Meiyu (Melrose) Pan

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EDUCATION

2019 - 2022	**University of Arizona** Doctor of Philosophy in Civil Engineering 'Behavior Science Methods for Active Transportation Demand Management' Chair: Dr. Alyssa Ryan
2018-2019	**University of Arizona** Master of Engineering in Civil Engineering
2014-2018	**Tongji University** Bachelor of Engineering in Transportation Engineering

RESEARCH INTERESTS

Travel Demand Modeling

Equity Evaluation & Modeling

Spatial-Temporal Travel Behavior & Human Factors

Sustainable Mobility

RESEARCH & WORK EXPERIENCE

2022–PRESENT	**Oak Ridge National Laboratory** Knoxville, TN Postdoctoral Research Associate, Transportation Analytics and Decision Sciences Group
2019–2022	**University of Arizona** Tucson, AZ Graduate Assistant, Research. Center for Applied Transportation Sciences *Funded by Pima County Department of Transportation and Metropia, Inc.*
2022	**WSP USA** San Diego, CA Technical Service Intern, Systems Analysis Group *Assisted with the development and application of the City of San Diego travel demand models, focusing on policy optimization using Python*
2021	**Metropia, Inc.** Tucson, AZ Transportation Engineer Intern *Assisted with incentive design and behavioral response analysis*

HONORS & AWARDS

2023	Transportation Research Board Certificate of Appreciation (Transportation Demand Management Committee)
2022	National Institute for Transportation and Communities Ph.D. Student of the Year Award (Council of University Transportation Centers)
2022	UArizona Graduate and Professional Student Council Travel Grant
2022	National Institute for Transportation and Communities Travel Support Award for the International Conference on Transport & Health 2022
2022	National Institute for Transportation and Communities Travel Support Award for Transportation and Development Conferences 2022

2022	National Institute for Transportation and Communities Travel Support Award for Transportation Research Board (TRB) 101st Annual Meeting
2021	3rd runner-up at Chinese Overseas Transportation Association Research Lightning Talk
2021	WTS Tucson Katie Dusenberry Scholarship
2020	National Institute for Transportation and Communities Travel Support Award for Transportation Research Board (TRB) 99th Annual Meeting
2019, '20	Jane Rider Scholarship
2019	WTS Metropolitan Phoenix AzTA Transit Planning Scholarship
2019	National Institute for Transportation and Communities Travel Support Award for Transportation Research Board (TRB) 98th Annual Meeting
2018	Southern Arizona Logistics Education Organization Scholarship
2017	First Prize in Mathematical Modeling of Tongji University

PUBLICATIONS

Refereed Journal Articles (*corresponding author)

5. **Pan, M.*** and Ryan, A. (2023) How to select distracted driving countermeasures evaluation metrics: A systematic review. *Journal of Transportation Safety & Security.* [Link]

4. **Pan, M.*** and Ryan, A. (2023) Segmenting the Target Audience for Transportation Demand Management Programs: An Investigation between Mode Shift and Individual Characteristics. *International Journal of Sustainable Transportation.* [Link]

3. **Pan, M.*** and Ryan, A. (2023) Equity in Active and Shared Transportation: An Investigation of Barriers and Individual and Contextual Factors. Transportation Research Record, 0(0). [Link]

2. **Pan, M.*** and Ryan, A. (2022) Investigating Confirmation Bias in Transportation: An Analysis of Perceived Health Risk on Public Transit During the Pandemic. *Journal of Transport & Health*, 26:101485. [Link]

1. Arian, A, **Pan, M.***, and Chiu, Y-C. (2021) Personas: A Market Segmentation Approach for Transportation Behavior Change. *Transportation Research Record*, 2675(11):172-185. [Link]

Manuscripts Under Review (*corresponding author)

3. **Pan, M.***, Wong, S., Tainter, F., Woelfel, S., and Ryan, A. (2023) Integrating equity in transportation scenario planning: A systematic review. *Under review by Transport Policy.* [Link]

2. **Pan, M.*** and Ryan, A. (2022) Developing a small participant framework: An investigation of mode choice influential factors. *Submitted to Transportation Research Interdisciplinary Perspectives.* [Link]

1. **Pan, M.*** and Ryan, A. (2022) A Systematic Review of Behavior Change Methods: Implications on Transportation Mode Shift. *Submitted to Travel Behaviour and Society.*

Refereed Conference Papers (*corresponding author & presenter)

7. **Pan, M.*** and Ryan, A. (2022) How likely will a mode shift occur? – Evaluating the demographic and location differences between potential and existing users of sustainable transportation modes. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 66(1), 330–334. [Link]

6. **Pan, M.*** and Chiu, Y-C. (2022) How to Improve an Incentive Program's Lasting Effects? A perspective from an Early Exploration in Habit Forming. Paper Number TRBAM-22-04347. Poster. *Transportation Research Board 101st Annual Meeting*, 9–13 January, Washington, D.C. [Link]

5. **Pan, M.**, Huang, Z-R., and Chiu, Y-C.* (2021) Exploring the Opportunities of Using an Innovative Source of Origin-Destination Data in Regional Transportation Models. Paper Number 480. Presentation. *Pan-American Conference of Traffic and Transportation Engineering and Logistics,* 11–13 August, online. [Link]

