Nikolaos Geroliminis

List of Publications by Year
in descending order

119 **papers**	9,746 **citations**

36271

51 **h-index**	

38368

95 **g-index**	

122 **all docs**	122 **docs citations**

122 **times ranked**	2882 **citing authors**

#	Article	IF	Citations
1	Existence of urban-scale macroscopic fundamental diagrams: Some experimental findings. Transportation Research Part B: Methodological, 2008, 42, 759-770.	2.8	1,067
2	An analytical approximation for the macroscopic fundamental diagram of urban traffic. Transportation Research Part B: Methodological, 2008, 42, 771-781.	2.8	498
3	Properties of a well-defined macroscopic fundamental diagram for urban traffic. Transportation Research Part B: Methodological, 2011, 45, 605-617.	2.8	402
4	Optimal Perimeter Control for Two Urban Regions With Macroscopic Fundamental Diagrams: A Model Predictive Approach. IEEE Transactions on Intelligent Transportation Systems, 2013, 14, 348-359.	4.7	387
5	An optimization framework for the development of efficient one-way car-sharing systems. European Journal of Operational Research, 2015, 240, 718-733.	3.5	331
6	On the spatial partitioning of urban transportation networks. Transportation Research Part B: Methodological, 2012, 46, 1639-1656.	2.8	322
7	Perimeter and boundary flow control in multi-reservoir heterogeneous networks. Transportation Research Part B: Methodological, 2013, 55, 265-281.	2.8	298
8	Dynamics of heterogeneity in urban networks: aggregated traffic modeling and hierarchical control. Transportation Research Part B: Methodological, 2015, 74, 1-19.	2.8	277
9	The spatial variability of vehicle densities as determinant of urban network capacity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 4627-4647.	1.6	251
10	On the stability of traffic perimeter control in two-region urban cities. Transportation Research Part B: Methodological, 2012, 46, 1159-1176.	2.8	217
11	Cooperative traffic control of a mixed network with two urban regions and a freeway. Transportation Research Part B: Methodological, 2013, 54, 17-36.	2.8	211
12	Clustering of heterogeneous networks with directional flows based on â€œSnakeâ€•similarities. Transportation Research Part B: Methodological, 2016, 91, 250-269.	2.8	177
13	An integrated optimization-simulation framework for vehicle and personnel relocations of electric carsharing systems with reservations. Transportation Research Part B: Methodological, 2017, 95, 214-237.	2.8	174
14	Enhancing model-based feedback perimeter control with data-driven online adaptive optimization. Transportation Research Part B: Methodological, 2017, 96, 26-45.	2.8	168
15	On the new era of urban traffic monitoring with massive drone data: The pNEUMA large-scale field experiment. Transportation Research Part C: Emerging Technologies, 2020, 111, 50-71.	3.9	161
16	A three-dimensional macroscopic fundamental diagram for mixed bi-modal urban networks. Transportation Research Part C: Emerging Technologies, 2014, 42, 168-181.	3.9	152
17	Real-Time Monitoring and Control on Signalized Arterials. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2008, 12, 64-74.	2.6	148
18	Approximating dynamic equilibrium conditions with macroscopic fundamental diagrams. Transportation Research Part B: Methodological, 2014, 70, 186-200.	2.8	146

