Applications of Traffic Big Data in the US - From National, State and Local Perspectives, Xiamen University, June 27, 2017. ***Invited*** by Prof. Wantu Xu.

24. Before-and-After Traffic Study for Indirect Left Turns on Grant Road
    - Phase 1. PAG / University of Arizona Transportation Research Seminar, Apr. 21, 2017. ***Invited*** by Dave Alter, PAG.

25. Modeling Arterial Traffic States with Multi-Source Traffic Data. ***Invited*** by Prof. Toshiyuki Yamamoto, Nagoya University, Aug 4, 2016.

26. Leveraging Multi-Source Real-Time Data for Arterial Performance Measurement, 16th COTA International Conference of Transportation Professionals (CICPT), Shanghai, China, July 6-9, 2016.

27. Partnership Between University and Local Transportation Agency. ***Invited*** by Simon Ramos. Traffic Operations Center (TOC) of the Arizona Department of Transportation, June 17, 2016.

28. Leveraging Multi-Source Real-Time Data for Arterial Performance Measurement – Case Study in the City of Tucson, Arizona. North American Travel Monitoring Exposition and Conference (NATMEC), Miami, FL, May. 1-4, 2016. ***Invited*** by Dr. Stanley Young.

29. Integrated Transportation Data-Driven Approach for Arterial Performance Measures. ***Invited*** by Simon Ramos at Arizona Department of Transportation, Tucson District. May 8th, 2015.

30. Low-cost Data-Driven Approach to Measuring Arterial Performance. ***Invited*** by Southern Arizona ITE Chapter. Mar. 20th, 2015.

31. Yao's Journey to Big Data. ***Invited by*** Dr. Wang Zhang at Maricopa Association of Governments. Sep 23rd, 2014.

32. Yao's Journey to Big Data. ***Invited by*** Prof. Xiaoguang Yang at Tongji University, China. July, 11, 2014.

33. Measuring Arterial Performance in a Big Data World, ***Invited by*** Dr. Xiaolei Ma at Beiheng University, Beijing, China, July 8th 2014.

34. Big Data Management, Mining, and Analysis in Traffic, [Rawls College 2014 Symposium on Big Data](), Jerry S. Rawls College of Business Administration, Texas Tech University, Apr 25, 2014.

35. Arterial and Freeway Performance Measurement: From a Big Data Perspective. Arizona Conference on Roads & Streets. Apr. 16~18, 2014.

36. Arterial Performance Measurement: From a Big Data Perspective. *Invited* by 2014 ITE/IMSA Spring Conference, Phoenix. Mar. 5, 2014.

37. Yao's Journey to Big Data. Research Café. *Invited* by ADOT Transportation Research Center, Phoenix. Oct. 24, 2013.

38. Online Arterial Performance Measurement: Challenges, Methodology and Implementation. *Invited* by ITS Arizona Annual Conference. Sep 26th, 2013

39. Freeway Performance Measurement. *Invited* by Dr. Jiao Yao, Department of Transportation Engineering, and the University of Shanghai for Science and Technology, China. August 8th, 2013.

40. Freeway Performance Measurement. *Invited* by the Department of Transportation, Shangdong Province, China and coordinated by Dr. Baiyin Shi, Shandong Jianzhu University, China. August 6th, 2013.

41. Traffic Sensor Data-Based Arterial Performance Measurement: Methodology and Online Implementation. *Invited* by Dr. ManWo Ng, Old Dominion University. June 7th, 2013.

42. Scenario-based Climate Change Risk Analysis for Transportation Infrastructure using GIS. *Invited* by TRB Committee on Critical Transportation Infrastructure Protection (ABE40). Presented at TRB Risk Assessment Workshop: Part 2. Jan. 13th 2013.

43. Investigation of Key Contributing Factors in Vehicle Crashes in St. Louis. *Invited* by the Transportation Working Group (TWG), the Bagley College of Engineering, Mississippi State University. Oct. 23rd, 2012

44. Development of Intelligent Transportation Systems in St. Louis. *Invited talk* in the Department of Civil, Construction and Environmental Engineering, University of Alabama, Tuscaloosa. Oct. 22nd, 2012

45. Development of Intelligent Transportation Systems in St. Louis. *Invited talk* at the 2012 MCASTA annual symposium, St. Louis MO, Sep. 8th, 2012.

46. Arterial Performance Measurement –Data Collection, Management and Analysis, and Implementation. *Invited talk* at the Intelligent Transportation System Research Center, Southeast University, Nanjing, China. Aug. 9th, 2012.

47. Intelligent Transportation System (ITS) Development and Research in the U.S. - In a Nutshell. *Invited talk* in the Department of Transportation and Communication Management Science at National Cheng-Kung University (NCKU), Taiwan. May. 24th, 2012

48. Intelligent Transportation System (ITS) Development and Research in the U.S. - In a Nutshell. *Invited talk* in the Department of Civil Engineering at National Taiwan University (NTU), Taiwan. May. 21st, 2012

49. *Online Arterial Performance Measurement: Challenges, Methodology and Implementation*. *Invited talk* in the Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign (UIUC), IL. Dec. 2nd, 2011

50. *Online Arterial Performance Measurement: Challenges, Methodology and Implementation*. *Invited talk* in the Department of Civil Engineering at the Southern Illinois University Edwardsville (SIUE), IL. Nov. 16, 2011

51. *Development of a Web-based Arterial Network Analysis System for Real-time Decision Support*. *Invited talk* in the Department of Automation at the Tsinghua University, Beijing, China. Aug. 25th, 2011

52. *Development of a Web-based Arterial Network Analysis System for Real-time Decision Support*. *Invited talk* in International Workshop on Transportation Construction and Management for Sustainable Development at the Harbin Institute of Technology. Harbin, China. Aug. 20th, 2011

53. Climate Change Vulnerability and Risk Assessments of Transportation Infrastructure - Introduction to Hampton Roads, Virginia Implementation Pilot, *Invited talk* in the Civil and Environmental Engineering. University of Washington, Seattle, WA, Apr.8th 2011.

