Henry X Liu

List of Publications by Year
in descending order

143 papers	5,826 citations	61945 43 h-index	88593 70 g-index
143 all docs	143 docs citations	143 times ranked	3084 citing authors

#	Article	IF	Citations
1	String stability for vehicular platoon control: Definitions and analysis methods. Annual Reviews in Control, 2019, 47, 81-97.	4.4	316
2	Real-time queue length estimation for congested signalized intersections. Transportation Research Part C: Emerging Technologies, 2009, 17, 412-427.	3.9	300
3	Integrated optimization of traffic signals and vehicle trajectories at isolated urban intersections. Transportation Research Part B: Methodological, 2018, 112, 89-112.	2.8	237
4	Optimal vehicle speed trajectory on a signalized arterial with consideration of queue. Transportation Research Part C: Emerging Technologies, 2015, 61, 106-120.	3.9	218
5	Method of Successive Weighted Averages (MSWA) and Self-Regulated Averaging Schemes for Solving Stochastic User Equilibrium Problem. Networks and Spatial Economics, 2009, 9, 485-503.	0.7	173
6	Spatiotemporal intersection control in a connected and automated vehicle environment. Transportation Research Part C: Emerging Technologies, 2018, 89, 364-383.	3.9	170
7	Estimating traffic volumes for signalized intersections using connected vehicle data. Transportation Research Part C: Emerging Technologies, 2017, 79, 347-362.	3.9	158
8	A link-based day-to-day traffic assignment model. Transportation Research Part B: Methodological, 2010, 44, 597-608.	2.8	147
9	A virtual vehicle probe model for time-dependent travel time estimation on signalized arterials. Transportation Research Part C: Emerging Technologies, 2009, 17, 11-26.	3.9	143
10	Modeling the day-to-day traffic evolution process after an unexpected network disruption. Transportation Research Part B: Methodological, 2012, 46, 50-71.	2.8	120
11	Identification of oversaturated intersections using high-resolution traffic signal data. Transportation Research Part C: Emerging Technologies, 2010, 18, 626-638.	3.9	112
12	Intelligent driving intelligence test for autonomous vehicles with naturalistic and adversarial environment. Nature Communications, 2021, 12, 748.	5.8	108
13	Boundedly rational route choice behavior: A review of models and methodologies. Transportation Research Part B: Methodological, 2016, 85, 142-179.	2.8	105
14	A stochastic model of traffic flow: Theoretical foundations. Transportation Research Part B: Methodological, 2012, 46, 156-174.	2.8	95
15	The traffic and behavioral effects of the I-35W Mississippi River bridge collapse. Transportation Research, Part A: Policy and Practice, 2010, 44, 771-784.	2.0	89
16	Bounded rationality and irreversible network change. Transportation Research Part B: Methodological, 2011, 45, 1606-1618.	2.8	89
17	Testing Scenario Library Generation for Connected and Automated Vehicles, Part I: Methodology. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 1573-1582.	4.7	89
18	A shockwave profile model for traffic flow on congested urban arterials. Transportation Research Part B: Methodological, 2011, 45, 1768-1786.	2.8	88

