

CICTP 2024

Resilient, Intelligent, Connected, and Low-Carbon Multimodal Transportation

Proceedings of the 24th COTA International Conference of
Transportation Professionals

Shenzhen, China
23-26 July 2024

Volume 1 of 5

Editors:

Jianming Ma
Qin Luo
Lijun Sun

Baicheng Li
Jingjing Chen
Guohui Zhang

ISBN: 979-8-3313-1377-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2024) by American Society of Civil Engineers
All rights reserved.

Printed with permission by Curran Associates, Inc. (2025)

For permission requests, please contact American Society of Civil Engineers
at the address below.

American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, VA 20191
USA

Phone: (800) 548-2723
Fax: (703) 295-6333

www.asce.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Contents

Emerging Innovations and Technologies for Connected and Autonomous Vehicles

A Survey of Models and Methods for Autonomous Vehicles' Trajectory Planning	1
Shizi Ma, Sheng Wang, Zhitao Ma, and Chao Ma	
A Block-Cross-View Attention and Dynamic Iterative Depth Update for Multi-View 3D Object Detection	11
Ziying Yao and Xinkai Wu	
A Cellular Automata Model for Urban Road Traffic Simulation with Consideration of Bus Stop and Mixed Traffic Flow	22
Junxian Wu, Mengqi Chen, Linlin You, Jiemin Xie, Kailin Chen, Tuo Sun, and Ruochen Hao	
A Large-Scale Vehicle-Road Cooperative Roadside Message Existence Verification Method.....	33
Guiming Su, Xiaosong Li, Wanting Ding, and Yifan Wang	
A Pseudo-LiDAR and Image Fusion Method for Autonomous Driving.....	45
Yalong Ma, Xin Gao, Ziying Yao, and Xinkai Wu	
A Robust Fully Sampled High-Resolution Vehicle Trajectory Reconstruction Method Fusing Aggregate Traffic State and Microscopic Vehicle Behavior	55
Jiayue Zhao, Yang He, Jingxin Xia, and Zhenbo Lu	
A Unified Boundary-Aware Prediction Model for Autonomous Driving.....	66
Qian Cheng, Xinyu Jiao, Kun Jiang, Mingliang Yang, and Diange Yang	
Adaptive Cruise Control Strategy Considering Millimeter-Wave Radar Error Correction in Rainfall Weather Conditions	74
Ruiyu Hou, Fei Hui, Ruimin Kuang, and Zhen Wang	
An LSTM-Based Lane-Change Classification Inference Method Based on Coupling Relationship of Drivers' Car-Following and Lane-Change Behaviors	85
Jiakai Yin, Kang Sun, Siyuan Gong, Xia Wu, Hongda Chang, Lu Zeng, and Wenjing Zhao	
Collaborative Control of Multiple Intersection Signals and Vehicle Trajectory Planning Considering Communication Delay of Connected and Autonomous Vehicles	96
Chengqian Jin, Zhicheng Ma, Saifei Chen, and Hui Fu	

Combining Policy Gradient and Safety-Based Control for Autonomous Driving107
 Xi Xiong and Lu Liu

Cost-Efficient Driver Distraction Detection System: Transformer-Based Classification on Bayer Image118
 Chuheng Wei, Ziyue Qin, Guoyuan Wu, Matthew J. Barth, and Zhanbo Sun

CPS-Based Vehicle Trajectory Prediction in Highway Interchanges under Mixed Traffic Conditions131
 Zhenyu Gu, Wei Jiang, Dongyang Li, and Rentao Liu

Dynamic Network Loading Model Considering Lane-Changing Effects141
 Yuchen Wang, Hao Yu, Yu Han, Zhenning Li, and Jiabin Li

Dynamic Sensing and Recognition of Lateral Driving Behavior for Connected Vehicles Using Machine Learning and Integrated Learning Methods153
 Lichan Liang, Lanwei Zhang, Tian Lei, Xiaohong Yin, Yunpeng Liu, Leyu Wei, and E. Lu

Enhanced Infrastructure-Enabled Cooperative Perception for Autonomous Driving163
 Shuyuan Luo, Jia Hu, and Jintao Lai

Enhancing Urban Intelligent Traffic Simulations of Human-Driven Car-Following Behavior Using Deep Learning Techniques173
 Runze Ni and Jingyi Zhao

Fundamental Diagram Model of Freeway Heterogeneous Traffic Flow of CAV Considering Safety Concerns and Platoon Intensity183
 Jin Hu, Yikang Rui, and Fei Han

GNSS/IMU Integrated Navigation Methods with NLOS Mitigation193
 Yang Zuo, Xuting Duan, Haiying Xia, and Jianshan Zhou

IAHA: Intention-Aware Hybrid Attention Transformer for Trajectory Prediction203
 Meiyun Li, Yuhang Li, Zhihao Gao, Jiabei Wang, and Yangyang Li

Impact Investigation of the Car-Following Guidance System on Microscopic Car-Following Behavior by Using Field Test Data Sets214
 Lu Zeng, Siyuan Gong, Wenjing Zhao, Fenglin Liu, Fan Zhang, Xinxin Wang, and Guohui Zheng

Innovative PVDF Nanofiber Films for Intelligent Driver Status Monitoring Systems.....226
 Minghai Zhang, Xiaohua Liu, Baolin Jiang, Hao Chen, Qihao Zhang, and Xiaohong Yin

Integration of Partially Prior Physics and Data for Longitudinal Vehicle Dynamics Restoration.....236
 Yongsheng Wang, Bingrong Xu, Duanfeng Chu, Naikan Ding, and Jianhua Yin

Local Optimal Connection Algorithm for Discrete Controlled Train Energy-Efficient Operation on Steep Slope Railway.....245
 Hongguo Shi, Yu Rao, Ziling Huang, Xueliang Lei, Chengcheng Wu, and Hanying Guo

Modeling and Analysis of Platoon Dispersion of Autonomous and Manual Mixed Vehicles Based on Cellular Automata257
 Ting Lu, Xin Yang, Chenghao Liu, and Sitong Lin

MSMA: Multi-Agent Trajectory Prediction in Connected and Autonomous Vehicle Environment with Multi-Source Data Integration.....268
 Xi Chen, Rahul Bhadani, Zhanbo Sun, and Larry Head

MHRL-RD: Multi-Agent Hierarchical Reinforcement Learning Based on Roles Distribution279
 Xianghe Wang and Jianming Hu

Non-Autoregressive Vehicle Trajectory Prediction Based on Spatial-Temporal Trend-Aware Attention.....289
 Xingrong Zhang and Rongjun Cheng

Study on Operation Monitoring and Evaluation Management in Highway Projects300
 Lei Lei, Huaguo Wang, and Lipeng Zhang

PillarFusion: Efficient 3D Fusion Object Detection Based on Pillars.....308
 Yuang Zhang, Xingyu Li, Hantao Liu, Xinran Zhang, and Jianming Hu

Platoon-Based Control Strategies and Analysis of Traffic Operations in On-Ramp Areas under a Connected Vehicle Environment.....319
 Haijian Li, Zongdian Li, and Zonglin Han

Prediction of Asphalt Pavement Smoothness Based on Decision Factor and PCA-DBSCAN-RF Model.....330
 Chengde Zhang, Chang Xu, Qingwei Zeng, and Shunxin Yang

**Public Acceptance of Autonomous Vehicle Platooning:
A Stated-Preference Survey341**
Jiankai Li, Naikan Ding, Hongtao Li, Jiamin Chen, Minglin Du, and Ying Hu

**Questionnaire-Based Prospect Analysis of Energy Vehicle-to-Vehicle
Connected Technology.....351**
Xiaolin Mou, Liqun Chen, Xiongji Yang, Dehai Li, Gang Xu, and Heyan Li

**Reliability Prediction Method of Arterial Travel Time in Connected
Mixed Traffic Environment359**
Ali Mamat and Ailixiati Turdi

**Research on Active Collision Avoidance Control Algorithm for Blind
Zone Based on Potential Energy Field370**
Qi Wang, Jiezhong Luo, Heyan Li, Paoshan Peng, and Zhenji Meng

**Research on Data Security Risk Analysis Method of Intelligent and
Connected Vehicles Based on Data Asset381**
Liyong Wang, Long Jin, Haojie Ji, Yupeng Chen, Peng He, Jingyan Wang,
and Junzhe Fang

**Research on End-to-End Autonomous Delivery Vehicle-Cabinet Delivery
Systems with Multi-Sensor Information Fusion389**
Zhangze Hong, Jie Lin, Wenbin Cao, Qin Luo, and Cheng Zhu

**Research on Intelligent Connected HMI Test System Based on
Driving Simulator399**
Shenao Wu, Min Deng, Nengchao Lyu, and Zijun Du

**Research on Risk Analysis and Testing Method of the Data in Intelligent and
Connected Vehicles409**
Haojie Ji, Jingyan Wang, Liyong Wang, Yupeng Chen, Peng He, Long Jin,
and Junzhe Fang

**Research on Trajectory Planning of Multi-Vehicle Formation on
Unstructured Road418**
Jianbo Cao and Jianming Hu

**Research Report on Lifelike Agents for In-Vehicle HMI Related to
Traffic Safety Factors428**
Jun Li and Quan Yuan

**SDN-Based Management for Master Clocks in Automotive Time-Sensitive
Networking439**
Mengxue Guo, Li Liu, Weigang Shi, Hailong Zhu, Kai Zhang, and Zhiheng Li