54. *Traffic Sensor Data-Based Arterial Performance Measurement: Methodology and Online Implementation*, *Invited talk* in the Civil Engineering graduate student seminar. University of Virginia, Charlottesville, VA, Dec. 3rd 2010.

55. *Traffic Sensor Data-Based Arterial Performance Measurement: Methodology and Online Implementation*, *Invited talk* in the graduate student seminar, National Taiwan University, Taipei, Taiwan, Sep. 20th 2010.

56. *Traffic Sensor Data-Based Arterial Performance Measurement: Methodology and Online Implementation*, **Invited talk** in the graduate student seminar, National Central University, Chung-Li, Taiwan, Sep. 16th 2010.

57. *Digital Roadway Interactive Visualization and Evaluation Network (DRIVE Net): Prototype Development and Implementation.* **Invited talk** at the Puget Sound Regional Council (PSRC) Regional Traffic Operators Committee (RTOC) Meeting, Apr. 1st, 2010.

Conference and Poster Presentations (Without Proceedings)[25]

58. **Yao-Jan Wu**, Adrian Cottam, and Steven Cheshko. SMART Way to Enhance Freeway Traffic: A Data-Driven Approach. ITS Arizona Annual Conference Oct. 14, 2020. (Online)

59. Abolfazl Karimpour and **Yao-Jan Wu**. *Data-Driven Approaches to Improving Traffic Operations.* Tucson, AZ Sep. 23, 2020. (Online)

60. Abolfazl Karimpour and **Yao-Jan Wu**. *University of Arizona & Pima County Speed Feedback Sign and Enforcement Study.* ITE Spring Conference. Phoenix, AZ, Feb. 26 – 27, 2020.

61. Simon Ramos and **Yao-Jan Wu**. *Multi-Criteria Based Matrix ATMS Comparison.* ITE Spring Conference. Phoenix, AZ, Feb. 26 – 27, 2020.

62. Xiaofeng Li and **Yao-Jan Wu**. *Advanced Applications of Crowdsourced Traffic Data.* ITS Arizona Annual Conference, Mesa, AZ. Sep. 20, 2019

63. *Yao-Jan Wu. New ADOT Ramp Meter Operation: Data-Driven Evaluation for ADOT Ramp Metering.* ITS Arizona Annual Conference, Mesa, AZ. Sep. 20, 2019

64. **Yao-Jan Wu**. *Data-Driven Solutions to Arterial Operations Issues.* NITC Summit, Portland OR. Sep. 19, 2019.

65. Abolfazl Karimpour and **Yao-Jan Wu**. *Data-Driven Evaluation for Speeding Issues.* ASCE State Conference, Phoenix, AZ, Sep. 13, 2019.

66. **Yao-Jan Wu**. *Data-Driven Solutions To Arterial Operations Issues*. The 19th COTA International Conference of Transportation Professionals. Nanjing, China. July 6-8, 2019.

67. **Yao-Jan Wu**. *Data-Driven Solutions To Freeway Operations Issues*. Pre-CICTP2019 Workshop "Big Data & Emerging Vehicle Technologies." Beijing University of Technology, Beijing, China. July 4, 2019.

68. Abolfazl Karimpour and **Yao-Jan Wu**. *Developing Data-Driven Speed Management Strategies*. International Conference on Transportation & Development 2019. Alexandria, Virginia. June 9-12, 2019.

69. **Yao-Jan Wu**. *Applying Data-Driven Research to Real-World Traffic Operations Issues*. Arizona Conference on Roads & Streets, Apr. 18, 2019.

70. Xiaofeng Li and **Yao-Jan Wu**. *Optimizing Traffic Signals Using Multi-Source Data*. National Rural Intelligent Transportation Systems Annual Conference, Phoenix, AZ, Oct. 21~24, 2018.

71. **Yao-Jan Wu** and Paul Burton. Protected/Permissive vs. Protected Only Left-Turn Signal Phasing: Mobility vs. Safety. ASCE State Conference, Phoenix, AZ, Sep. 14, 2018.

72. **Yao-Jan Wu** and Robert Kluger. *Quantifying Freeway Performance Measures using Multi-Source Traffic Data.* ASCE International Conference on Transportation and Development, Pittsburgh, PA, July 15~18, 2018.

73. **Yao-Jan Wu** and Robert Kluger. *Data-Driven Approach for Traffic Signal Performance Measurement and Improvement*. ASCE International Conference on Transportation and Development, Pittsburgh, PA, July 15~18, 2018.

74. **Yao-Jan Wu**, *Improving Accuracy of Video-Based Traffic Data at Signalized Intersections*, National Travel Monitoring Exposition and Conference (NaTMEC), Irvine CA. June 10~13, 2018.

---

[25] TRB Annual Meeting presentations are counted are published conference proceedings because of its peer review process (< 50% acceptance rate)

75. Amin Ariannezhad and **Yao-Jan Wu**, *Automatic Data Quality Control Tool for Large-Scale Loop Detector Troubleshooting*, National Travel Monitoring Exposition and Conference (NaTMEC), Irvine CA. June 10~13, 2018.

76. **Yao-Jan Wu** and Abolfazl Karimpour. *Quantifying Freight Performance Measures Using Multi-Source Traffic Data*. ITE/IMSA Spring Conference, Phoenix, AZ. Mar. 1, 2018

77. **Yao-Jan Wu** and Paul Burton. *Data-Driven Research for Arterial Traffic Management.* ITE/IMSA Spring Conference, Phoenix, AZ. Feb. 28, 2018

78. **Yao-Jan Wu** and Zong Tian. *Data-Driven Performance Measurement for Freeways and Arterials in Arizona*. 2017 Arizona Conference on Roads & Streets, Apr. 13, 2017

79. Robert Kluger and **Yao-Jan Wu**. *Evaluation of Traffic Signal Technologies.* ITE/IMSA Spring Conference Mar. 1, 2017.