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19	Modeling and optimization of multimodal urban networks with limited parking and dynamic pricing. Transportation Research Part B: Methodological, 2016, 83, 36-58.	2.8	143
20	On the estimation of arterial route travel time distribution with Markov chains. Transportation Research Part B: Methodological, 2012, 46, 1576-1590.	2.8	142
21	Multiple Concentric Gating Traffic Control in Large-Scale Urban Networks. IEEE Transactions on Intelligent Transportation Systems, 2015, 16, 2141-2154.	4.7	138
22	Equilibrium analysis and route guidance in large-scale networks with MFD dynamics. Transportation Research Part C: Emerging Technologies, 2015, 59, 404-420.	3.9	137
23	Economic Model Predictive Control of Large-Scale Urban Road Networks via Perimeter Control and Regional Route Guidance. IEEE Transactions on Intelligent Transportation Systems, 2018, 19, 1112-1121.	4.7	136
24	Experienced travel time prediction for congested freeways. Transportation Research Part B: Methodological, 2013, 53, 45-63.	2.8	127
25	Queue Profile Estimation in Congested Urban Networks with Probe Data. Computer-Aided Civil and Infrastructure Engineering, 2015, 30, 414-432.	6.3	122
26	On the distribution of urban road space for multimodal congested networks. Transportation Research Part B: Methodological, 2013, 57, 326-341.	2.8	113
27	Hierarchical control of heterogeneous large-scale urban road networks via path assignment and regional route guidance. Transportation Research Part B: Methodological, 2018, 118, 106-123.	2.8	111
28	Time-dependent area-based pricing for multimodal systems with heterogeneous users in an agent-based environment. Transportation Research Part C: Emerging Technologies, 2016, 62, 133-148.	3.9	103
29	Optimal Hybrid Perimeter and Switching Plans Control for Urban Traffic Networks. IEEE Transactions on Control Systems Technology, 2015, 23, 464-478.	3.2	102
30	Estimating MFDs in simple networks with route choice. Transportation Research Part B: Methodological, 2013, 57, 468-484.	2.8	99
31	Macroscopic modelling and robust control of bi-modal multi-region urban road networks. Transportation Research Part B: Methodological, 2017, 104, 616-637.	2.8	99
32	The effect of variability of urban systems characteristics in the network capacity. Transportation Research Part B: Methodological, 2012, 46, 1607-1623.	2.8	98
33	Modeling the morning commute for urban networks with cruising-for-parking: An MFD approach. Transportation Research Part B: Methodological, 2016, 93, 470-494.	2.8	97
34	A spatial queuing model for the emergency vehicle districting and location problem. Transportation Research Part B: Methodological, 2009, 43, 798-811.	2.8	96
35	Dynamic clustering and propagation of congestion in heterogeneously congested urban traffic networks. Transportation Research Part B: Methodological, 2017, 105, 193-211.	2.8	96
36	A dynamic cordon pricing scheme combining the Macroscopic Fundamental Diagram and an agent-based traffic model. Transportation Research, Part A: Policy and Practice, 2012, 46, 1291-1303.	2.0	95

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37	Empirical observations of capacity drop in freeway merges with ramp control and integration in a first-order model. Transportation Research Part C: Emerging Technologies, 2013, 30, 161-177.	3.9	94
38	Cruising-for-parking in congested cities with an MFD representation. Economics of Transportation, 2015, 4, 156-165.	1.1	88
39	An empirical analysis on the arterial fundamental diagram. Transportation Research Part B: Methodological, 2011, 45, 255-266.	2.8	82
40	The electric autonomous dial-a-ride problem. Transportation Research Part B: Methodological, 2019, 122, 436-456.	2.8	82
41	Empirical Observations of Congestion Propagation and Dynamic Partitioning with Probe Data for Large-Scale Systems. Transportation Research Record, 2014, 2422, 1-11.	1.0	79
42	On the inefficiency of ride-sourcing services towards urban congestion. Transportation Research Part C: Emerging Technologies, 2021, 124, 102890.	3.9	78
43	Identification and Analysis of Queue Spillovers in City Street Networks. IEEE Transactions on Intelligent Transportation Systems, 2011, 12, 1107-1115.	4.7	74
44	City size, network structure and traffic congestion. Journal of Urban Economics, 2013, 76, 1-14.	2.4	72
45	Dynamic prediction-based relocation policies in one-way station-based carsharing systems with complete journey reservations. Transportation Research Part B: Methodological, 2019, 130, 82-104.	2.8	68
46	A hybrid hypercube – Genetic algorithm approach for deploying many emergency response mobile units in an urban network. European Journal of Operational Research, 2011, 210, 287-300.	3.5	66
47	Real-time Estimation of Travel Times on Signalized Arterials. , 2005, , 387-406.		66
48	Hysteresis phenomena of a Macroscopic Fundamental Diagram in freeway networks. Transportation Research, Part A: Policy and Practice, 2011, 45, 966-979.	2.0	63
49	The morning commute in urban areas with heterogeneous trip lengths. Transportation Research Part B: Methodological, 2018, 117, 794-810.	2.8	62
50	On the use of reservation-based autonomous vehicles for demand management. Transportation Research Part B: Methodological, 2017, 99, 205-227.	2.8	57
51	Doubly dynamics for multi-modal networks with park-and-ride and adaptive pricing. Transportation Research Part B: Methodological, 2017, 102, 162-179.	2.8	56
52	Data driven model free adaptive iterative learning perimeter control for large-scale urban road networks. Transportation Research Part C: Emerging Technologies, 2020, 115, 102618.	3.9	56
53	Stabilization of city-scale road traffic networks via macroscopic fundamental diagram-based model predictive perimeter control. Control Engineering Practice, 2021, 109, 104750.	3.2	54
54	Cordon Pricing Consistent with the Physics of Overcrowding. , 2009, , 219-240.		49