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19	Hybrid powertrain optimization with trajectory prediction based on inter-vehicle-communication and vehicle-infrastructure-integration. Transportation Research Part C: Emerging Technologies, 2014, 45, 41-63.	3.9	86
20	An empirical analysis on the arterial fundamental diagram. Transportation Research Part B: Methodological, 2011, 45, 255-266.	2.8	82
21	Managing connected and automated vehicles at isolated intersections: From reservation- to optimization-based methods. Transportation Research Part B: Methodological, 2019, 122, 416-435.	2.8	81
22	Continuous-time point-queue models in dynamic network loading. Transportation Research Part B: Methodological, 2012, 46, 360-380.	2.8	79
23	Model Reference Adaptive Control Framework for Real-Time Traffic Management under Emergency Evacuation. Journal of the Urban Planning and Development Division, ASCE, 2007, 133, 43-50.	0.8	75
24	Estimation of the time-dependency of values of travel time and its reliability from loop detector data. Transportation Research Part B: Methodological, 2007, 41, 448-461.	2.8	68
25	Boundedly rational user equilibria (BRUE): Mathematical formulation and solution sets. Transportation Research Part B: Methodological, 2013, 57, 300-313.	2.8	68
26	Uncovering the contribution of travel time reliability to dynamic route choice using real-time loop data. Transportation Research, Part A: Policy and Practice, 2004, 38, 435-453.	2.0	65
27	A link-node complementarity model and solution algorithm for dynamic user equilibria with exact flow propagations. Transportation Research Part B: Methodological, 2008, 42, 823-842.	2.8	65
28	A stochastic model of traffic flow: Gaussian approximation and estimation. Transportation Research Part B: Methodological, 2013, 47, 15-41.	2.8	64
29	Tube-Based Discrete Controller Design for Vehicle Platoons Subject to Disturbances and Saturation Constraints. IEEE Transactions on Control Systems Technology, 2020, 28, 1066-1073.	3.2	64
30	A probabilistic stationary speed–density relation based on Newell's simplified car-following model. Transportation Research Part B: Methodological, 2014, 68, 205-223.	2.8	63
31	A link-node reformulation of ridesharing user equilibrium with network design. Transportation Research Part B: Methodological, 2018, 112, 230-255.	2.8	61
32	Performance Evaluation of Adaptive Ramp-Metering Algorithms Using Microscopic Traffic Simulation Model. Journal of Transportation Engineering, 2004, 130, 330-338.	0.9	60
33	Corridor level cooperative trajectory optimization with connected and automated vehicles. Transportation Research Part C: Emerging Technologies, 2019, 105, 405-421.	3.9	60
34	Various methods for queue length and traffic volume estimation using probe vehicle trajectories. Transportation Research Part C: Emerging Technologies, 2019, 107, 70-91.	3.9	57
35	A capacity maximization scheme for intersection management with automated vehicles. Transportation Research Procedia, 2017, 23, 121-136.	0.8	53
36	Evaluation of Cell Phone Traffic Data in Minnesota. Transportation Research Record, 2008, 2086, 1-7.	1.0	51

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37	Optimal Sensor Locations for Freeway Bottleneck Identification. Computer-Aided Civil and Infrastructure Engineering, 2009, 24, 535-550.	6.3	51
38	Second best toll pricing within the framework of bounded rationality. Transportation Research Part B: Methodological, 2016, 83, 74-90.	2.8	51
39	Using high-resolution event-based data for traffic modeling and control: An overview. Transportation Research Part C: Emerging Technologies, 2014, 42, 28-43.	3.9	50
40	Braess paradox under the boundedly rational user equilibria. Transportation Research Part B: Methodological, 2014, 67, 86-108.	2.8	50
41	A general MPCC model and its solution algorithm for continuous network design problem. Mathematical and Computer Modelling, 2006, 43, 493-505.	2.0	47
42	A mixed-integer linear program for optimizing sensor locations along freeway corridors. Transportation Research Part B: Methodological, 2011, 45, 208-217.	2.8	47
43	Arterial offset optimization using archived high-resolution traffic signal data. Transportation Research Part C: Emerging Technologies, 2013, 37, 131-144.	3.9	47
44	Modeling and solving continuous-time instantaneous dynamic user equilibria: A differential complementarity systems approach. Transportation Research Part B: Methodological, 2012, 46, 389-408.	2.8	46
45	Solving a class of constrained â€˜black-boxâ€™ inverse variational inequalities. European Journal of Operational Research, 2010, 204, 391-401.	3.5	43
46	Hardware-in-the-loop testbed for evaluating connected vehicle applications. Transportation Research Part C: Emerging Technologies, 2017, 78, 50-62.	3.9	43
47	Testing Scenario Library Generation for Connected and Automated Vehicles, Part II: Case Studies. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 5635-5647.	4.7	42
48	Estimation of Queue Lengths, Probe Vehicle Penetration Rates, and Traffic Volumes at Signalized Intersections using Probe Vehicle Trajectories. Transportation Research Record, 2019, 2673, 660-670.	1.0	40
49	Vulnerability of Traffic Control System Under Cyberattacks with Falsified Data. Transportation Research Record, 2018, 2672, 1-11.	1.0	38
50	Safety assessment of highly automated driving systems in test tracks: A new framework. Accident Analysis and Prevention, 2020, 144, 105664.	3.0	37
51	Using Microscopic Simulation to Evaluate Potential Intelligent Transportation System Strategies Under Nonrecurrent Congestion. Transportation Research Record, 2004, 1886, 76-84.	1.0	36
52	Traffic state estimation using stochastic Lagrangian dynamics. Transportation Research Part B: Methodological, 2018, 115, 143-165.	2.8	36
53	A calibration procedure for microscopic traffic simulation. , 0, , .		35
54	Ridesharing User Equilibrium and Its Implications for High-Occupancy Toll Lane Pricing. Transportation Research Record, 2017, 2667, 39-50.	1.0	33