80. **Yao-Jan Wu** and Chengchuan An. *Applications of Event-Based (High-Resolution) Traffic Signal Data*. ITS Arizona Annual Conference, Sep. 28-29, 2016.

81. Shu Yang and **Yao-Jan Wu**. *Automatic Freeway Performance Reporting Using an Open Source Platform*, Presented by Shu Yang at North American Travel Monitoring Exposition and Conference (NATMEC) 2016, Miami, FL, May. 1-4, 2016.

82. Chengchuan An, **Yao-Jan Wu**, and Amin Ariannezhad. *Evaluating Signal Performance Using High-Resolution Data*, Presented by Yao-Jan Wu, and Amin Ariannezhad at North American Travel Monitoring Exposition and Conference (NATMEC) 2016, Miami, FL, May. 1-4, 2016.

83. **Yao-Jan Wu**, *Leveraging Multi-Source Real-Time Traffic Data to Improve Arterial Performance*. 2016 Arizona Conference on Roads & Streets, Mar. 24, 2016.

84. **Yao-Jan Wu**, *Arterial Performance Measurement Using Multi-source Data*. ITS Arizona Annual Conference. Oct. 1, 2015.

85. **Yao-Jan Wu**, *Integrated Transportation Data-Driven Approach for Arterial Performance Measures*. **Invited** by American Council of Engineering Companies of Arizona (ACEC) at Arizona Conference on Roads & Streets. Apr. 1st, 2015.

86. **Yao-Jan Wu**, *Arterial Performance Measurement Using Low-Cost Bluetooth Detectors*. ITS Arizona Annual Conference. Sep 25th, 2014

87. Saber Abdoli and **Yao-Jan Wu**, *Presenting a Spatial Decision Support Framework for Roadway Design*. Presented by Saber Abdoli. 14th Missouri GIS Conference, Chesterfield, Missouri, Feb. 19-21, 2013.

88. Shu Yang, and **Yao-Jan Wu**, *GIS-based Spatio-Temporal Accident Analysis in St. Louis*. Presented by Shu Yang at 2012 Annual TEAM Transportation Fair, St. Louis, MO, Sep. 27, 2012 **(Best Poster Award).** Presented by Shu Yang.

89. Greg Bouche and **Yao-Jan Wu**, *Investigation of Key Contributing Factors in Vehicle Crashes in St. Louis: Weather, Lighting, Roadway Characteristics, Pavement, and Traffic Control*.   Presented by Greg Bouche at the 2012 Annual TEAM Transportation Fair, St. Louis, MO, Sep. 27, 2012 (**3rd Best Poster Award**).

90. Sijia Lu, Shu Yang, and **Yao-Jan Wu**, *Cost Estimation of Traffic Accidents in St. Louis using Geographic Information Systems*. Presented by Sijia Lu at the 2012 Annual TEAM Transportation Fair, St. Louis, MO, , Sep. 27, 2012 (**2nd Best Poster Award**).

91. Sijia Lu, Shu Yang, and **Yao-Jan Wu**, *Cost Estimation of Traffic Accidents in St. Louis using Geographic Information Systems*. Presented by Sijia Lu at the 2012 Midwest Chinese American Science & Technology Association (MCASAT) annual symposium, St. Louis, MO, Sep. 8th 2012.

92. **Yao-Jan Wu**, Jonathan Corey, Un Kun Lee, and Yinhai Wang (2010), *High-resolution Detector Data Collection and Storage for Real-time Intersection Performance Measurement*. Presented at North American Travel Monitoring Exposition and Conference (NATMEC). June 21st~24th, 2010, Seattle, WA.

93. **Yao-Jan Wu**, Jonathan Corey, and Yinhai Wang (2010), *Digital Roadway Interactive Visualization and Evaluation Network: DRIVE Net.*   ITE Washington State Section Annual Meeting, June 8th, 2010.

94. **Yao-Jan Wu**, Oran Viriyincy, and Li Leung (2009), *Safety Analysis and Improvement Proposal for the 35th Avenue SW Corridor, Seattle*, Presented at ITE Annual Meeting 2009, San Antonio, Texas, Aug. 10th, 2009.

95. **Yao-Jan Wu** and Yinhai Wang (2009), *Bellevue-related Research: GATI system and Interaction between Arterial and Freeway Performance: Case Study*, Presented to the Professional Panel at Bellevue City Hall, Mar.12th, 2009.

96. **Yao-Jan Wu** (2007), *A Google-Map-Based Arterial Traffic Information System*, 5th Annual TransNow Student Conference, Portland State University, Oregon, Nov. 16th, 2007.

   Additionally, many of the conference papers listed in Section 2.4 were presented by myself.

2.8 <u>Patent</u>

Yegor Malinovskiy, Yinhai Wang and **Yao-Jan-Wu**. Video-based Vehicle Detection and Tracking Using Spatio-Temporal Maps, 12/987,854. U.S. Patent No. 8,358,808.

2.9 <u>Media</u>

1. KGUN9 News: New Proposed Plan to Change Lagging Left Light at Speedway. Nov. 27, 2019 (Official Link)

2. KVOA, UArizona researcher working to make Speedway commute smoother. Nov. 26, 2019 (Original Link)

3. AZPM FM89.1. Interview. Nov. 25, 2019.

4. UA News: Transportation Engineer Tackles Tucson's Traffic Flow. Nov. 18, 2019 (Original Link)

5. KGUN9 News: City of Tucson, UA develop system to help with traffic signal timing (Original Link) (Archive). Published on Feb. 17th 2015. Last accessed on August 7, 2018.