Signal Timing Optimization Model of Continuous-Flow Intersection in Connected Environment.....448
 Longxiang He, Dewen Kong, Zilong Zhao, Lishan Sun, and Yue Liu

Testing Scenario Framework for Intelligent Vehicle Cyber-Physics System.....459
 Zhenyu Gu, Rentao Liu, Dongyang Li, and Wei Jiang

The Multi-Mode IoV Communication Performance Test and Verification in Closed Test Field469
 Jia-Jun He, Run-Min Wang, Zhi-Gang Xu, and Ming-Chuan Hu

The Vehicle-to-Infrastructure Communication Performance Co-Simulation Test Considering Variations in Data Accuracy and Information Delays.....479
 Hongda Chang, Yukun Ding, Siyuan Gong, Xia Wu, Jiakai Yin, Xinyue Wu, and Wenjing Zhao

Traffic Sign Recognition Method Based on Convolutional Neural Network.....490
 Jitong Li, Yuguang Chen, Honghao Lin, Fang Chen, and Bin Yang

Trajectory Planning of Tire Blowout for Autonomous Vehicles Based on Comprehensive Potential Energy Field500
 Tao He, Disha Yang, Heyan Li, Run Liu, Xuyao Wang, and Jiexiong Deng

Understanding Driver Behavior Change in the Presence of CAV Platoons in the Merging Area Based on Questionnaire Survey.....512
 Dewen Kong, Qingqing Wang, Lishan Sun, Miao Wang, and Zilong Zhao

Understanding the Safety Performance of Traffic Flow Mixed with Connected and Automated Vehicles in Snowy Weather Conditions Using Domain Crash Risk Entropy.....523
 Chuanyun Fu, Zhaoyou Lu, Naikan Ding, and Jinzhao Liu

Universal Path Planning for Autonomous Vehicles Considering Real-Time and Obstacle-Avoidance Performance533
 Ying Wang, Dan Zhao, Shurong Li, and Chong Wei

V2X Perception Algorithms for Intelligent Driving: A Survey544
 Yuwen Liu, Chunlin Liu, and Ji Liu

Vertical Parking Control and Optimization Method Based on MPC.....554
 Ruimin Kuang, Fei Hui, Ruiyu Hou, and Zhen Wang

Planning and Operations in Modern Logistics and Freight Transport

Traffic Organization and Optimization of Port Collection and Distribution with Dedicated Lane: A Case Study in Tianjin Port564
 Xiaolin Li, Shengping Dong, and Wenyi Zhang

A Comprehensive Evaluation Framework for Warehouse Performance: Indicator System and Cloud Model-Based Method.....574
 Yuhan Liu, Shuqi Xue, and Nirajan Shiwakoti

A Data-Driven Framework for Smart Parking and Charging.....587
 Bing Qing Tan and Kai Kang

A Study of Income Distribution of Intra-City Freight Enterprise Alliances Based on the Improved Shapley Value Method596
 Xiaoting Kang, Dawei Hu, and Siyuan Zhao

A Study of New Inland River Port Throughput Prediction Based on Multi-Source Big Data.....608
 Shen Lyu, Xin Yang, and Jingru Li

Design of Urban Rail Transit Logistics Scheme Based on Mixed Passenger and Freight Transport.....621
 Yufei Hou, Xinying He, and Qin Luo

Freight Electric Vehicle Charging Demand Forecasting Using GPS Data by Developing Geographic PageRank Model.....632
 Mengzhuo Zhao and Dan Liu

Investigation of Onboard Training Quality Based on STCW Manila Amendment642
 Kunzhuang Zhu, Daiquan Xiao, and Xuecai Xu

Non-Cooperative Pricing Decisions in Single Pharmacy-Hospital Pharmaceutical Supply Chains under Compulsory Stockpiling Mechanism653
 Suhan Wu and Min Luo

Policy Evaluation on the Construction of Logistics Center City Based on a Difference-in-Differences Approach: A Case Study of Shenzhen663
 Kejie Huang, Zhenhua Liu, Cheng Li, Qingxuan Lu, Le Yu, and Binglei Xie

Research on Dynamic Calibration Technology of Key Parameters of Railway Empty Container Allocation Driven by Data674
 Zehui Li, Xin Weng, and Yu Wang

Research on the Optimization for Last-Mile Logistics of Fresh Food Based on the Passenger-Cargo Shared Transportation684
 Hong Cao, Jiahe Liu, Le Yu, and Binglei Xie

Study on the Distribution of Benefits in Multimodal Transport Alliances696
 Yuqi Huo, Dawei Hu, and Xiaoting Kang

Study on the Spatial Distribution Characteristics and Influencing Factors of the Village-Level Mail Delivery Logistics Comprehensive Service Station under the Background of Rural Revitalization	706
Xueyan Zhou, Yi Wang, and Fengjie Xi	
A Stochastic Frontier Model for Container Terminal Efficiency Measurement in the Yangtze River Delta Region of China.....	716
Xinghua Li, Yuhan Ma, Yuntao Guo, and Yajun Li	
The Capacitated Air-Cargo Network Planning and Scheduling Problem with Multiple Flight Modes of Self-Owned Planes.....	726
Zhiyuan Shi and Shaozhi Hong	
Trajectory Data-Driven Stop Point Identification of Last-Mile Delivery Electric Tricycle	736
Xiaohong Jiang, Yitong Wu, Deyang Wang, Qingwei Chen, Beiqi Wu, and Bibo Wu	
Vehicle Routing Problem with Uncertain Travel Time and Soft Time Windows Based on Improved Genetic Algorithm	746
Siyu Zhang, Lin Cheng, Zhaoqian Jiang, and Chenhao Zhang	
One-Shot Object Pose Estimation Method for Smart Logistics	758
Yue Zhang, Nengfei Xiao, Ziyang Yao, Yongwei Li, and Xinkai Wu	
<i>Reliable and Integrated Public Transportation</i>	
Analysis of China's Airline Ticket Prices Fluctuation during COVID-19	770
Qianwen Zhang, Lin Cheng, and Ruoshi Wang	
Deep Spatiotemporal Network GC-SCI: A Model for Short-Term Forecasting of Subway Passenger Flow	779
Weihang Hong, Yuxin He, Qin Luo, Ping Huang, and Yang Zhao	
Evaluation and Optimization of Bus Network in Xi'an National Civil Aerospace Industrial Base.....	789
Chang Liu, Yulong He, Zhi-Mei Feng, and Yi-Fan Chen	
Improvement of Bus Operation Efficiency Based on Generalized Ordered Logit Model.....	800
Rui Li, Jiankun Du, Gary J. W. Xu, Ruiqi Wang, and Hongliang Ding	
Optimization Model of Connected-Bus Departure Schedule Based on Green Wave Speed Guidance	810
Xin Tian, Kai Lu, and Ke Lin	

Research on Optimizing Mega-Airport Transport Hub Spatial Layout Based on Passenger Transfer Convenience	822
Hao-Cheng Wang, Lin Cheng, Chen-Hao Zhang, Yu-Heng Wu, and Zhao-Qian Jiang	
Research on Spatial Agglomeration Characteristics of Rail Transit Station Area Based on GIS Spatial Analysis	832
Qilin Yang, Ruhua Zhang, and Wenhao Chen	
Research on Unit Criticality in Comprehensive Transportation Infrastructure Network Based on Cascading Failure Model	845
Zinan Lv, Wenxin Ma, Zhiyong Liu, and Ruimin Li	
Revealing Factors Driving Spatial Distribution of Shared Bicycles Connected to Urban Subway Using ArcGIS and GeoDetector	856
Ruotong Li, Zhaodong Liu, Haitao Zhang, and Yuanqing Wang	
Spatial-Temporal Characteristics Analysis of Passenger Transfer Behavior: An Empirical Study Based on Smart Card Data in Shenzhen	866
Pengfei Han, Jiexi Yu, Tian Lei, Lei Gong, Cheng Zhu, and Zheng Zhang	
<i>Travel Behavior, Accessibility, and Mobility Issues in Low-Carbon Transportation</i>	
A Gradient Boosting Tree-Based Recognition Model for Low-Carbon Driving Behavior in Motor Vehicles	877
Ruiyu Wang, Gang Ren, Shuyan Chen, Qi Cao, Hongru Liu, and Junsong Huang	
A Study on Lane-Changing Risk Evolution of Vehicle Group on the Adjacent Section of Freeway Tunnels.....	888
Huiying Wen, Tianxiang Gao, Shengwen Huang, Tianyi She, and Zheng Chen	
Acceptance and Influence Mechanism of Drivers towards Graphical Route Information Panels: A Case Study in China	901
Wenchao Cao and Yanyan Chen	
Accessibility Assessment of Multi-Mode Public Transportation in Integrated Passenger Transportation Hub—Taking Shenzhen as an Example	912
Ziyi Yao and Binglei Xie	
An Investigating Study on Lateral Riding Position of Cyclists from Curb Based on Road Segment Scope Trajectory Data.....	922
Pengyue Tu, Yu Bai, Xueqi Lei, and Xue Yu	
Analysis of the Relationship between Taxi Services and Public Transit in Shanghai: A Spatially Heterogeneous Perspective	933
Xinghua Li, Yaocheng Zhou, Yuntao Guo, and Xinwu Qian	