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55	Testing Scenario Library Generation for Connected and Automated Vehicles: An Adaptive Framework. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 1213-1222.	4.7	33
56	Indifference bands for boundedly rational route switching. Transportation, 2017, 44, 1169-1194.	2.1	32
57	A cooperative driving framework for urban arterials in mixed traffic conditions. Transportation Research Part C: Emerging Technologies, 2021, 124, 102918.	3.9	32
58	Inverse variational inequalities with projection-based solution methods. European Journal of Operational Research, 2011, 208, 12-18.	3.5	29
59	Real-time estimation of arterial travel time under congested conditions. Transportmetrica, 2012, 8, 87-104.	1.8	29
60	An Augmented Reality Environment for Connected and Automated Vehicle Testing and Evaluation. , 2018, , .		29
61	Missing data detection and imputation for urban ANPR system using an iterative tensor decomposition approach. Transportation Research Part C: Emerging Technologies, 2019, 107, 337-355.	3.9	29
62	Cycle-Based End of Queue Estimation at Signalized Intersections Using Low-Penetration-Rate Vehicle Trajectories. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 3257-3272.	4.7	28
63	Self-adaptive projection method for co-coercive variational inequalities. European Journal of Operational Research, 2009, 196, 43-48.	3.5	27
64	Stochasticity of freeway operational capacity and chance-constrained ramp metering. Transportation Research Part C: Emerging Technologies, 2010, 18, 741-756.	3.9	27
65	Submission to the DTA 2012 Special Issue: On the Stability of a Boundedly Rational Day-to-Day Dynamic. Networks and Spatial Economics, 2015, 15, 537-557.	0.7	27
66	Managing oversaturated signalized arterials: A maximum flow based approach. Transportation Research Part C: Emerging Technologies, 2013, 36, 196-211.	3.9	26
67	A data-driven method for falsified vehicle trajectory identification by anomaly detection. Transportation Research Part C: Emerging Technologies, 2021, 128, 103196.	3.9	26
68	A Link-Node Discrete-Time Dynamic Second Best Toll Pricing Model with a Relaxation Solution Algorithm. Networks and Spatial Economics, 2009, 9, 243-267.	0.7	25
69	A probabilistic optimization model for allocating freeway sensors. Transportation Research Part C: Emerging Technologies, 2016, 67, 378-398.	3.9	25
70	On the estimation of connected vehicle penetration rate based on single-source connected vehicle data. Transportation Research Part B: Methodological, 2019, 126, 169-191.	2.8	24
71	Improving Queue Size Estimation for Minnesota's Stratified Zone Metering Strategy. Transportation Research Record, 2007, 2012, 38-46.	1.0	23
72	Perception of Waiting Time at Signalized Intersections. Transportation Research Record, 2009, 2135, 52-59.	1.0	23

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73	Length-based vehicle classification using event-based loop detector data. Transportation Research Part C: Emerging Technologies, 2014, 38, 156-166.	3.9	23
74	Stochastic eco-routing in a signalized traffic network. Transportation Research Part C: Emerging Technologies, 2015, 59, 32-47.	3.9	23
75	Analysis of yellow-light running at signalized intersections using high-resolution traffic data. Transportation Research, Part A: Policy and Practice, 2015, 73, 39-52.	2.0	22
76	Quasi-optimal feedback control for an isolated intersection under oversaturation. Transportation Research Part C: Emerging Technologies, 2016, 67, 109-130.	3.9	22
77	A capacity maximization scheme for intersection management with automated vehicles. Transportation Research Part C: Emerging Technologies, 2018, 94, 19-31.	3.9	22
78	Quasi-optimal feedback control for a system of oversaturated intersections. Transportation Research Part C: Emerging Technologies, 2015, 57, 224-240.	3.9	21
79	Hybrid Extended Kalman Filtering Approach for Traffic Density Estimation along Signalized Arterials. Transportation Research Record, 2010, 2188, 165-173.	1.0	20
80	An Adaptive Signal Control Scheme to Prevent Intersection Traffic Blockage. IEEE Transactions on Intelligent Transportation Systems, 2016, , 1-10.	4.7	19
81	A restricted path-based ridesharing user equilibrium. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2020, 24, 383-403.	2.6	19
82	On the Cybersecurity of Traffic Signal Control System With Connected Vehicles. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 16267-16279.	4.7	16
83	An improved linearization technique for a class of quadratic 0-1 programming problems. Optimization Letters, 2012, 6, 31-41.	0.9	15
84	Real-Time Movement-Based Traffic Volume Prediction at Signalized Intersections. Journal of Transportation Engineering Part A: Systems, 2020, 146, .	0.8	15
85	Simulating Transportation for Realistic Engineering Education and Training. Transportation Research Record, 2009, 2109, 12-21.	1.0	14
86	Stochastic Eco-routing in a Signalized Traffic Network. Transportation Research Procedia, 2015, 7, 110-128.	0.8	14
87	Real-Time Detector-Free Adaptive Signal Control with Low Penetration of Connected Vehicles. Transportation Research Record, 2018, 2672, 35-44.	1.0	14
88	Learning the max pressure control for urban traffic networks considering the phase switching loss. Transportation Research Part C: Emerging Technologies, 2022, 140, 103670.	3.9	14
89	Boundedly Rational User Equilibria (BRUE): Mathematical Formulation and Solution Sets. Procedia, Social and Behavioral Sciences, 2013, 80, 231-248.	0.5	13
90	Use of Event-Based Traffic Data in Generating Time–Space Diagrams for Evaluation of Signal Coordination. Transportation Research Record, 2014, 2439, 94-104.	1.0	12