6. Arizona Daily Star: Timing Tucson traffic signals will take more time (Original Link). Published on December 14th, 2014. Last accessed on August 7, 2018.

3 TEACHING ACTIVITIES

3.1 Courses Taught

Regular Courses (Instructor)

Semester	Course	Credits	Course Evaluation[26]	Enrollment
University of Arizona				
Spring 2021	CE462/562 Traffic Engineering and Operations	4	**N/A**[27]	12
Fall 2020	CE 363 Transport Engineering and Pavement Design	4	**N/A**[28]	40
	CE 363 AUPP	4	Co-Instructor	6
Fall 2019	CE 363 Transport Engineering and Pavement Design	4	**N/A**	33
	CE 363 AUPP[29]	4	Co-Instructor	5
	CE 596 A: Research Topics (Seminar)	1	(Co-Instructor)	24
Spring 2019	CE462/562 Traffic Engineering and Operations	3	**Average: 4.5/5.0**	20
Fall 2018	CE 363 Transport Engineering and Pavement Design	4	**Average: 4.3/5.0**	39
Spring 2018	CE 465/565 Transportation Data Management and Analysis	3	**Average: U:4.6/5.0; G:4.3/5.0**	16 (12U;4G)
Fall 2017	CE 363 Transport Engineering and Pavement Design	4	**Average: 4.3/5.0**	51
Spring 2017	CE462/562 Traffic Engineering and Operations	3	**Average: U:4.7/5.0; G:4.5/5.0**	22 (18U;4G)
Fall 2016	CE 363 Transport Engineering and Pavement Design	4	**Average: 4.4/5.0**	36

---

[26] UA TCE Question: Overall rating of teaching effectiveness (Average).

[27] Due to COVID-19, teaching evaluation is not available.

[28] Due to COVID-19, teaching evaluation is not available.

[29] This class was taught by Xiaobo Ma, Ph.D. student of mine

	CE 596 A: Research Topics (Seminar)	1	(Co-Instructor)	30
Spring 2016	CE 465/565 Transportation Data Management and Analysis	3	**Average: U:4.8/5.0; G:4.3/5.0**	12 (5U; 7G)
Fall 2015	CE 363 Transport Engineering and Pavement Design	4	**Average: 4.3/5.0**	49
Spring 2015	CE 460/560 Special Topic: Traffic Engineering and Operations	3	**Average: 4.6/5.0**	12 (6U; 6G)
Fall 2014	CE 363 Transport Engineering and Pavement Design	4	**Average: 4.6/5.0**	49
Spring 2014	CE 460/560 Special Topic: Transportation Data Management and Analysis	3	**Average: 4.6/5.0**	14 (11U;3G)
Fall 2013	CE 363 Transport Engineering and Pavement Design	3	**Average: 4.5/5.0**	39
	Saint Louis University			
Spring 2013	CVNG 311 Transportation Engineering	3	**Average: 9.3/10.0**	13
	CVNG 312 Transportation Engineering Lab	1	**Average: 9.2/10.0**	13
	CVNG 150 Civil Engineering Computing	3	**Average: 9.0/10.0**	22
	CVNG 401 Senior Engineering	3	(Co-Instructor)	
	CVNG 593 Special Topics (4 sessions)		**N/A**	2
Fall 2012	CVNG 101 Freshmen Engineering	1	**Average: 9.4/10.0**	20
	CVNG 445/545 Traffic Engineering	3	**Average: 8.9/10.0**	9 (5U; 4G)
	CVNG 450 Capstone	3	(Co-Instructor)	
	CVNG 393 Special Topics-Traffic Studies	3	N/A	1
Spring 2012	CVNG 311 Transportation Engineering	3	**Average: 8.5/10.0**	22

	CVNG 312 Transportation Engineering Lab	1	**Average: 8.7/10.0**	22
	CVNG 150 Civil Engineering Computing	3	**Average: 8.4/10.0**	23
	CVNG 593 Special Topic: Traffic Studies	3	N/A	1
University of Washington (UW)				
Winter 2010	CEE 412/599 Transportation Data Management and Analysis (**Instructor**)		**Median**: **4.7/5.0** (27 Undergrads)) **4.4/5.0** (10 Grads))	37
Winter 2008 & 2009	CEE 412/599 Transportation Data Management and Analysis (**Teaching Assistant**)		N/A	

Invited Lectures

1. **Traffic Data Collection, Estimation, and Applications**. Invited lecture at the County of Nantou, Taiwan. July 24, 2020.

2. *Data-Driven Research for Arterial and Freeway Traffic Management.* Invited lecture in "Transportation Engineering and Technology" at National Cheng-Kung University by Prof. Shou-Ren Hu. June 6th, 2018. (3-hour lecture)

3. *Traffic Safety Research and Practices in the U.S..* Invited Lecture for "Taiwan Central Regional Transportation Center" (中區區域運輸發展研究中心) at Feng-Chia University, Taichung, Taiwan. June 5, 2018. (3-hour lecture)

4. *Traffic Management Strategies and Technologies in Arizona, U.S..* Invited lecture in "Transportation Geography (交通地域デザイン学) at Osaka University by Prof. Kenji Doi. July 11, 2017.

5. *Traffic Detection Technologies in the U.S.* Invited lecture in "Transportation Technology" at National Cheng-Kung University in Taiwan by Prof. Shou-Ren Hu, May 23rd, 2012.

6. *Image Processing Applications in Transportation Engineering*. Invited lecture in ECE551 (Image Processing) at SLU by Prof. Will Ebel, May 3rd, 2012.

7. *Traffic Simulation Analysis*. Invited lecture in CVNG 101(Freshman Engineering) at SLU by Prof. John Woolschlager, Dec. 5th, 2011.