Data-Driven Analysis on Travelers’ Intention to Use the Carbon Credits on On-Demand Ride-Hailing Platforms: A Structural Equation Modeling Approach	944
Kaiwen Hu, Yirong Hu, Lei Gong, and Baicheng Li	
Exploring the Heterogeneity of the Travel Behavior of the Elderly in the Kumamoto Metropolitan Area Based on Latent Class Analysis.....	955
Zhiwei Zhang and Takuya Maruyama	
Factors Influencing the Frequency of Use of Free-Floating Bike-Sharing Services among University Students in Nanjing, China.....	965
Wei Kang, Meng Ning, Qun Wang, You Chen, and Yanping Zeng	
Intervention Study on the Red-Light Running Behavior of Bus Drivers Based on Extended Theory of Planned Behavior.....	974
Liangqiu Wang, Yan Dong, and Jie Yan	
Perception and Behavior Analysis of Bus Drivers Regarding Lane Width: A Case Study Conducted through Questionnaire Surveys on Seven Roads in Guangzhou City	983
Yingying Ma and Jie Zhang	
Predicting Crowd Movement Trajectories: A Graph Network-Based Approach Informed by Simulation Data	993
Mengya Zong, Yuchen Chang, Yutian Dang, and Kaiping Wang	
Prediction and Policy Research of Pathways to Carbon Emissions Peak in Transportation Sector: A Case Study of Zhejiang Province	1003
Shian Dai, Yijia Zheng, Xuze Fan, Shibeizhu, and Ruisi Wu	
Research on the Impact of Low-Carbon Awareness on the Travel Behavior of Fuel Vehicle and Electric Vehicle Travelers.....	1014
Zihao Lu, Rui Zhang, Hai Yan, Jiahe Wang, and Xianlei Hou	
Research on the Safety and Ecology of Urban Logistics Based on Micro-Driving Behavior	1026
Mengmeng Cui, Hongbo Qin, Jinyan Liu, Chengcheng Liu, Shangen Wang, and Ning Wang	
Research on the Spatiotemporal Heterogeneity in the Impact of the Built Environment on Ridesplitting Demand.....	1035
Weijie Wu, Xiaoyun Cheng, Jingyue Wang, and Xuhao Liu	
The Impact of City-Cluster High-Speed Rail on “Mega-Regions on Rails” through the Lens of Daily Accessibility	1045
Jie Xu and Di Wang	

The Influence of Commuters’ Travel Mode Choice Behavior Considering Characteristics of Different Groups.....1056
 Song Hu, Bei Yang, Meichen Ji, Haipeng Wang, Zheng Chang, and Yue Qian

Travel Activity Characteristics Identification Based on Driving Trajectory Data.....1068
 Kun Xie, Xinyuan Xing, Honghui Dong, Chunjiao Dong, and Jihui Ma

Travel Characteristics of Urban Bike Sharing Affected by Weather Factors.....1080
 Yongqiang Wang and Chengcheng Xu

Travel Choice Behavior of Fuel-Car User under Gasoline Prices Rising in China.....1090
 Jiangling Wu, Xinyue Zhang, Jiangtao Wu, Lili Ren, Yongfeng Wang, and Jie Chen

Understanding People’s Ridesourcing Service-Related Behavior Change after COVID-19 Lockdown in Shanghai, 20221101
 Xinghua Li, Lan He, and Yuntao Guo

Vehicle Routing Optimization Problem Based on Minimum Cost Maximum Flow Model1112
 Fang Chen, Yuguang Chen, Honghao Lin, Shan Hu, and Bin Yang

Resilient and Intelligent Operations, Management, and Control in Rail Transportation

A Data-Driven Calibration Method of Short-Term Passenger Flow Prediction Models for Urban Rail Transit Systems.....1122
 Qiqi Miao, Sulu Xi, Zechen Liu, and Wei Zhu

A Deep Learning Model Combining STL, GCN, and GRU for Urban Mass Transit Station Short-Term Passenger Flow Prediction.....1133
 Jianan Sun, Xiaofei Ye, Yixiong Zhou, Ran Li, and Lining Liu

A Multi-Periodic Train Timetable Optimization Model for Suburban Railway Considering Uncertain Passenger Demand1142
 Juan Shao, Lishan Sun, and Yan Xu

A Structured Data Resource Integration Approach Leveraging Data Graph for Subway Station Equipment Deployment and Maintenance.....1155
 Yi Peng, Jingjing Chen, and Qi Zhang

Anticipating Passenger Flow amid Pandemic-Induced Lockdowns: A Forecasting Approach.....1165
 Ruixue Tang, Yifan Tan, and Baipeng Ye

Construction and Application of a Knowledge Graph in the Field of Fully Automated Metro Train Degraded Operation	1174
Xin Liu, Hai-Yan Zhu, Yang Lu, and Zhi-Gang Liu	
Construction of a Composite Operation Model of Municipal Railway to Satisfy Multi-Functionality and Case Study	1184
Haoyue Wang, Xingfang Xu, Zhengyu Lv, Lijuan Kuang, and Shiqi Hong	
Dual Safety-Oriented Urban Rail Transit Cloud Signaling System	1195
Xiaofeng Zhao	
Evaluating the Importance of Metro Network Stations Based on CRITIC-VIKOR: A Case Study of Xi'an City	1205
Zhaodong Liu, Kun Yang, Yuening Ma, Min Yan, and Yaunqing Wang	
Evaluation of Tram Timetable Schemes under Semi-Independent Right of Way Based on Entropy Weight TOPSIS	1216
Tong Zhang, Xi Chen, and Ruichu Gao	
Genetic Algorithm-Enhanced Cooperative Subway Transportation for Passengers and Cargo	1225
Lin Liu, Ming Li, Qifeng Yu, and Wuguang Lin	
Impact Analysis of Rapid Network Changes in Urban Rail Transit on Passenger Flow Growth and Network Resilience	1236
Chang-Yue Xu, Jia-Yao Bao, and Su-Lu Xi	
Improved Logit Model of Urban Rail Transit Passenger Flow Allocation Based on Mobile Signaling Data	1247
Jingyuan Wang, Lu Chu, Jun Zeng, Xi Zhu, and Jiqiang Lu	
Machine Learning-Based Prediction Method of Subway Tunnel Settlement under the Influence of Adjacent Construction	1258
Binghua Wang, Yuzhen Han, Shizheng Qiu, Xiaofan Nie, and Kun Tang	
Optimization of Train Operation Plan with Virtual Coupling Compositions for Urban Rail Transit	1268
Jiaqi Huang, Siqian Chen, Wei Li, and Qin Luo	
Passenger Flow Redistribution Prediction Method Considering Metro Passengers' Heterogeneity under Train Delay Conditions	1278
Chen Chen, Yuxin He, Enyi Chen, Yang Zhao, and Qin Luo	
Research on Accessibility Optimization of the Last Train of Metro Based on Minimum Cost	1290
Ruicai Peng, Wei Li, and Qin Luo	

Research on Delay Adjustment Strategy for Metro Trains Based on Expected Sarsa Algorithm1299
 Yushen Hu, Xinghao Li, Qin Luo, and Wei Li

Research on the Movement Characteristics of Unbalanced Bidirectional Passenger Flows on the Stairs in Subway Station.....1310
 Xin-Ru Zhai, Yi-Fan Zhuang, Xiao-Min Song, Zhi-Gang Liu, and Yi-Ming Zhong

Research on Train Rescheduling Considering Robustness under Uncertainty of Segment Disruption Duration1321
 Yina Liu, Yan Xu, Lishan Sun, and Dewen Kong

Robust Optimization of Seat Allocation for High-Speed Railways Using Re-Identified Passenger Demand.....1333
 Fanxiao Liu, Qiyuan Peng, Qiaofeng Guo, and Kejin Jiang

Service-Oriented Train Operation Design for Suburban Railways: Considering Skip-Stop and Multi-Group1345
 Yue Liu, Yan Xu, Lishan Sun, Ruimei Wang, and Juan Shao

Speed Curve Optimization for Virtual Coupling Operation of Multiple Trains Based on an Improved Interior-Point Algorithm.....1356
 Haili Chen, Yiwen Zhang, Shukai Li, Fei Dou, and Lei Zhang

Synchronous Monitoring and Assessment of Metro Vehicle Interior Vibration and Noise Based on Onboard MEMS Sensing System1367
 Yanxin Lian, Qiao Lin, Yuan Wang, and Xiaozhou Liu

Track Geometry Data-Driven Interlayer Defect Detection of High-Speed Rail Slab Track Based on PSO-SVM Model1378
 Chengjie Song, Yuanhao Guo, Shiyu Li, Xi Chen, and Xiaozhou Liu

Multimodal Transportation Planning and Operations in Metropolitan Areas

Community-Oriented Multi-UAV Logistics and Distribution Task Allocation System.....1389
 Shiyu Bu, Ting Zhang, and Tao Cheng

Comparative Analysis of Truck-UAV Collaborative Strategies in Varied Demand Scenarios.....1400
 Xiaotong Zhang, Jinqiu Zhao, Le Yu, and Binglei Xie

Deep Reinforcement Learning for Emergency Resource Allocation in Urban Rail Stations.....1411
 Chaoyang Li, Ting Zhang, Xinyan Zhang, and Xiaoming Chen

Marketing Strategy Analysis Based on User Profiling of Unmanned Supermarket Consumers.....1423
 Fangmei Wang, Ting Zhang, Xiangnan Wang, and Jianye Li

Model Development of Personnel Scheduling among Subway Stations: Considering Resistance and Recovery Capabilities.....1433
 Jiaming Huang, Ting Zhang, Jingjing Chen, Xinyan Zhang, and Shuo Shi