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55	Hysteresis Phenomena of a Macroscopic Fundamental Diagram in Freeway Networks. Procedia, Social and Behavioral Sciences, 2011, 17, 213-228.	0.5	45
56	Estimation of regional trip length distributions for the calibration of the aggregated network traffic models. Transportation Research Part B: Methodological, 2019, 122, 192-217.	2.8	43
57	Estimating network travel time reliability with network partitioning. Transportation Research Part C: Emerging Technologies, 2020, 112, 46-61.	3.9	39
58	Modeling, estimation, and control in large-scale urban road networks with remaining travel distance dynamics. Transportation Research Part C: Emerging Technologies, 2021, 128, 103157.	3.9	39
59	Empirical analysis of large-scale multimodal traffic with multi-sensor data. Transportation Research Part C: Emerging Technologies, 2020, 118, 102725.	3.9	38
60	A systematic analysis of multimodal transport systems with road space distribution and responsive bus service. Transportation Research Part C: Emerging Technologies, 2018, 96, 208-230.	3.9	37
61	A Dynamic-Zone-Based Coordinated Ramp-Metering Algorithm With Queue Constraints for Minnesota's Freeways. IEEE Transactions on Intelligent Transportation Systems, 2011, 12, 1576-1586.	4.7	36
62	Dynamic clustering and propagation of congestion in heterogeneously congested urban traffic networks. Transportation Research Procedia, 2017, 23, 962-979.	0.8	36
63	Estimation of the Network Capacity for Multimodal Urban Systems. Procedia, Social and Behavioral Sciences, 2011, 16, 803-813.	0.5	35
64	Mixed logical dynamical modeling and hybrid model predictive control of public transport operations. Transportation Research Part B: Methodological, 2018, 114, 325-345.	2.8	35
65	Prediction of Arrival Profiles and Queue Lengths Along Signalized Arterials by Using a Markov Decision Process. Transportation Research Record, 2005, 1934, 116-124.	1.0	33
66	Estimating MFDs in Simple Networks with Route Choice. Procedia, Social and Behavioral Sciences, 2013, 80, 99-118.	0.5	32
67	Equilibrium Analysis and Route Guidance in Large-scale Networks with MFD Dynamics. Transportation Research Procedia, 2015, 9, 185-204.	0.8	30
68	Predictive user-based relocation through incentives in one-way car-sharing systems. Transportation Research Part B: Methodological, 2021, 149, 230-249.	2.8	30
69	Prediction of Arrival Profiles and Queue Lengths along Signalized Arterials by using a Markov Decision Process. Transportation Research Record, 2005, 1934, 116-124.	1.0	26
70	Nonlinear Moving Horizon Estimation for Large-Scale Urban Road Networks. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 4983-4994.	4.7	26
71	Empirical and Analytical Investigation of Traffic Flow Regimes and Transitions in Signalized Arterials. Journal of Transportation Engineering, 2008, 134, 512-522.	0.9	23
72	Unraveling reaction-diffusion-like dynamics in urban congestion propagation: Insights from a large-scale road network. Scientific Reports, 2020, 10, 4876.	1.6	23

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73	Modeling and optimization of dedicated bus lanes space allocation in large networks with dynamic congestion. Transportation Research Part C: Emerging Technologies, 2021, 127, 103082.	3.9	23
74	Investigating empirical implications of hysteresis in day-to-day travel time variability. Transportation Research Part C: Emerging Technologies, 2015, 55, 340-350.	3.9	22
75	Macroscopic Approach for Optimizing Road Space Allocation of Bus Lanes in Multimodal Urban Networks Through Simulation Analysis. Transportation Research Record, 2017, 2651, 42-51.	1.0	22
76	Empirical observations of multi-modal network-level models: Insights from the pNEUMA experiment. Transportation Research Part C: Emerging Technologies, 2021, 131, 103300.	3.9	22
77	Statistical characteristics of transitional queue conditions in signalized arterials. Transportation Research Part C: Emerging Technologies, 2007, 15, 392-403.	3.9	21
78	Area-based equitable pricing strategies for multimodal urban networks with heterogeneous users. Transportation Research, Part A: Policy and Practice, 2020, 136, 357-374.	2.0	21
79	On the allocation of city space to multiple transport modes. Transportation Planning and Technology, 2010, 33, 643-656.	0.9	20
80	A Linear Formulation for Model Predictive Perimeter Traffic Control in Cities * *This research has been supported by the ERC (European Research Council) Starting Grant â€œMETAFERW: Modelling and controlling traffic congestion and propagation in large-scale urban multi-modal networksâ€•(Grant) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.5	18
81	Perimeter flow control of bi-modal urban road networks: A robust feedback control approach. , 2014, , .		17
82	Approximation methods for large-scale spatial queueing systems. Transportation Research Part B: Methodological, 2015, 74, 151-181.	2.8	17
83	On the Distribution of Urban Road Space for Multimodal Congested Networks. Procedia, Social and Behavioral Sciences, 2013, 80, 119-138.	0.5	16
84	An extended Kalman filter approach for real-time state estimation in multi-region MFD urban networks. Transportation Research Part C: Emerging Technologies, 2021, 132, 103384.	3.9	16
85	Traffic signal perimeter control with multiple boundaries for large urban networks. , 2013, , .		14
86	Travel Time Prediction for Congested Freeways With a Dynamic Linear Model. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 7667-7677.	4.7	13
87	Prediction of Vehicle Activity for Emissions Estimation Under Oversaturated Conditions Along Signalized Arterials. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2013, 17, 191-199.	2.6	12
88	Capacity and delay analysis of arterials with mixed autonomous and human-driven vehicles. , 2017, , .		12
89	The morning commute in urban areas with heterogeneous trip lengths. Transportation Research Procedia, 2017, 23, 591-611.	0.8	12
90	Feedback Perimeter Control for Heterogeneous Urban Networks Using Adaptive Optimization. , 2015, , .		11