8. *Adaptive Signal Control*, Invited lecture in CE 6460 (Integrated Transportation Systems Models) by Prof. Brian Park, University of Virginia, Charlottesville, VA, Apr. 28th 2011.

9. *Intelligent Transportation Systems*, Invited lecture in CEE 320 (Transportation Engineering) by Prof. Anne Goodchild, University of Washington, Seattle, WA, Oct. 15th 2010.

3.2 Advising/Supervising

Postdocs/Staff

Name	Dates	Current Position
Peipei Xu	Fall 2019 – Present	Research Specialist, Univ. of Arizona
Dr. Abolfazl Karimpour	Jan. 2021 – Present	Post-doctoral Researcher, Univ. of Arizona

Dr. Mohammad Razaur Rahman Shaon	Aug. 2019 – Oct. 2020	Research Associate. University of Connecticut as of 2021
Dr. Robert Kluger	Fall 2016 - Spring 2018	Assistant Professor, University of Louisville as of 2019
Dr. Shu Yang	Jan. 2017 - Aug. 2017	Post-doctoral Researcher, University of South Florida as of 2018

Ph.D. Students

Name	Degree	Dates	Thesis/Dissertation Topic
Adrian Cottam	Ph.D.	Spring 2019[30] ~ Present	TBD
Melrose (Meiyu) Pan	Ph.D.	Fall 2020[31] - Present	TBD
Zirui (Raymond) Huang	Ph.D.	Fall 2020[32] – Present	TBD
Xiaobo Ma	Ph.D.	Fall 2018~ Present	TBD
Xiaofeng Li	Ph.D.	Fall 2017~ Present	TBD
Abolfazl Karimpour	Ph.D.	Fall 2016 ~ Fall 2020	TBD
Amin Ariannezhad	Ph.D.	Fall 2014 ~ Fall 2019	Data-Driven Safety Modeling Approaches for Transportation Operations and Planning
Shu Yang	Ph.D.	Spring 2012 ~ Fall 2016	Estimating Freeway Travel Time Reliability for Traffic Operations and Planning
Ming Chen	Ph.D.	Fall 2014 ~ Discontinued in Spring 2016	N/A

Master Students

Name	Degree	Dates	Thesis/Dissertation Topic/Research
Yu-Qiu (Rachael) Yuan	M.E.	Fall 2019 ~ Fall 2020	*(Non-thesis Master)*
David Allen Klebosky	M.E.	Fall 2018~ Present	*(Non-thesis Master)*
Adrian Cottam	M.E.	Fall 2018~ Spring 2019	*(Non-thesis Master): Helped data analytics for multiple projects*
JT Dang	M.E.	Fall 2018~ Present	*(Non-thesis Master)*
Matthew Munden	M.E.	Fall 2017~ Spring 2018	*(Non-thesis Master): Helped data collection*
Alex John Weber	M.E.	Fall 2017~ Spring 2018	*(Non-thesis Master):Helped the City of Tucson project*
Ahmad Fakhouri	M.E.	Fall 2014 ~ Fall 2015	*(Non-thesis Master)*
Payton Cooke	M.S.	Summer 2015 ~ Fall 2016	Comparative Analysis of Multiple Data Sources for Travel Time and Delay Measurement
Jue Zhang	M.E in ECE	Spring 2016~ Present	*(Non-thesis Master) – Not Advisor*
Zheng Li	M.S.	Fall 2015 ~ Summer 2017	Improving Estimation Accuracy of GPS-based Arterial Travel Time Using k-Nearest Neighbors Algorithm
Kiet Dao	M.E.	Spring 2016 ~ Spring 2017	*(Non-thesis Master)*

Visiting Scholars

Name	Title[33]	Dates	Thesis/Research Topic
Liliana Salas	Ph.D. Student (STL Lab Affiliate)	Fall 2019 – Spring 2020	
Liang Xia	Visiting Ph.D. Student	Oct. 2019 ~ Oct. 2020	Arterial Traffic
Yen-Fei Huang	Visiting Scholar	Feb. 2019 ~ Aug. 2019	Traffic signal systems and

---

[30] Adrian are in both Ph.D. and M.E. programs in Spring 2019

[31] Dr. Yi-Chang Chiu was her PhD advisor for Fall 2019 – Spring 2020

[32] Dr. Yi-Chang Chiu was his PhD advisor for Fall 2019 – Spring 2020

[33] Most of students are/were pursuing CEEM degrees

			transportation technology literature review
Yang Liang[34]	Visiting M.S. student	Aug. 2018~ July 2019	Pedestrian delay/safety
Xiaoling Lou[35]	Visiting Ph.D. Student	Sep. 2018 ~ Mar. 2020	Freeway operations
Dingxin Wu	Visiting Ph.D. Student/Assistant Professor	Aug. 2017~Feb, 2018	Public transit
Guiliang Zhou	Visiting Ph.D. Student /Assistant Professor	Aug. 2017~Feb, 2018	High occupancy lane
Ke Meng	Visiting M.S. student	Summer 2017 ~ Fall 2017	Computer vision
Chengchuan An[36]	Visiting Ph.D. Student	Fall 2014 ~ Spring 2016	Traffic signal systems
Wenming Rao[37]	Visiting Ph.D. Student	Fall 2016~ Fall 2017	O/D estimation/traffic simulation
Jishun Ou[38]	Visiting Ph.D. Student	Fall 2016~ Fall 2017	Big freeway data