Optimization of Berth Allocation for Sea-Rail Intermodal Container Terminal1444
 Zuoan Hu, Yan Sun, Bao Zhao, Zhijun Liu, and Jianghao Yang

Optimization of Flexible Transit Routes under Mixed Demand Considering Carbon Emissions1455
 Jiale Fan and Wenquan Li

Optimizing Ride-Hailing Supply Scale and Platform Revenue: A Comparative Analysis of Commission Strategies1466
 Xiaojun Zhang, Yongwu Liu, Jinqiu Zhao, Le Yu, and Binglei Xie

Research on the Evaluation Method of Transfer Connections of Suburban Railway under the Integration of Multimodal Rail Transit Networks1477
 Rudong Yang, Zhenhao Fei, Xiang Wu, and Ruihua Xu

Strategic Conflict Detection Method for Multi-UAVs in Structured Low-Altitude Airspace.....1488
 Yupu Liu, Gang Zhong, Sen Du, and Jiangying Zhou

Travel Characteristics and Combination Choice Behavior Modeling of Passengers under the Influence of Epidemic Prevention Policies1499
 Yue Zhang, Chunjiao Dong, Penghui Li, and Qianru Dong

Intelligent Traffic Operations, Management, and Control in Complex Scenarios

Predicting Grid-Level Urban Population Dynamics Based on POI and Road Networks: A Random Forest Approach and SHAP Evaluation1509
 Yao Yao, Yinghong Jiang, Jiaying Li, Jian Xu, Qing Yu, and Haoran Zhang

A Full-Actuated Signal Control Method of Intersection with an Upstream Freeway Off-Ramp Using Pre-Signals1520
 Yifan Chen, Yulong He, Tailong Song, Fenghua Liu, Chang Liu, and Zhimei Feng

A Hybrid Model for Short-Term Flow Prediction Incorporating Spatial-Temporal Correlation in Road Networks1531
 Xingyi He, Qingquan Liu, Yaming Guo, and Meng Li

A Novel Intersection Signal Timing Considering Non-Motorized Vehicle Delays.....1542
 Zhimei Feng, Mingyang Guo, Houqiang Ma, Yulong He, Chang Liu, and Yifan Chen

A Novel Tree Search-Based Ramp Merging Strategy in a Multi-Lane Mixed Traffic Flow1553
 Ze Li, Xia Wu, and Xiangmo Zhao

A Pricing Model for Dedicated Mixed-Traffic Lane with Bounded Rationality1563
 Yaming Guo, Meng Li, Xiangdong Chen, and Hui Yao

A Time-Varying Driving Style Oriented Model Predictive Control for Smoothing Mixed Traffic Flow1572
 Haoli Lou and Rongjun Cheng

An Integrated Bayesian Classification and Gaussian Mixture Method for Signal Phase and Timing Estimation Based on Floating Car Trajectory Data1584
 Huan Liu and Jianrong Ma

An Integrated Scheduling Method for Airport Special Vehicles Based on Multi-Objective Optimization.....1596
 Han Jiang, Jian Zhang, Xinyue Qi, Zhanyu Feng, and Haiyan Zhang

An Intelligent Signal Control Method Based on Optimized DDQN Algorithm with Connected and Automated Vehicles1608
 Mengzhe Qian, Zhiwen Pan, and Xiongfei Zhang

Analysis of Parallel Operation Characteristics of Small and Large Vehicles on Urban Roads Based on Drone Video1618
 Yingying Ma, Meng Tang, and Zebang Liang

Applied YOLOv5 for Freeway Foreign Object Recognition in UAVs Imagery: Classification Criteria and Algorithm Comparison1629
 Chongkai Qi, Zhengran Niu, Dongyu Luo, and Zhiyuan Shan

Arterials Demand Management for Mixed Traffic: Leveraging a Trajectory-Based Control Method1639
 Zhen Zhang, Jinhao Lai, Mingyu Zhang, and Xiaoguang Yang

Attention-Based Local–Global Hypergraph Convolutional Network for Traffic Flow Forecasting1643
 Yu Zhao, Fan Ding, and Huachun Tan

Comprehensive Communication Performance of Digital Road Traffic Signs under Various Environmental Conditions1654
 Sheng Yin, Wanjun Li, Jian Gao, Qi Yang, Hengyu Li, and Jierui Zhu

Cooperative Traffic Signal Control with Bus Priority: A Multi-Agent Reinforcement Learning Approach1664
 Congyu Wang, Chong Wang, Yueqi Li, Guoqiang Ye, Licheng Bao, Ming Wen, and Jian Zhang

Deep Reinforcement Learning-Based Traffic Signal Control1675
 Penghui Hu, Xinran Zhang, and Jianming Hu

Detecting Non-Recurrent Congestion in Urban Networks: A Comparative Analysis of Advanced Computational Models and Traffic Pattern Visualization1686
 Sadman Rakib Pinon, XieXin Zou, and Edward Chung

Dual-Layer Deep Reinforcement Learning for Lane Merging Control in On-Ramp Traffic1697
 Tong Zhou, Yuzhao Huang, Yudan Tian, Xu Luo, Hua Huang, and Minghui Ou

Dynamic Centralized-Distributed Control of Highway Cyber-Physical Systems: A Model-Based Systems Engineering Approach1707
 Dihua Sun, Zhangshun Chen, Changchang He, Min Zhao, Rongbin Wang, Qiang Zhang, Yi Tang, and Xiao Wu

Effect of In-Vehicle Audio Warning on Driver’s Response to the Change in Speed Limits in Work Zone Area.....1718
 Ke Duan and Sheqiang Ma

Evaluation of Traffic Operation Status in Diverging Areas under Lane Control Measures.....1728
 Tianxiao Liang, Xinjian Lv, Ya Ma, Zhongyin Guo, and Cancan Song

A Study on Choice of Healthcare Travel Mode and Travel Satisfaction of Urban Residents under Public Transportation Conditions: An Example in Fuzhou1738
 Haoyang Wu and Yuntao Guo

Feasibility Analysis of Proactive Control Method for Expressway Toll Stations.....1749
 Yingchao Sun, Haowen Sun, Xu Wang, and Tong Zhou

How to Determine Optimal Parking Prices under Uncertain Parking Demand1761
 Pengfei Zhao, Pengpeng Jiao, Jianshi Li, Tiezheng Song, and Yuanyuan Wang

Information Design for a Two-Route Transportation Network Considering Travelers' Adoption of Navigation Service	1773
Yinlian Zeng, Fengni Chen, and Qiaochu He	
Lane Restriction Strategies for Eight-Lane Collector-Distributor Roads.....	1785
Yin Jiang, Ruiyu Wang, Gang Ren, Zhe Zhang, Guoshan Xu, Qi Cao, and Junsong Huang	
Lane-Level Travel Time Estimation and Space-Time Routing for Connected Vehicles with Real-Time Data at Intersections	1796
Qingquan Liu, Xingyi He, Huimin Yan, Meng Li, and Shen Li	
Long Short-Term Memory Graph Convolutional Network for Network-Wide Traffic Prediction	1807
Tong Zhou, Hua Huang, Yudan Tian, Xu Luo, Yuzhao Huang, and Dongchun Li	
Network-Level Travel Time Reliability Analysis via Network Partitioning with Community Detection Algorithms	1816
Huan Liu and Jianrong Ma	
Numerical Analysis of Dynamic Speed Limit Model for Highways Based on CTM.....	1828
Ling Sun, Ruihua He, Kemou Jiang, Wenjun Jia, and Ying Guo	
Passenger Flow Analysis and Emergency Evacuation Strategy of Resilience Hubs under Different Risk Scenarios	1838
Ke Zhao, Ruixian Qu, and Meiling Chen	
Radar-Camera Fusion Method for All-Weather Traffic Perception in Complex Scenes.....	1848
Zhe Dai, Kong Li, Xuan Wang, Huansheng Song, Hua Cui, and Changwei Yuan	
Research on Dynamic Control Method of Variable Guidance Lane at Urban Road Intersection.....	1861
Wutao Zeng, Zhiwen Pan, Xiaorong Lu, and Xiongfei Zhang	
Research on Pedestrian Evacuation Simulation in Road Tunnel Fire.....	1871
Wenjie Yang, Mingwei Hu, Qingyan Tian, and Yongsheng Chen	
Research on Vehicle Evacuation in Large Underground Road Tunnel Network Based on Multiscale Traffic Simulation.....	1882
Wenjie Yang, Mingwei Hu, Yani Zhang, Xiaofeng Xie, Daochu Wang, and Yongsheng Chen	

**Risk Assessment of Freeway Debris with Multifactor Analysis:
A Driving Simulation Method.....1893**
Haijian Li, Erlong Lou, and Silu Yang

**Ship Detection under the Influence of Raindrops in Rainy Environments
Based on Integrated Generative Inverse Network and
Improved YOLO Model1903**
Xinqiang Chen, Zhengang Xin, Fei Ma, Peishi Wu, Jiachang Fan,
Jiangfeng Xian, and Huafeng Wu

**Simulation-in-the-Loop Evaluation System for Intersection Traffic Flow and
Signal Timing Plan.....1911**
Huanqi Zhao, Yongjie Lin, Dongsheng Yang, and Wanchun Gao

**The Estimation Model of Right-Turning Vehicles’ Delay at Signalized
Intersections Considering the Impact of Slow Traffic.....1923**
Yu Bai, Wanyan Luo, and Qingtao Li