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91	Dedicated bus lane network design under demand diversion and dynamic traffic congestion: An aggregated network and continuous approximation model approach. Transportation Research Part C: Emerging Technologies, 2021, 128, 103187.	3.9	11
92	Dynamical Modeling and Predictive Control of Bus Transport Systems: A Hybrid Systems Approach. IFAC-PapersOnLine, 2017, 50, 7499-7504.	0.5	10
93	The importance of being early. Transportation, 2011, 38, 227-247.	2.1	9
94	A link partitioning approach for real-time control of queue spillbacks on congested arterials. Transportmetrica B, 2017, 5, 177-190.	1.4	9
95	Empirical investigation of the emission-macroscopic fundamental diagram. Transportation Research, Part D: Transport and Environment, 2021, 101, 103090.	3.2	9
96	Operational analysis of an innovative semi-autonomous on-demand transportation system. Transportation Research Part C: Emerging Technologies, 2021, 132, 103373.	3.9	9
97	Dynamic lane restrictions on congested arterials. Transportation Research, Part A: Policy and Practice, 2020, 135, 224-243.	2.0	8
98	Influence of dynamic congestion with scheduling preferences on carpooling matching with heterogeneous users. Transportation Research Part B: Methodological, 2022, 155, 479-498.	2.8	8
99	Optimization-Based Clustering of Traffic Networks Using Distinct Local Components. , 2015, , .		6
100	Model predictive control of large-scale urban networks via perimeter control and route guidance actuation. , 2016, , .		6
101	Dynamical efficiency for multimodal time-varying transportation networks. Scientific Reports, 2021, 11, 23065.	1.6	6
102	Perimeter Control and Route Guidance of Multi-Region MFD Systems With Boundary Queues Using Colored Petri Nets. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 12977-12999.	4.7	6
103	Exploring spatial characteristics of urban transportation networks. , 2011, , .		5
104	Corrigendum to â€œEstimating MFDs in Simple Networks with Route Choiceâ€. Procedia, Social and Behavioral Sciences, 2013, 80, 960-979.	0.5	5
105	Monotonicity in the trip scheduling problem. Transportation Research Part B: Methodological, 2021, 146, 14-25.	2.8	5
106	Community detection in large scale congested urban road networks. PLoS ONE, 2021, 16, e0260201.	1.1	5
107	Impacts of Metering-Based Dynamic Priority Schemes. Transportation Science, 2022, 56, 358-380.	2.6	4
108	On the Consistency of Freeway Macroscopic Merging Models. Transportation Research Record, 2014, 2422, 34-41.	1.0	3

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109	Analysis of the 3D-vMFDs of the Urban Networks of Zurich and San Francisco. , 2015, , .		3
110	A time-dependent area-based pricing scheme for multimodal urban networks with user adaptation: An agent-based approach. , 2014, , .		2
111	Moving Horizon Demand and State Estimation for Model Predictive Perimeter Control of Large-scale Urban Networks. , 2019, , .		2
112	Linear-parameter-varying approximation of nonlinear dynamics for model predictive flow control of urban multi-region systems. , 2019, , .		2
113	Two-level hierarchical traffic control for heterogeneous urban networks. , 2015, , .		1
114	Hybrid Model Predictive Control of Bus Transport Systems. , 2018, , .		1
115	Two-layer hierarchical control for large-scale urban traffic networks. , 2018, , .		1
116	Traffic Signal Prediction on Transportation Networks Using Spatio-Temporal Correlations on Graphs. IEEE Transactions on Signal and Information Processing Over Networks, 2021, 7, 648-659.	1.6	1
117	Perimeter and boundary flow control for heterogeneous transportation networks. , 2013, , .		0
118	Integrated analysis for Transportation Systems in the Connected Era. Transportmetrica A: Transport Science, 2021, 17, 169-170.	1.3	0
119	Experimental assessment of traffic density estimation at link and network level with sparse data. Transportmetrica B, 2022, 10, 368-395.	1.4	0