Undergraduate Students

University of Arizona (2013~ Present)			
Name	Title	Date	Topic(s) or Duties
Muhammad Luqman Mohd-Rizal	Lab Trainee	Summer 2021 – Present	Data collection
Dylan Molina	Lab Trainee	Summer 2021 – Present	Website development
Bailey Elizabeth Homan	Undergraduate Research Assistant	Summer 2021 - Present	Data collection and analysis
	Lab Trainee	Spring 2021	
Taylor Scott Davis	Lab Trainee	Spring 2021 – Present	Data collection Website administrator
Alex Pulido	Lab Trainee; Teaching Assistant	Fall 2019 ~ Present	Data collection TA for CE363 in Fall 2020
Ashley Arleen Avila	Lab Trainee	Fall 2019 ~ Present	Traffic data analysis
Josh Swain	Undergraduate Research Assistant	Spring 2020 ~ Present	Traffic data collection
Eric Huettner	Undergraduate Research Assistant	Spring 2019 ~ Fall 2019	ATMS Evaluation & CE363 Online course development
Lilly Grace Cottam	Undergraduate Research Assistant	Apr. 2019 ~ Present	Literature review assistance
Ruben Miranda	Undergraduate Research Assistant	Summer 2019 ~ Present	Traffic data collection
Joel Hernandez	Lab Shadow Program by ASEMS[39]	Spring 2018	Traffic Data Collection
Sal Licari	Lab Trainee	Spring 2018	Traffic Signal Data Analytics
Nicholas Quinn Tritz	Lab Trainee	Spring 2017~ Fall 2017	Bluetooth Devices
Adrian Blyth Cottam	Undergraduate Research	Spring 2017~	Development of Big Transportation

---

[34] M.S. Student. Tongji University, China.

[35] On his Ph.D. committee. Southwest Jiaotong University.

[36] On his Ph.D. committee. Southeast University, China. Primary Advisor: Dr. Jingxin Xia.

[37] On his Ph.D. committee. Southeast University, China. Primary Advisor: Dr. Jingxin Xia.

[38] On his Ph.D. committee. Southeast University, China. Primary Advisor: Dr. Jingxin Xia.

[39] Arizona's Science, Engineering and Math Scholars (ASEMS)

	Assistant	Summer 2018	Data Platform
Mohammed Nabil Al-Turkait	Undergraduate Lab Trainee (Visiting Student)	Fall 2016	Bluetooth Data Collection; Traffic Signal Project Support
Mariana Valle Eguren	Visiting Student	Spring 2016	Pedestrians and Bikes
Chanlin Wong	Undergraduate Research Assistant	Spring & Fall 2016	Traffic Data Collection
	Teaching Assistant	Fall 2016	
Dylan Patel	Undergraduate Research Assistant	Spring, Fall 2016	Traffic Data Collection
Romulo Federizzi Moraes	Visiting Undergraduate Research Assistant	Summer 2015	Traffic Engineering Training
Kiet Dao	Undergraduate Research Assistant	Spring 2015	GPS Data Collection for Signal Re-timing
Anthony Huynh Giang	Undergraduate Research Assistant	Summer~ Fall, 2014	Transportation Web System Development
Ryan Brown	Teaching Assistant	Fall 2013	CE363: Transport Engineering and Pavement Design
Ryan Brown	Undergraduate Research Assistant	Spring 2014	Tucson Bluetooth Project: Device Installation
Joel Amarillas	Undergraduate Research Assistant	Spring/Summer 2014	Tucson Crash Data Analysis
Ahmad Fakhouri	Teaching/Research Assistant	Spring 2014	CE 460/560: Transportation Data Management and Analysis (for project training)

High School

Name	Title	Date	Topic(s)
Katie Ogg	High School Trainee	Spring 2017	Training for Traffic Data Analytics

M.S. Committee

Name	Major Advisor	Semester
Yifan Zhao	Nan Feng	Fall 2015
Jason Andrew Freitas	Yi-Chang Chiu	Summer 2015
Marcos Urbano Esparza	Mark Hickman	Spring 2014
Paul Hoffer	Yi-Chang Chiu	Fall 2013

Ph.D. Dissertation Committee

Name	Ph.D. Degree	Preliminary Exam	Final Exam	Minor Adviser
Ali Arian	Civil	Fall 2017	Fall 2018	
Zuoyu Miao	System & Industrial	Spring 2018	Fall 2018	Yes
Byungho Beak	System & Industrial	Fall 2016	Summer 2017	Yes
Mehdi Zamanipour	System & Industrial	Spring 2015	Summer 2016	Yes
Ahmad Mohassel[40]	Economics	Fall 2014	TBD	
Ye Tian	Civil	Fall 2014	Summer 2015	
Yiheng Feng	System & Industrial	Fall 2014	Summer 2015	
Lei Zhu	Civil	Spring 2014	Fall 2014	

---

[40] Doctor of Philosophy in Economics

| Brenda I. Bustillos | Civil | Fall 2013 | Spring 2015 | |

Saint Louis University (2011~2013)

Name	Title	Date	Topic(s)
Michael Loseille	Website Manager	Spring~Summer 2013	Website Management
Xuan Liu	Visiting Scholar	2012~2013	Transportation Accessibility
Huicheng Chien[41]	Visiting Scholar	2012~2013	Climate Change
Adnan Gabeljic	Summer Undergraduate Research Experience (SURE) Scholar	Summer 2013	Traffic Safety
Anis Dokic	Student Worker	Spring 2013	MoDOT project traffic data collection
Justin Schmeltz	Undergraduate Research Assistant	Spring 2013	Transportation/Hydrology
Gregory Bouche	SURE Scholar and Undergraduate Research Assistant	Jan. 2012~ May 2013	Statistical Safety Analysis
Gregory Bouche	Teaching Assistant	Fall 2012	CVNG 101
Ryan Hughes	Honors Program Capstone	Sep. 2012~May 2013	Great Streets
Ryan McNeely	Undergraduate Research Assistant	Nov. 2012~ May 2013	Web-Based Visualization System
Phillip Pierson	Undergraduate Research Assistant	Jan. 2012~ May 2013	Traffic Data Quality
Tiffany Rando	Undergraduate Research Assistant	Jan. 2012~ May 2013	EXCEL VBA-Based Travel Time System
Tiffany Rando	Teaching Assistant	Spring 2013	CVNG 150
Sijia Lu	Undergraduate Research Assistant	May. 2012~ Present	GIS-Based Traffic Safety Analysis
Hung-Shuo (David) Tai	Graduate Research Assistant	Fall 2012	Traffic Data Analysis
Kyle Donahue	Special Topic (one credit): Research Report	Jan. 2013~ May 2013	Traffic Data Quality Assurance