**The Impact of In-Vehicle Guidance Technology on the Driving Behavior of
Connected Vehicles in Work Zone Scenarios.....1936**
Cheng Shi, Ruoxiang Qiu, Ling Wang, Zijian Wang, and Long Zhang

**Traffic Hierarchical Control Strategy in Mixed Traffic Flow Environment via
Perimeter Control and Traffic Guidance1946**
Jianguo Wang, Weike Lu, Chuan Sun, Jiannan Mao, and Qifan Nie

Traffic Signal Control Based on Composite State Representation1959
Yining Yao, Xinran Zhang, Xin Pei, and Jianming Hu

**Trajectory Data-Driven Dynamic Platoon Dispersion Model Considering
Platoon Internal Diffusion Behaviors.....1970**
Xinpeng Li, Chunhui Yu, Zicheng Su, and Wanjing Ma

**Trajectory Reconstruction at Multi-Lane Freeways Based on Fixed-Point
Detector Data and Connected Vehicle Trajectory Data.....1980**
Yunchong Zhou, Weiyi Xu, Xiangquan Chen, Jingmin Lin, Benwei Chen,
and Chunhui Yu

**TR-VBI: The Bayesian Tensor Ring Decomposition Model with Automatic
Rank Determination for Spatiotemporal Traffic Data Imputation1990**
Mengxia Liu and Rongjun Cheng

**Vehicle Trajectory Data-Based Orientation Calibration for Two Oppositely
Installed Roadside Millimeter-Wave Radars: With and without Prior
Road Alignment Knowledge2003**
Chengmin Li, Junhua Wang, Ting Fu, Jiangtian Xue, and Wenhua Shi

Vehicle Trajectory Deviation Data Collection Method Based on Unmanned Aerial Vehicle Aerial Imagery2013
 Zhu Sun, Jing Wang, Xiaolong Ma, and Jianbei Liu

Visualization Analysis of Automated Motorway Driving Studies Based on Mapping Knowledge Domain2023
 Shixinyue Hu and Xiaoguang Yang

Zone-Based Lane-Change Guidance Strategy for Dedicated Lane with a Downstream Incident.....2033
 Yuqian Ma, Wenjing Wang, Siyuan Gong, Xia Wu, and Wenjing Zhao

Data-Driven Traffic Safety Modeling and Analysis

A Machine Learning Framework for Analyzing the Causes of Traffic Accident-Induced Congestion2046
 Pengfei Xu, Buhao Zhang, Jintao Zeng, and Li Song

A Random Parameter Logit Model of Red Light Violation of Cyclists at Urban Overlap Phase Signal Intersections.....2056
 Huiying Wen, Hengxu Yang, Yingxin Du, and Sheng Zhao

A Study of Association Feature Mining for Risky Driving Behavior Considering the Influence of Traffic Signs.....2067
 Chang Liu, Xiaohua Zhao, Jushang Ou, Ying Yao, and Wenjie Zhang

AdaBoost-Based Identification Model of Risky Lane-Changing Behavior2078
 Aiyu Zhou and Yikang Rui

An Asymmetric Car-Following Model Considering Average Velocity of Preceding Vehicles2088
 Tianyi Ma, Qian Li, and Zhengjun Li

An Efficient Method for Driver Abnormal Lane-Changing Identification Based on Trajectory Data2098
 Xu Liu and Qiaojun Xiang

Analysis and Automatic Detection of Pedestrians Running Red Light at Signal Intersection2109
 Ao Sun, Xia Zhao, and Xu Sun

Analysis of Driving Behaviors and Cognitive Load Impacts of Human Drivers in Connected Work Zones2119
 Liying He, Yan Yan, Yuehai Hu, Shengyue Liu, and Chunhui Yu

Analysis of Factors Influencing Driver Lane-Changing Intentions Based on a Naturalistic Trajectory Data Set on Highways.....2130
 Guangchen Wang, Guangquan Lu, Jinghua Wang, and Miaomiao Liu

Analysis of Factors Influencing the Severity of Crashes Involving Multi-Occupant Non-Motorized Vehicles and Motor Vehicles2141
 Qing-Yin Li, Yu-Jia Fang, Xin Zhou, and Shun-Cai Luo

Analysis of Spatiotemporal Characteristics of Taxi Traffic Violations.....2151
 Lixin Yan, Shuwen Yu, Huangchengcheng Li, and Qian Wu

Analysis of the Effect of Non-Driving-Related Tasks on Drivers’ Visual Load.....2162
 Yuwei Pang, Guangluo Li, and Lian Xie

Analyzing Differences between Questionnaire-Surveyed Driving Style and Revealed Style from Driving Simulation Experiments.....2174
 Yulin Zhang and Ying Ni

Analyzing the Takeover Performance of Drivers with Different Speed Stability Habits.....2184
 Facheng Chen and Sheqiang Ma

Applying Association Rules Mining to Investigate Risk Factors Contributing to Aircraft Runway Overshoot.....2194
 Shiwen Zhang, Yutong Wu, Yingying Xing, Bo Jia, Qingqing Zhou, and Yi Han

Are Uninsured Drivers Less Likely to Request Emergency Medical Services after a Single-Vehicle Crash?2203
 Qifan Nie, Xing Fu, Xiaobing Li, Jun Liu, Guojing Hu, and Weike Lu

Behavior-Fitting of Forward- and Backward-Looking Car-Following Models: Do Motorists Concern Following Vehicles While Driving?2214
 Duanrui Yu, Chunyang Han, Xin Pei, and Shuangxi Huang

Cause Analysis of Bus Driver Fatigue Driving Level with DMS Warning-Based Data2224
 Jun Yang, Yinjia Guo, Yue Shi, Yanyan Chen, Qiang Shao, and Xingfu Chen

Characterization of Longitudinal Acceleration at Curves in Urban Underground Ring Roads2235
 Jiaqiang Rao, Yanpeng Wang, Zhanji Zheng, Yuxuan Xu, and Jin Xu

Comparative Analysis on Multi-Classification Models in Traffic Accident Severity Prediction.....2246
 Jialiang Xiao, Yongtao Zheng, Wei Wang, and Xuedong Hua

Differential Analysis of Factors Influencing the Severity of Single-Vehicle and Multi-Vehicle Crashes	2257
Xin Zhou, Qing-Yin Li, Fu-Lu Wei, Dan-Ping Dong, Shun-Cai Luo, and Yu-Jia Fang	
Driving Behavior Primitives Clustering Based on Temporal Characteristics	2267
Zehong Wei, Xiaotong Cui, and Xuelian Zheng	
Driving Risk Quantification of Autonomous Vehicles Based on Drivers' Risk Perception Experience	2274
Zehong Wei, Lan Zhao, and Yuanyuan Ren	
Evaluation of Driver Stress Load in Freeway Tunnel Based on LightGBM and SHAP Methods.....	2283
Hongcheng Ge, Mingfa Zhou, Zhongyin Guo, and Lizhi Cheng	
Examining the Relationship between Bus Driver Personalities and Accident Frequency Using Observational Data	2293
Yunfei Zhao, Tong Zhu, Yunxing Zhang, and Zhenyu Zhao	
Exploring the Impact of Channelized Islands on the Driving Behavior of Right-Turning Vehicles at Intersections	2303
Renjing Tang, Mengping Ma, Guangquan Lu, and Miaomiao Liu	
Force Analysis Method of Tunnel in Intermittently Differential Geological Soft Soil Based on Pasternak Two-Parameter Model	2314
Xintong Lu, Xiaochun Zhang, Jianhan Hu, and Lingyi Zhang	
Graph-Based Deep Learning for Pedestrian Flow Prediction in Transport Hub: A Simulation-Informed Approach	2327
Yuchen Chang, Mengya Zong, Yutian Dang, and Kaiping Wang	
Injury Severity Analysis in Taxi Crashes: A Random Parameters Approach with Heterogeneity in Means	2338
Zikang Li, Minxue Zhang, and Lu Lin	
Investigating the Influence of Heavy Truck Movement on Car-Driving Behavior along a Two-Lane Highway.....	2349
Shikun Xie, Zhen Yang, Kangkai Wu, and Yani Qi	
Lane Change Intention Recognition Based on Natural Driving.....	2359
YanJun Hao, Hongxia Dong, Xiaojin Zhao, Zhishun Zhang, and Ting Xu	
Lane Choice of Diverging Vehicles in Tunnels Adjacent to Downstream Interchanges	2370
Guangzhen Zhou, Shuqun Yang, Shuang Luo, and Jin Xu	