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91	Analysis of Drivers' Stop-or-Run Behavior at Signalized Intersections with High-Resolution Traffic and Signal Event Data. Transportation Research Record, 2013, 2365, 99-108.	1.0	11
92	Vehicle actuated signal performance under general traffic at an isolated intersection. Transportation Research Part C: Emerging Technologies, 2018, 95, 582-598.	3.9	11
93	Maximum Likelihood Estimation of Probe Vehicle Penetration Rates and Queue Length Distributions From Probe Vehicle Data. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 7628-7636.	4.7	11
94	Real-time Full-stack Traffic Scene Perception for Autonomous Driving with Roadside Cameras. , 2022, , .		11
95	Evaluation of Corridor Traffic Management and Planning Strategies that use Microsimulation. Transportation Research Record, 2008, 2088, 26-35.	1.0	10
96	Submission to the DTA2012 Special Issue: Approximating Time Delays in Solving Continuous-Time Dynamic User Equilibria. Networks and Spatial Economics, 2015, 15, 443-463.	0.7	10
97	Data Infrastructure for Connected Vehicle Applications. Transportation Research Record, 2020, 2674, 85-96.	1.0	10
98	Corner Case Generation and Analysis for Safety Assessment of Autonomous Vehicles. Transportation Research Record, 2021, 2675, 587-600.	1.0	10
99	Design, Implementation, and Evaluation of a Roadside Cooperative Perception System. Transportation Research Record, 2022, 2676, 273-284.	1.0	10
100	Decomposition Scheme for Continuous Network Design Problem with Asymmetric User Equilibria. Transportation Research Record, 2006, 1964, 185-192.	1.0	9
101	Development of Data-Processing Framework for Transit Performance Analysis. Transportation Research Record, 2010, 2143, 34-43.	1.0	9
102	The Uncertainty of Drivers' Gap Selection and its Impact on the Fundamental Diagram. Procedia, Social and Behavioral Sciences, 2013, 80, 901-921.	0.5	9
103	Unexpected versus expected network disruption: Effects on travel behavior. Transport Policy, 2017, 57, 68-78.	3.4	9
104	Bootstrap standard error estimations of nonlinear transport models based on linearly projected data. Transportmetrica A: Transport Science, 2019, 15, 602-630.	1.3	9
105	Dynamic equilibrium assignment with microscopic traffic simulation. , 0, , .		8
106	SMART-SIGNAL: Systematic Monitoring of Arterial Road Traffic Signals. , 2008, , .		8
107	Day-to-Day Dynamic Model in Discrete–Continuum Transportation Networks. Transportation Research Record, 2011, 2263, 66-72.	1.0	8
108	Performance Diagnosis Tool for Arterial Traffic Signals. Transportation Research Record, 2013, 2356, 109-116.	1.0	8