4. **Pan, M.** and Chiu, Y-C.* (2021) Evaluating the Congestion Improvement Benefit of a Regional School Carpooling Program using Dynamic Traffic Assignment. Paper Number 469. Presentation. *Pan-American Conference of Traffic and Transportation Engineering and Logistics,* 11–13 August, online. [Link]

3. Arian, A., **Pan, M.***, and Chiu, Y-C. (2020) Inferring Individual's Activity And Trip Purpose From GPS Data Using Wavelet Decomposition And Kmeans. Paper Number 20-00600. Poster. *Transportation Research Board 99th Annual Meeting*, 12–16 January, Washington, D.C.

2. **Pan, M.**, Arian, A., and Chiu, Y-C.* (2019) Studying the Behavioral Transition of Navigation App Users Using Longitudinal Observation Data. Paper Number 19-03094. Poster. *Transportation Research Board 98th Annual Meeting*, 13–17 January, Washington, D.C. [Link]

1. **Pan, M.**, Li, X-F., Kluger, R.*, and Wu, Y-J. (2019) Red-Light Violation Identification Using GPS Trajectories. Paper Number 19-04471. Poster. *Transportation Research Board 98th Annual Meeting*, 13–17 January, Washington, D.C. [Link]

Project Reports

5. Litman, T., **Pan, M.** (2023) *TDM Success Stories: Examples of Effective Transportation Demand Management Policies and Programs, and Keys to Their Success.* Victoria Transport Policy Institute. [Link]

4. **Pan, M.**, Papayannoulis, V., and Chiu, Y-C. (2022) *Incentivizing Active and Shared Travel Pilot Program Analysis of Audience and Possible Change Barriers.* Final Report. Metropia, Inc.

3. **Pan, M.**, Papayannoulis, V., and Chiu, Y-C. (2022) *Incentivizing Active and Shared Travel Pilot Program Target Audience Selection Process Memo.* Final Report. Metropia, Inc.

2. **Pan, M.**, Papayannoulis, V., and Chiu, Y-C. (2022) *Incentivizing Active and Shared Travel Pilot Program Pilot Approach Technical Document.* Final Report. Metropia, Inc.

1. Chiu, Y-C., **Pan, M.**, and Huang, Z-R. (2020) *Pima County Regional Dynamic Traffic Assignment Model.* The University of Arizona Department of Civil and Architectural Engineering and Mechanics. [Link]

Research Grants

7. Sartipi, M., Li, W., **Pan, M. (Primary Author)**, Dubey, A., Pugliese, P. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Vehicle Technologies Office."Enhancing mobility and accessibility in rural areas: Design and operation of automated microtransit fleet" 2023 – 2026, $3,234,000 [under review].

7. Uddin, M., **Pan, M. (Co-PI)**, Lim, H., Ou, S., Hasnine, S., Ryan, A. U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Vehicle Technologies Office."A planning tool for equitable access to electric vehicle charging in multifamily dwellings" 2023 – 2025, $1,000,000 [rejected].

6. Ryan, A., Tainter, F., **Pan, M. (Primary Author)** AAA Foundation for Traffic Safety."A comprehensive review on near-miss reporting: Key elements, challenges, and opportunities" 2022 – 2023, $140,000 [rejected].

5. Ryan, A., **Pan, M. (Primary Author)** The Economic and Business Research Center in the University of Arizona's Eller College of Management."Evaluating the transportation equity of low-income housing in Southern Arizona" 2023, $7500 [rejected].

4. Ryan, A., **Pan, M. (Primary Author)** U.S. DOT."Reconnecting Rural Communities in Pima County through At-Grade Crossing Asset Management Collection and Plan Development" 2023 – 2025, $200,000 [rejected].

3. Ryan, A., **Pan, M. (Primary Author)** NCHRP Synthesis."Practices to Promote Gender Equity in the DOT Workforce" 2022 – 2023, $55,000 [rejected].

2. Ryan, A., **Pan, M. (Primary Author)** NCHRP Synthesis."DOT Practices on Road Safety Audits" 2022 – 2023, $55,000 [rejected].

1. Ryan, A., **Pan, M. (Primary Author)** AAA Foundation for Traffic Safety."Distracted Driving Countermeasures that Work: A Comprehensive Analysis Considering Different Contexts" 9/1/2022 to 9/1/2023, $100,000 [rejected].

PRESENTATIONS

Invited Talks

8. **Pan, M.** (2023) Behavioral Science Task Force Research Gap Summary. *Transportation Demand Management Committee (AEP60) Meeting, Transportation Research Board Annual Meeting*, 9 Jan.

7. **Pan, M.** (2022) Understanding the Impact of Mental Biases in Transportation Decision-Making. *Center for Applied Transportation Sciences (CATS), Department of Civil & Architectural Engineering & Mechanics, University of Arizona*, 16 Nov.

6. **Pan, M.** (2022) Systematic Behavior and Equity Analysis Framework. *Georgia Tech Doctoral Students Research Talk (Invited by Prof. Yi-Chang James Tsai)*, 10 Oct.