Multi-Source Data Fusion Algorithm for Urban Road Traffic Accident Prevention.....	2381
Yuhang Chu, Changjun Wang, Jun Liu, and Jinzi Zheng	
Online Joint Calibration Failure Diagnosis of Perception Sensors through Multi-Channel Data Cross-Matching	2393
Mingliang Yang, Xinyu Jiao, Kun Jiang, Qian Cheng, Mengmeng Yang, and Diange Yang	
Perceiving Accident Risks of Urban Naturalistic Driving Environments	2403
Na Wu and Suhe Yang	
Predicting and Analyzing Urban Road Accident Severity under Low-Visibility Conditions	2414
Qi Niu, Jingchang Chen, Yuwei Fang, Zhengkai Wei, and Li Li	
Prediction of Minimum Spacing between Vehicles with Merge Conflicts Based on Initial and Final Vehicle States	2425
Liyang He, Yan Yan, Yuehai Hu, Zixuan Chen, and Chunhui Yu	
Railway Passenger Ride Comfort Evaluation Based on Deep Learning and Multibody Dynamics Simulation	2437
Aliyu Kasimu, O. Samsudeen Lawal, and Wei Zhou	
Real-Time Rear-End Conflict Prediction and Its Causal Analysis Using Interaction Trajectory Data	2447
Xudong An and Rongjun Cheng	
Research and Development on the Mass Public-Oriented Traffic Safety Diagnosis and Service Program.....	2458
Yongsheng Chen, Jianjun Zhang, Chunyang Li, and Ronggui Zhou	
Research on Billboard Setting Parameters for Long Steep Slope Sections of Freeways Based on Driving Simulation Experiments.....	2467
Weili Wang, Hongcheng Ge, and Kexin Kang	
Research on Freeway Traffic Anomalies Based on Association Analysis	2477
Cuishan Peng, Ying Yao, Jushang Ou, Hang Qi, and Xiaohua Zhao	
Research on Risk Identification and Quantification for Heavy-Duty Trucks Based on Multi-Feature Analysis	2487
Ziyi Zhang, Ning Zhang, Shengtao Zhang, Jianqing Wu, Yu Zhang, and Yuan Tian	
Research on Sign-Setting Method of Integral Ultra-Wide Section Freeway Based on Driving Simulation.....	2498
Hanyue Deng, Weiwei Liu, Yuanyuan Jin, Donghui Shan, Heng Shi, and Yuping Zhang	

Research on the Lane-Changing Behavior of Drivers at Highway Interchanges	2508
Wenjun Xiang, Chen Peng, Jian Feng, Tianyue Zhang, and Jinrui Zhu	
Research on the Lateral Acceleration Characteristics of Vehicles in Urban Underground Road Curves	2518
Yuxuan Xu, Zhenke Wang, Zhanji Zheng, Jiaqiang Rao, and Jin Xu	
Research on Traffic Accident Severity Prediction Based on the LightGBM Model	2529
Yanjuan Hao, Hongxia Dong, Ting Xu, and Zhishun Zhang	
Risk Driving Style Identification and Typical Pattern Characterization of Truck Drivers Based on Natural Driving Data	2540
Yu-Jia Xiang, Ying Yao, Chang Liu, Jian-Hua Zhang, and Xiao-Hua Zhao	
Robust Detection of Traffic Incidents Based on Neural Network	2551
Xinyue Li, JunHao Xiong, Xiaoli Liu, Zeyu Pan, and Zhenyu Gu	
Screening of Illegal Vehicles on Highways Based on LightGBM + MLP Research	2561
Tianyue Zhang, Jian Feng, Jinrui Zhu, and Wenjun Xiang	
Study on the Pavement Luminance Demand Thresholds of the Interior Zone of Ultra-Wide Cross-Section Tunnel	2571
Shangwei Liu, Xiao Shi, Yao Xiao, Ruxin Wang, and Jiangbi Hu	
The Association between Road Characteristics and Risky Driving Behaviors Based on Naturalistic Driving Data	2582
Quansheng Yue, Pengfei Cui, Hua Chai, Runbo Hu, Yuanwei Luo, and Yanyong Guo	
The Effect of Slippery Pavement on Drivers' Takeover Performance	2592
Zeming Qin, Yichuan Shen, Qiming Yao, Haorong Peng, Wenguan Cao, and Zhicheng Chen	
Traffic Conflict Prediction for Basic Freeway Segments Considering Different Indicators	2602
Lai Zheng, Hansheng Jiao, and Wei Wei	
Traffic Safety Analysis of a Signalized T-Intersection Using Surrogate Safety Measures	2613
Zheming Chen and Wei Chen	

Transportation Systems Security and Emergency Response

Analysis and Assessment of Coupling Effects of Multiple Risk Factors in Urban Rail Transit Operation	2624
Yate Zhou, Li Zhou, and Binglei Xie	
Characteristics, Relationships, and Factor Analysis of Accident Causality Model Using Meta-Network: A Case Study of Hazmat Road Transportation Accident	2637
Cuiping Ren and Jiaqian Zhang	
Dynamic Matching Decision Method for Emergency Capacity Allocation in Disaster Scenarios	2648
Min Zhang, Jinhong Gao, Bingye Li, Yijing Zhao, and Xiazhuo Pan	
Emergency Evacuation in Urban Underground Loop Fire Scenarios: A Case Study.....	2660
Qifeng Yu, Junjie Ye, Peixiang Sun, and Kesi You	
Emergency Path Planning Research under Disaster Conditions Based on Reinforcement Learning and Layering Partitioning-Bidirectional A* Algorithm.....	2671
Hongzhi Yang, Zongyin Feng, and Yandi Dou	
Friction Performance and Vehicle Braking Performance of Icy Open-Graded Asphalt Pavement.....	2683
Song Ge, Jilu Li, Yiqiu Tan, Chao Lv, Zhiwei Li, Mingxin Dai, Qiming Du, and Yuejing Lv	
Heterogeneity Analysis of Drivers' Fault Emergency Response in Traffic Accidents.....	2691
Panyi Wei, Jianling Huang, Yanyan Chen, Ronggui Zhou, and Ning Chen	
Overall Risk Assessment Method for Construction Safety of Expressway Reconstruction and Expansion Projects.....	2701
Juan Li, Zhongguang Wu, Chunjiang Yu, Tao Li, and Shuo Pan	
Passenger Evacuation Analysis and Guidance Strategy Optimization in Metro Stations by Considering Small-Group Behavior	2714
Xiaowei Hu, Haochen Hu, Yu Li, Yuxin Yang, and Xuejin Wan	
Reflection and Reconstruction of Logical Framework of Comprehensive Transportation Planning in the Territorial Spatial Planning System from the Perspective of Resilience.....	2726
Yanyun Mao, Jian Zhuo, Duanqiang Zhai, and Jining Zhang	

Research on Shear Failure of Asphalt Mixture Based on Unjamming Transition.....	2735
Xiang Li and Jianzhong Pei	
Risk Assessment Method for Hazmat Transportation Routing on Freeways.....	2745
Yifei Zhao, Miao Wang, Xuting Ren, Sheng Wang, and Sijie Yang	
Short-Term Flow Prediction of Expressway Considering Time-Space Correlation Characteristics	2755
Xiaogang Tan, Jing He, Min Peng, Yuan Wang, and Bowen Zhang	
Simulation Analysis of Emergency Evacuation of Subway Stations under Sudden Fire Conditions.....	2766
Yanqiang Wang, Yuan Zhu, and Xuanming Li	
Vulnerability Assessment of Multi-Level Road Networks Considering the Impact of Traffic Demand.....	2777
Yichen Ye, Huiying Wen, and Lin Zhang	
<i>Electrified and Shared Mobility</i>	
Spatiotemporal Analysis of Electric Taxi Service Mode Based on Gaussian Mixture Model.....	2787
Fangcai Chen, Qiuyue Huang, Tian Lei, Lei Gong, Luo Qin, and Jingjing Chen	
A Novel Demand Completion of Free-Float Bike-Sharing Based on Feature-Weighted K-Means Clustering.....	2799
Zhonghua Wei, Zhen Luo, Houqiang Ma, Mingqian Wang, Shihao Wang, and Yunxuan Li	
A Study of Shared Travel Behavior in Household-Based Autonomous Vehicles	2810
Huanmei Qin, Tianyuan Hu, Meina Cheng, and Zhaolin Lu	
Coupling Characteristics of the Spatial Distribution between Bike-Sharing Trips and Points of Interest.....	2821
Ying Hui, Yuliang Liu, and Qing Yu	
Data-Driven Dynamic Optimization of Electronic Fences in Free-Float Bike Sharing Systems	2831
Zhonghua Wei, Houqiang Ma, Jiale Li, Zongze Li, and Yunxuan Li	
Dynamic Order-Driver Matching Framework Design for Crowd-Sourced Delivery Considering the Drivers' Acceptance Uncertainties	2843
Shixuan Hou, Jie Gao, and Chun Wang	

Exploring the Interplay between Shared E-Bikes and Public Transportation: Evidence from Huai'an, Jiangsu	2854
Yuyuan Yang, Min Yang, and Ke Ma	
Modeling Network Equilibrium in Electric Ride-Sourcing Services	2865
Hongzhi Miao, Wenyu Jiang, Hongfei Jia, Jiangchen Li, and Yu Lin	
Parcel Senders' Choice Behavior towards a Passenger-Parcel Ride-Sharing Service Provided by On-Demand Ride-Hailing Platforms	2875
Peiyan Cai, Yuan Liu, Jingjing Chen, Kejie Huang, and Baicheng Li	
Research on Collaborative Scheduling Optimization of Multi-Type Shared Bicycles.....	2884
Rui Qiao, Yiyan Zhou, and Guohua Cheng	
Research on the Planning of Electric Vehicle Charging Stations Based on Multi-View Graph Convolutional Networks	2895
Zechao Ma, Xiaoming Liu, Hanqing Xia, and Weiqiang Wang	
Study on the Cost Allocation of Charging Stations Site Selection Based on the Improved Shapley Value Method	2906
Siyuan Zhao, Dawei Hu, and Yuqi Huo	
<i>Environmental and Sustainable Issues in Transportation Systems</i>	
A Knowledge Graph-Based Approach to Low Ecological Impact Route Selection	2915
Liguo Zhao, Xiru Wang, Tao Li, Zhipeng Fu, Fuan Lan, and Hong Zhang	
A Review of Design Methods and Research for Traffic Signs in Interchange Sections of Freeways Based on Scientific Knowledge Graphs	2926
Baowei Liu, Qiqi Liu, Panpan Tao, Luyao Yin, Xiaohua Zhao, and Chengyu Wu	
A Study of Fuel Consumption and Emissions Considering Driver Road Familiarity—Based on Driving Simulator and Real World Driving Data	2937
Pei Gao, Wu Si Man, Ruo Zi, Jian Zhou, Xin Li, and Xuran Zhang	
Analysis of Land Value Influencing Factors Based on OLS and GWR: A Case Study in Wuhan, China.....	2949
Jiankun Du, Rui Li, Gary J. W. Xu, Ruiqi Wang, and Hongliang Ding	
Applicability Evaluation of Photovoltaic System in Integrated Transportation-Energy Scenarios	2958
Zilong Xie, Tianyu Li, Binglei Xie, and Xiaomin Li	