3.3 **Major Student Awards**

Year	Student Name	Awards
2021	Xiaofeng Li	**Outstanding Graduate Student Award,** CAEM, College of Engineering
2020	Xiaofeng Li	**Best Student Paper Award**, ITS Arizona Annual Conference
2020	Abolfazl Karimpour	**Outstanding Graduate Student Award,** CAEM, College of Engineering
2019	Abolfazl Karimpour	**Outstanding Graduate and Professional Student Leadership Award**: Graduate and Professional Student Council at the University of Arizona
2019	Abolfazl Karimpour	**Outstanding Graduate Student**, ITE Western District
2019	Abolfazl Karimpour	**Jenny L. Grote Student Leadership Award**: Institute of Transportation Arizona Section (ITE AZ),
2019	Abolfazl Karimpour	**Best Student Paper Award**. The 26th Annual ITS Arizona Conference
2018	Adrian Blyth Cottam	**Outstanding Undergraduate Student**, SAITE Hank Warner Memorial

---

[41] As of 2018, Assistant Professor at SUNY New Paltz

		Scholarship, Southern Arizona Chapter of the Institute of Transportation Engineers
2018	Abolfazl Karimpour	**Outstanding Graduate Student**, SAITE Hank Warner Memorial Scholarship, Southern Arizona Chapter of the Institute of Transportation Engineers
2018	Adrian Blyth Cottam	NITC (National Institution for Transportation and Communities) Student Scholar Award
2017	Amin Ariannezhad	**Best Student Paper Award**, ITS Arizona Annual Conference
2016	Chengchuan An	**Best Student Paper Award**, ITS Arizona Annual Conference
2016	Shu Yang	**Outstanding Graduate Student Award**, College of Engineering, University of Arizona
2014	Shu Yang	**Outstanding Student Award:** SAITE Hank Warner Memorial Scholarship, Southern Arizona Chapter of the Institute of Transportation Engineers
2012	Shu Yang	**Best Student Paper Award.** Annual Transportation Engineering Association of Metropolitan (TEAM) Transportation Fair, , St. Louis, Missouri

4   PROFESSIONAL ACTIVITIES

4.1 Professional Services (Membership)

- Transportation Research Board (TRB)

    o **University Representative** (2012 ~ Present)
        ▪ Primary contact in establishing and maintaining an effective working relationship between the University of Arizona and the TRB

    o Committee on Highway Traffic Monitoring (ABJ35)
        ▪ **Official Young Member** (May 7th, 2008 ~ Apr. 2016)
        ▪ **Official Member** (Apr. 15, 2016 ~ Present)
    o Committee on Urban Transportation Data and Information Systems (ABJ30): **Official Young Member** (Apr. 15, 2011 ~ Apr. 1, 2017)
    o Subcommittee on Travel Time Speed and Reliability: **Member** (2015~ Present)
    o Archived Data User Services (ADUS) subcommittee (of ABJ35): **Member** (2009~2013)
    o Committee on User Information Systems (AND20): Committee Friend (2008 ~ Present)
    o Committee on Information Systems and Technology Committee (ABJ50): Committee Friend (2011 ~ Present)
    o Committee on Performance Measurement (ABC30) Committee Friend (2012~ Present)

- Professional Organization Memberships:

    o American Society of Civil Engineers (**ASCE**) (2009 ~ 2014, 2017~Present)
    o Chinese Overseas Transportation Association (**COTA**) (2008 ~ Present)
    o Institute of Transportation Engineers (**ITE**) (2006 ~ Present)
        - Transportation Engineering Association of Metropolitan St. Louis (TEAMStL) (2011~ 2013)
        - Southern Arizona ITE Member (2013 ~ Present)

4.2 Professional Services

University of Arizona (2013 ~ Present)

National Outreach	
2021 – Present	Conference Planning Committee Member, **Na**tional **T**ravel **M**onitoring **E**xhibition and **C**onference (**NaTMEC**), 2022.
2020 – Present	**FHWA Traffic Monitoring Guide Expert Panel Member.** Invited by Office of Highway Policy Information, Federal Highway Administration.
2019 – Present	**Panel Member: NCHRP 08-127** Emerging Issues: Impact of New Disruptive Technologies on the Performance of DOTs.
2019 - 2021	Conference Planning Committee Member, **Na**tional **T**ravel **M**onitoring **E**xhibition and **C**onference (**NaTMEC**), June 1~4, 2020. (Changed to 2021 due to COVID-19)
2018	**Session Chair,** Session 309, Innovations in Collecting and Applying Traffic Data, TRB Annual Meeting, Washington DC, Jan. 8th, 2018
2017	**Member,** International Academic Committee, 17th International Conference of Chinese, Transportation Professionals (ICCTP 2014), July. 7-9, 2017, Shanghai, China