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109	Learning-Based Stochastic Driving Model for Autonomous Vehicle Testing. Transportation Research Record, 2022, 2676, 54-64.	1.0	8
110	Study Travel Time Variability from Probe Vehicle Data. , 2002, , 16.		7
111	Submission to the DTA2012 Special Issue: Convergence of Time Discretization Schemes for Continuous-Time Dynamic Network Loading Models. Networks and Spatial Economics, 2015, 15, 419-441.	0.7	7
112	A hidden Markov model for the estimation of correlated queues in probe vehicle environments. Transportation Research Part C: Emerging Technologies, 2021, 128, 103128.	3.9	7
113	Numerical Studies on Reformulation Techniques for Continuous Network Design with Asymmetric User Equilibria. International Journal of Operations Research and Information Systems, 2010, 1, 52-72.	1.0	7
114	Distributed large-scale network modeling with paramics implementation. , 0, , .		6
115	Measuring Winners and Losers from the New I-35w Mississippi River Bridge. SSRN Electronic Journal, 2009, , .	0.4	6
116	Network topological effects on the macroscopic fundamental Diagram. Transportmetrica B, 2021, 9, 376-398.	1.4	6
117	Development of Vision-Based Vehicle Detection and Recognition System for Intelligent Vehicles. Transportation Research Record, 1999, 1679, 130-138.	1.0	5
118	A simple forward-backward procedure for real-time signal timing adjustment on oversaturated arterial networks. , 2011, , .		5
119	Vision-based object detection and recognition system for intelligent vehicles. , 1999, 3525, 326.		4
120	Performance Diagnosis Tool for Arterial Traffic Signals. Transportation Research Record, 2013, 2366, 109-116.	1.0	4
121	A Generalized Flow Splitting Model for Day-to-day Traffic Assignment. Transportation Research Procedia, 2015, 9, 56-70.	0.8	4
122	A Similitude Theory for Modeling Traffic Flow Dynamics. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 900-911.	4.7	4
123	Modeling and simulation of approaching behaviors to signalized intersections based on risk quantification. Transportation Research Part C: Emerging Technologies, 2022, 142, 103773.	3.9	4
124	A distributed modelling framework for large-scale microscopic traffic simulation. World Review of Intermodal Transportation Research, 2009, 2, 107.	0.2	3
125	Fine-Tuning Time-of-Day Transitions for Arterial Traffic Signals. Transportation Research Record, 2015, 2488, 32-40.	1.0	3
126	Developing a dynamic utilisation scheme for exclusive bus lanes on urban expressways: an enhanced CTMâ€based approach versus a microsimulationâ€based approach. IET Intelligent Transport Systems, 2020, 14, 1657-1664.	1.7	3

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127	Performance Evaluation of ITS Strategies Using Microscopic Simulation. , 2004, , 28.		2
128	Multiagent Route Choice Game for Transportation Engineering. Transportation Research Record, 2015, 2480, 55-63.	1.0	2
129	Measuring winners and losers from the new I-35W Mississippi River Bridge. Transportation, 2017, 44, 905-918.	2.1	2
130	Augmented reality for robocars. IEEE Spectrum, 2019, 56, 22-27.	0.5	2
131	A hierarchical behavior prediction framework at signalized intersections. , 2021, , .		2
132	Hybrid Powertrain Optimization With Real-Time Traffic Information. , 2013, , .		2
133	Advances in Automated Driving Systems. Energies, 2022, 15, 3476.	1.6	2
134	Evaluation of Integrated Platoon-Priority and Advance Warning Flasher System at High-Speed Intersections. Transportation Research Record, 2009, 2128, 121-131.	1.0	1
135	New Dimensions of Intersection Control with Connected and Automated Vehicles. , 2017, , .		1
136	On the Quadratic Programming Approach for Hub Location Problems. Springer Optimization and Its Applications, 2009, , 211-228.	0.6	1
137	Emergency Evacuation, Dynamic Transportation Models. , 2008, , 261-267.		1
138	Day-to-Day Signal Retiming Scheme for Single-Destination Traffic Networks Based on a Flow Splitting Approach. Networks and Spatial Economics, 2022, 22, 855-882.	0.7	1
139	A link based quasi-variational inequality model for dynamic user equilibria, towards real time traffic operations. , 0, , .		0
140	Numerical Studies on Reformulation Techniques for Continuous Network Design with Asymmetric User Equilibria. , 2012, , 138-157.		0
141	Emergency Evacuation, Dynamic Transportation Models. , 2016, , 1-7.		0
142	Emergency Evacuation, Dynamic Transportation Models. , 2017, , 527-533.		0
143	Determining Yellow Change and Clearance Intervals for Left-Turning Phases: Evaluation of the Current Guidelines with Connected Vehicle Data. Transportation Research Record, 0, , 036119812210915.	1.0	0