5. **Pan, M.**, Ryan, A. (2022) Cutting Edge in Equity: Developing Equitable Practices in Transportation Engineering and Design. *Arizona Conference on Roads and Streets*, 29 Sep.

4. **Pan, M.** (2022) The Relationship between Transportation Equity and Safety. *Arizona ITE-IMSA Annual Spring Conference*, 19 May.

3. **Pan, M.** (2022) Segmenting the Target Audience for Travel Behavior Change Program. *Arizona Students' Transportation Summit*, 30 April.

2. **Pan, M.** (2022) Persona Generation For Travel Demand Management Program. *Center for Applied Transportation Sciences (CATS), Department of Civil & Architectural Engineering & Mechanics, University of Arizona*, 26 April.

1. **Pan, M.** (2021) Habit Formation Behavior Framework for Active Transportation Demand Management. *Center for Applied Transportation Sciences (CATS), Department of Civil & Architectural Engineering & Mechanics, University of Arizona*, 26 Oct

Conference & Annual Meeting Presentations Accepted by Abstract (*presenter(s))

6. **Pan, M.*** and Ryan, A. (2023) Investigating the dynamic impact of the influencing factors on mode choice: A field application of transit use in Southern Arizona. Poster. *To present at the ASCE International Conference on Transportation & Development*, 16 June, Austin, TX.

5. Bhandari, S.*, **Pan, M**, and Ryan, A. (2023) Measuring Gender Equity: Best Practices Identified in Current Literature. Poster. *Presented at the Transportation Research Board 102nd Annual Meeting*, 8–12 January, Washington, D.C.

4. **Pan, M.*** and Ryan, A. (2023) Current Practices in Scenario Planning: What Works in Transportation and Adjacent Sectors. Poster. *Presented at the Transportation Research Board 102nd Annual Meeting*, 8–12 January, Washington, D.C.

3. **Pan, M.*** (2023) Behavior Science Methods for Active Transportation Demand Management. Poster. *Presented at the Transportation Research Board 102nd Annual Meeting*, 8–12 January, Washington, D.C.

2. **Pan, M.*** and Ryan, A. (2022) The Impact of Confirmation Bias on Perceived Health Risk of Using Public Transit: An Evaluation during the Pandemic. Podium. *Presented at the International Conference on Transport & Health (ICTH)*, 27–28 June, Denver, CO. [Link]

1. **Pan, M.*** and Ryan, A. (2022) Identifying the target audience: Exploring the characteristics of nudgeable people towards sustainable behavior change. Poster. *Presented at the ASCE International Conference on Transportation & Development*, 2 June, Seattle, WA.

TEACHING EXPERIENCE

Instructor

FALL 2022   Statistical Methods in Transportation Engineering (three lectures, in-person, 9 students total)
University of Arizona
This undergraduate and graduate course introduces students to using illustrations in draw.io and visualizing traffic data in R, Python, and QGIS

FALL 2020   DynusT Workshop (two sections, online, 10 staff total)
Pima County Department of Transportation
This training workshop introduces staff to use DynusT - a Dynamic Traffic Assignment software - to import, process and calibrate origin-destination data

SERVICE

Conference and Event Leadership

2023   Conference Session Chair, Association for Commuter Transportation (ACT) 37th Annual International Conference, 30 June –2 August, Seattle, WA.

2019   Session Moderator, Student Challenge: Pima Association of Governments Teen Leadership Summit, 1 February

Professional Membership and Leadership

National Cooperative Highway Research Program (NCHRP)

2023-PRESENT   Panel Member

Transportation Research Board Standing Committee on Transportation Demand Management (AEP60)

2022-PRESENT   Research Coordinator of the Behavioral Science Task Force

2022-PRESENT   Committee Website Developer [Link]

2022-PRESENT   Paper Handler

Transportation Research Board Standing Committee on Strategic Management (AJE10)

2023-PRESENT   Communications Coordinator

Journal Review Work

2023-PRESENT   Statistical Editor, Transportation Research Record

Conference Referee Work

2023   ITF 2023 Summit: Transport Enabling Sustainable Economies

2023   Transportation Research Board Innovations in Travel Analysis and Planning Conference

2022   International Conference on Transportation and Development (ICTD 2023) and the International Airfield & Highway Pavements Conference (Pavements 2023)

2022   Chinese Overseas Transportation Association (COTA) International Conference of Transportation Professionals (CICTP 2023)

2021-PRESENT   Transportation Research Board Annual Meeting

         Transportation Demand Management (AEP60)

         Effects of Information and Communication Technologies (ICT) on Travel Choices (AEP35)

         Urban Transportation Data and Information Systems (AED20)

         Road User Measurement and Evaluation (ACH50)

         Innovative Public Transportation Services and Technologies (AP020)

Public Service

2023   Volunteer teaching assistant, Oak Ridge Computer Science Girls

2021   Volunteer, United Nations, Research on Automated Analysis of Sustainable Development Goals

2019   Volunteer, Pima Association of Governments, Traffic safety curriculum design for grades 2 – 5