Automatic Pavement Distress Detection Using a Semantics-Aided Deep Learning Method.....2966
 Dongtai Li, Shaocheng Jia, Xin Pei, and Danya Yao

Comparative Analysis of Energy Consumption Prediction of Pure Electric Bus Based on Multiple Influencing Factors2976
 Weining Wang, Xuewu Chen, and Xize Liu

Evaluating the Elderly Suitability of Urban Rail Transit Public Area: An Experimental Study Based on a Cloud Model2986
 Jingxuan Peng, Zhonghua Wei, Dongtong Ding, and Heng Gu

Highway Pavement Repair Detection and Length Calculation Based on Deep Learning and Least Squares2997
 Yanqiang Huo, Chuan Wang, Shijie Liu, Chuanyi Ma, and Jianqing Wu

Identification of Key Determinants of Bus-Stop Facility Configuration Based on Bus Passenger Satisfaction3007
 Lu Liu, Haolong Zheng, Mei Jia, Yulu Che, and Zhirui Guang

Navigating Green Transportation in Urban Agglomerations: A Refined Approach for Carbon Emissions Assessment3015
 Boyou Chen, Yuanqing Wang, Emmanuel Abolarin, Shuangyan Zhang, Xihao Liu, Hanlin Guo, and Baolong Ren

Numerical Simulation of Hydrodynamic Noise of a Tire Driving on a Wet Road3025
 Qingwen Li and Gongyun Liao

Research on Carbon Emissions Factor and Carbon Emissions Reduction Based on the Individual Travel Chain.....3037
 Jiajie Li, Xianglong Liu, Kai Mu, Xiangjing Li, and Guoji Chen

Research on Multi-Energy Complementary Standard System of Port Area under “Near-Zero Carbon” Target.....3048
 Yanlei Shi, Luhua Zhao, Jing Wang, Wei Wang, and Zijun Zhou

Research on the Distance of Highways for Sensitive Areas and Roadbed Height Indicators of Eco-Highway Overall Plan3056
 Tao Li, Tingyu Guo, Zhipeng Fu, Zhen Li, Shifa Wang, and Hong Zhang

Research on the Evaluation of Senior Friendliness of Community Service Facilities: Cases of Residential Communities in Beijing, China3066
 Weiwei Liang, Hongzhi Guan, and Hai Yan

Setting Condition of Traffic Low-Emissions Zone and Pricing Excessive Emissions Based on a Complete Information Dynamic Game	3077
Yiting Wang and Meisu Zhong	
Spatial and Temporal Distribution of Carbon Emissions from Airport Mobile Sources	3087
Chenxu Li and Ziyi Wang	
Spatial-Temporal Features of Taxi Carbon Dioxide Emissions and Reduction Strategies	3098
Mingzhi Wang, Jingdong Jin, Chunjiao Dong, Yunhan Li, and Junyue Wang	
Spatio-Temporal Characteristics of Traffic Congestion and Traffic Emissions for Urban Expressway	3109
Jianhua Song, Gang Ren, Jiefei Zhang, Yue Deng, Weihang Chen, and Qi Cao	
Spatio-Temporal Evolution of Port Green Development Quality in the Yangtze River Economic Belt-Based Set Pair Analysis.....	3120
Junjie Li, Min Tu, and Jing Wu	
Strength and Toughness Test of Waste Tires Steel Fiber Reinforced Concrete.....	3130
Yan-Cong Zhang, Lingling Gao, and Wei-Bian	
Study of Electric Bus Scheduling Problem Considering V2G and Battery Degradation	3139
Ruifan Zhu, Zhenxia Tan, Hui Xu, and Ming Cheng	
Study on the Operational and Low-Carbon Efficiency of URT Based on Super-Efficiency SBM-GML Model	3151
Peining Tian, Baohua Mao, Junsheng Huang, Yujie Guan, and Haoxiang Zhang	
Two-Dimensional Decomposition of Spatial Difference in CO₂ Emissions from China's Transportation Sector	3162
Xiaoyue Zeng and Meisu Zhong	
Viscoelastic Damage Rules and Mechanisms of SBS-Modified Asphalt under Spring Melt-Salt Corrosion Environment	3172
Wei Guo, Kaipeng Gu, Wuxing Chen, Mingxing Huang, Jixian Yang, and Wei Tian	
<i>Policy Analysis, Planning, and Evaluation of Transport Systems</i>	
A Study on the Synergistic Relationship and Driving Mechanism of Rural Roads and Rural Economy in China Based on a Spatio-Temporal Perspective	3182
Li Na, Menghan Liu, Liu Yi, Liu Tong, and Lannaren Wu	

Accessible Assessment for Sidewalk Based on FAHP-TOPSIS Method.....	3194
Xiao-Ming Zhang, Yue Zhang, Ying Zeng, Lei Cai, and Chuan-Yu Chen	
Analysis and Recommendations on China’s Major Subsidy Policies in the Transportation Industry	3207
Yuxin Niu and Liang Pu	
Analysis of the Adaptability of Transport Policies and Regulations in the Era of Sharing Economy: Taking Bicycle Sharing Governance as an Example	3216
Yiwen Tang	
Analysis of Emissions Reduction Effects of Alternative Strategies for Internal Combustion Engine Vehicles under Different Ban Times	3227
Huitian Liu and Dawei Hu	
Analysis of Tourism Reservation Behavior in Urban Hotspots.....	3239
Tianwen Liang, Dan Wang, Jianrong Ma, Shegang Shao, Mingyang Hao, Ruotian Tang, and Qixu Lin	
Analysis of Traffic Characteristics and Congestion Alleviation Strategies in School Areas	3248
Xiaojing Ban, Chuanjiao Sun, and Yu Chen	
Boosting the Driving Force for Urban Green Freight Transportation and Distribution: A Case Study of Wuhan	3257
Yahong Zheng, Yanyi Chen, and Chaoqun Wang	
Calculating the Traffic Volume of Expressway Sections Based on the Equal Probabilities Principle	3267
Xiang Lin, Xinpeng Lv, Mingwei Yi, and Likuan Lin	
Coupling Analysis of Road Network Performance under Edge Random Failure.....	3274
Xiaofeng Zhang, Xuelong Hu, Jiefei Zhang, Lei Tang, and Houyu Gu	
Current Situation and Policy Suggestions on Comprehensive Transportation Demand Management in Urban Agglomerations.....	3285
Cui Gao, Bin Jiang, Hua-Pu Lu, Xiao-Qing Dai, Shu-Yi Han, and Yong-Bo Zhang	
Development Status and Scale Analysis of Mechanical Three-Dimensional Parking Garage—Taking Xi’an as an Example	3295
Weijia Li, Hua Bai, Yajian Wei, and Jizhe Zhou	
Evaluation of the Connectivity Level of Port Infrastructure between China and “Belt and Road” Countries	3307
Jing Liang and Yuying Dou	

Exploring Changes in Trip Generation and Impacts of Built Environment between Regular and Essential Trips: A Study Based on the Contiguous United States.....	3317
Yefu Chen, Junfeng Jiao, and Ryan Zheng	
Exploring Temporal Variations in Urban Attractiveness Using Location-Based Services Data Set	3327
Qinyu Wang, Weijie Yu, Wei Wang, Yanjun Song, and Xuedong Hua	
Impact Model of the Effectiveness of Incentive Policies for Decarbonizing Transport Based on Traveler Heterogeneity.....	3338
Runtong Qiao, Jiancheng Weng, Xiaoyang Liu, and Wenjie Li	
Investigation of “Four-Good Rural Roads” Developing Mode Based on Infrastructure Contribution Principle and Pole-Axis Theory	3348
Zhenwu Shen, Liming Li, Daiquan Xiao, and Xuecai Xu	
Laplacian-Constrained Community Detection on Mobility Graphs: A Case Study of Xiamen City, China	3355
Di Wang, Linshen Wang, and Xianhua Wu	
Optimization of Rail Transit Network Based on Weighted PCA-TOPSIS Model.....	3366
Ruisong Zhao, Junhao Shao, Qiang Zhou, Qingyi Liu, Xuchen Li, Mengdi Guo, Jiaojiao Wang, and Linshan Zhao	
Optimization Study of Municipal Railway Network Operation Scheme for Channel Resource Sharing.....	3375
Xingfang Xu, Jie Huang, Zhengyu Lv, and Lijuan Kuang	
Policy Analysis of Consistency of International and Chinese Standards in the Field of Transportation	3386
Zijun Zhou, Wei Wang, Jianfei Hou, Yamin Li, and Yu Liu	
Predicting the Traffic Volume of Expressway Sections Based on OD Investigation	3393
Xinpeng Lv, Xiang Lin, Mingwei Yi, and Likuan Lin	
Research on Planning and Control Standards of Public Passages in the Context of High-Quality Development.....	3403
Wenmin Jiao, Qiuyu Chen, Kai Liu, and Yueli Wang	
Research on the Changes in Passenger Travel Patterns in the Post-Covid Era	3413
Weinan Song	