2016 - 2018	Conference Planning Committee Member, **Na**tional **T**ravel **M**onitoring **E**xhibition and **C**onference (**NaTMEC**), June 10-13, 2018.
2015	**Web-based Communication Chair** and **International Technical Committee Member,** First IEEE International Smart Cities Conference (ISC2-2015), Oct 2015
2015	**Deputy Chair**, 7th International Symposium on Travel Demand Management, Tucson, Arizona, Apr. 13-15, 2015.
2015	Advisor (Volunteer Consultant), Smart City Group Inc., Taiwan.
2015	**Co-Chair,** TRB Taiwanese Transportation Researchers/Professionals Reception and Technical Information Exchange. Jan 11, 2015, Washington DC, USA.
2014	**Organizing Committee Member**, 14th International Conference of Chinese Transportation Professionals (ICCTP 2014), July. 4-7, 2014, Changsha, China
2014 - Present	**International Adviser,** China Urban Transport Database Project, invited by China Urban Sustainable Research Center (CUSTReC) in China Academy of Transportation Sciences (CATS)
2014	**Chair,** TRB Taiwanese Transportation Researchers/Professionals Reception and Technical Information Exchange, Washington DC, USA. Jan 12, 2014
International Outreach	
2016	**Invited International Expert,** Database on Urban Public Transport project (Phase 2): Monitoring and Evaluating Systems for Urban Public Transport Development Levels in the "Transit Metropolis" Cities of China. Invited by China Urban Sustainable Research Center (CUSTReC) in China Academy of Transportation Sciences (CATS). May. 23~25, 2016
2015	**Invited International Expert,** Database on Urban Public Transport project (Phase 2): Monitoring and Evaluating Systems for Urban Public Transport Development Levels in the "Transit Metropolis" Cities of China. Invited by China Urban Sustainable Research Center (CUSTReC) in China Academy of Transportation Sciences (CATS). Apr. 22~24, 2015
2013	**Invited International Expert Reviewer,** Database on Urban Public Transport project (Midterm Evaluation). Invited by China Urban Sustainable Research Center (CUSTReC) in China Academy of Transportation Sciences (CATS). July 27~31, 2013

Local/State Outreach	
2020 ~ Present	**Member**, Arizona Council for Transportation Innovation
2019 ~ Present	**Primary Member**, Maricopa Association of Governments (MAG)-Public University Task Force
2016	**Organizing Committee Member**, ADOT Transportation Research Summit
2016	**Adviser,** PAG Congestion Management Process (CMP) Project
2015 ~ 2019[42]	**Coordinator**, PAG-UA Transportation Research Seminar
2015	**UA Coordinator**, ADOT Research Summit, 2015
2014	**Coordinator**, ADOT-UA Research Seminar at UA
2014 ~ Present	**UA Representative,** PAG Transportation Systems Subcommittee / RTA Safety Working Group

University Services	

---

[42] To my best knowledge, the activities stopped in 2019 or 2018.

Department	
2021	Cyber-Physical Faculty Search Committee Chair
2017 ~ Present	CEEM Outstanding Young Alumni Award Selection Committee
2019 ~ Present	Graduate Studies Committee, Civil Engineering
2013 ~ 2019	Undergraduate Studies Committee, Civil Engineering
2015 ~ Present	Annual Performance Evaluation Committee, Civil Engineering
2013 ~ Present	Scholarship Committee, Civil Engineering
2013 ~ Present	ITE Student Chapter Faculty Advisor
2014 ~ 2016	UA Transportation Group Seminar Coordinator
College	
2017	UA CEEM Department Head Search Committee Member
University	
2018 ~ Present	*Faculty Advisor*, Arizona Taiwanese Student Association
2017 ~ Present	*Scholarship Committee Member*, National Institute for Transportation and Communities (NITC) University Transportation Center (UTC)
2015 ~ Present	*Faculty Advisor*, UA Tennis Club
2018 ~ 2019	*Steering Committee Member*, Transportation Research Institute

Saint Louis University (2011~2013) – Assistant Professor

Local/State Outreach	
2013	**Program Co-Chair**, 2013 Midwest Chinese American Science & Technology Association (MCASTA) Annual Symposium, Sep. 7, 2013, St. Louis, MO, USA.
2012	**Program Co-Chair**, 2012 Midwest Chinese American Science & Technology Association (MCASTA) Annual Symposium, Sep. 8, 2012, St. Louis, MO, USA.
International Outreach	
2013	**Primary Organizer**, 2013 TRB Taiwanese Transportation Researchers/Professionals Reception and Technical Information Exchange, Jan, 13, 2013, Washington DC, USA.
2012	12th COTA International Conference of Chinese Transportation Professionals (CICTP 2012), Aug. 3-6, 2012, Beijing, China o **Members** of *Organizing and Executive Committee* and *Academic Committee* o **Session Chair** (8/4/2011: Technical Session III: Traveler and Traffic Information and Control)
2012	**Member** of *International Technical Program Committee*, 15th International IEEE conference on Intelligent Transportation Systems (ITSC 2012):

2012 ~ 2013	Midwest Chinese American Science & Technology Association (MCASTA): **Board Member**

2011	11th International Conference of Chinese Transportation Professionals (ICCTP 2011), Aug. 14-17, 2011, Nanjing, China
	
	   o **Members** of *Organizing and Executive Committee* and *Academic Committee*
	   o **Session Chair** (8/17/2011: Technical Session VII: Traffic Safety and Emergency Management)

Departmental Committee	
2013	**Member**, Civil Engineering Faculty Search Committee (Summer 2012~ Spring 2013)
College Committee	
2012 ~ 2013	**Member**, Graduate and Research Affairs Committee at Parks College (2012~ Spring 2013)
University Committee	
2012 ~ 2013	**Committee Member** of Honors Program Faculty Advisory Council at SLU (2012 ~ Spring 2013)

4.3 **Professional Review Services**

1. **Associate Editor**, [Transportation Research Record (TRR) Editorial Board](#) (Jan. 2020 ~ Present)

2. *Member*, Editorial Advisory Board, *Transportation Research Part C: Emerging Technologies: An International Journal* (2016 ~ Present)

3. *Member,* Editorial Advisory Board, *Journal of Intelligent Transportation Systems (2018~Present)*

4. *Paper Review Coordinator* (2017 - 2020)[43]. TRB ABJ35 Highway Traffic Monitoring Committee.

---

[43] Co-coordinator in 2017 and 2018