Research on the Establishment of Comprehensive Transportation Demand Management Policy System for Urban Agglomerations.....3424
 Cui Gao, Bin Jiang, Xiangjun Sun, Huapu Lu, Yongbo Zhang, and Zhouhao Wu

Road Network Accessibility Analysis Based on Dynamic Diversity Entropy3433
 Dingkang Hu, Tingting Zhao, Yu Zhang, and Wei Ma

Study on Development Strategies for Rail-Water Combined Transport in China3443
 Wangxiong Wang, Ruoqi Zhang, Yuxi Zhang, Xiaoli Song, and Haoyu Li

Taxi Stand Layout Planning Using Trip Spatial Density Clustering Algorithm3452
 Guang-Yue Nian, Jian-Yun Huang, and Hai-Xiao Pan

The Life-Cycle Digitalization Assessment of Road Infrastructure Data in Asset Management3461
 Yeran Huang, Sheng Zhou, Wanjun Li, Junfeng Guo, Hengyu Li, Yonghan Shi, and Sheng Yin

The Reform Practice and Enlightenment of Transportation Tax and Fee under the Development Background of Foreign New Energy Vehicles.....3471
 Ying Liu, Peng Zhang, Xinxin Yu, and Guoyi Tang

The Timing Optimization of One-Way Traffic Signal Intersection Based on Vissim Simulation.....3480
 Xuze Fan, Yu Zhang, and Shi'an Dai

Thoughts on Urban Traffic Congestion Control Based on Transit Priority Development.....3490
 Sa Xu, Xiao Peng, and Kang Zhou

Traffic Organization Assessment Scheme with Consideration of Pavement Damage for Urban Roads Affected by Work Zone3500
 Zilong Xie, Chi Zhang, Ya Wang, Jing Liu, and Shifa Wang

Trip Distribution Characteristics of Railway Hubs Established from OD Data: A Case Study in Nanjing, China3513
 Haowen Gao, Wenquan Li, and Wei Wang

Other Topics

A Robust Distance-Weighted Collaborative Filtering Method for Route Recommendation Based on Historical Trajectory Data.....3524
 Yu Qi, Xiao Hu, Ke Zhang, Huiping Li, Yunxuan Li, and Meng Li

Analysis of Sensitive Wavelength of Track Irregularity for Straddle Monorail Vehicle	3534
Zengchuang Zhao and Lihui Ren	
Analysis of the Influence of an Intelligent Connected Vehicle Warning System on Drivers' Collision Avoidance Behavior on Slippery Roads	3542
Zheyi Xia, Qiming Yao, Wenguan Cao, Jingfeng Pan, Haorong Peng, and Shengyue Liu	
Analyzing Spatial-Temporal Patterns of Passengers during Large-Scale Events from the Perspective of the Symmetric Round Trip: A Case Study of the Fourth China International Import Expo in Shanghai	3553
Xiaoling Liu, Meihan Jin, Wei Liu, and Jingjing Chen	
Asphalt-Aggregate Adhesion Performance Based on the Bibliometric: A State-of-the-Art Review	3564
Mo-Lin Zhou, Yuan Pang, and Sheng-Dong Cheng	
Assessing Airline Operational Efficiency during the COVID-19 Pandemic: A Comparative Study of Pre- and Post-Pandemic Performance	3573
Xinjia Gao, Xintong Zhao, Qifeng Yu, and Wenhan Ge	
Construction and Application of Combination Prediction Model for Tunnel Surrounding Rock Deformation	3585
Peng Wu, Xiang Dong, Yincai Cai, Jun Li, and Ting Peng	
Crack Propagation Simulation of Asphalt Bridge Deck Pavement with Top-Down and Reflection Cracks Based on Scale Model	3595
Zeyu Wu, Yanshun Jia, Taotao Fan, Chundi Si, Xinzhen Gao, Pei Zhang, Yong Zhang, and Qixuan Li	
Data Cleaning Method for Asphalt Pavement Maintenance Decision-Making Based on ANN and Reliability	3605
Hui Zhang, Feng Xiao, Shunxin Yang, Qingwei Zeng, and Ganlu Yang	
Design of Overloaded Truck Control Solution Based on Highway Overloading Detection Stations and Points	3615
Jialu Wu and Jun Chen	
Detection and Recognition of Road Sign ROI Based on Dashcam Video Data	3626
Yuan Zhu, Chao Sun, Ruhan Pang, Yaowei Sun, and Wenhui Yang	
Determination Method of Pavement Bumping Based on International Roughness Index	3636
Liping Li, Meixia Wang, Youzhu Xiong, Chunyu Yan, and Zhenwei Zhang	

Differential Analysis of Spatial Patterns of Road and Subway Commuting Based on Commuting Time.....3646
 Yu-Xin Chen, Yi-Fan Sun, and Hong Chen

Enhancing Transit-Oriented Development: An Integrated Evaluation Method for TOD Subway Stations3658
 Xiao Sun, Fangsheng Wang, and Ling Hong

Forecast of Highway Passenger Volume in Spring Festival Travel Rush Based on System Dynamics Model3669
 Xiajia Pan, Jiaqi Yang, and Tongxia Zhang

Highway Service Area Microgrid Optimization Scheduling Based on Simplex Algorithm Considering Energy Storage: A Case Study in Hangzhou3679
 Dong Yang, Yuan Wang, Changwen Liu, Li Sun, Wangjia Lu, Wei Wu, and Jiekang Xu

HPDD-YOLOv5: A Specialized YOLOv5 Network for Highway Pavement Defect Detection.....3690
 Yunshan Zhang, Baizhen Luo, Changquan Lin, Wenqi Wei, and Xiaoning Zhang

Improvement of Maglev Guideway Functional Plane Deviation Measurement Method Based on Image Recognition Technology3701
 Peng Fei, Peng Long, and Ye Feng

Installation Accuracy Detection Method of Spherical Hinge Structure Based on 3D Point Cloud Registration.....3709
 Wei Guo, Yan Yu, Mingxing Huang, Jixian Yang, and Wuxing Chen

Investigating the Transportation Resource Carrying Capacity in the Waters of Shanghai Yangshan Port3720
 Qifeng Yu and Yudong Han

Maintenance Measures and Timing Assessment for Composite Pavement Structures (LSPM Base Layer) on Expressways3732
 Haoyang Wang, Shengjia Xie, Chenhao Zhao, and Xiyuan Shen

Mechanical Response Analysis and Toppling Stability Evaluation of Swivel Bridge under Unbalanced Traction Condition3745
 Yingsong Li, Wei Guo, Zeqi Chen, and Ying Gao

Modeling the Street Staying Willingness Evaluation and Influence Factors Analysis Based on Street View Images.....3756
 Yu Bai, Qingtao Li, and Qiming Yang

Multi-Step Prediction Technology for Road PCI Based on Adaptive Road Map Expression.....3769
 Yan-Hong Zhang, Hong-Wei Jiang, and Fei Jia

Node Value Evaluation Method for Military Transportation Network under Peacetime and Wartime Scenarios3779
 Zhen Dang, Tangyi Guo, and Yifan Chen

Research on Interchange Type Optimization Based on Free-Flow Toll Collection3790
 Haoyang Li, Jiancong Chen, Bin Zhao, and Jianchuan Cheng

Research on Lightweight Safety Monitoring System for Deep Foundation Pit of Comprehensive Transportation Hub3801
 Dawei Ruan, Xiaolei Lou, Mingwei Hu, and Moufei Cai

Research on Minimum Spacing between Continuous Entrances and Exits on Opposite Sides of Urban Expressway.....3811
 Jiahao Shen, Haoyang Li, Yuan Fang, and Jianchuan Cheng

Research on Optimization and Allocation of Road Maintenance Funds at the Network Level Based on Dynamic Programming Model3822
 Heng Zhao, Hai Zhang, and Zongjun Pan

Research on the Comprehensive Evaluation Method of Field Driving Ability Based on Analytic Hierarchy Process3831
 Yang Liu, Chengyu Hao, and Zijian Suo

Research on the Reliability Assessment Method of Rural Road Performance in Road Maintenance Statistical System3841
 Meng Zhang, Bing Li, Yajie Wang, Yuting Yang, and Ke Dong

Research on Transfer Time of the High-Speed Railway Hub Station for Comprehensive Traffic Allocation3848
 Yutong Gao and Wei Wang

Research on User-Side Virtual Power Plant Based on Charging Microgrids.....3859
 Hong Zhang, Yufei Zhang, and Feifan Shi

Safety Evaluation of Urban Interchange Merging Area: A Driving Simulator Study Considering Traffic Conflict Analysis3868
 Yunyao Guo, Qiming Yao, Haorong Peng, Yichuan Sheng, Shengyue Liu, and Wenguan Cao

Study on Benefit Analysis and Setting Condition of Signal Control Right-Turn Vehicles at Intersection.....	3879
Junhao Shao, Ruisong Zhao, Qiang Zhou, Mengdi Guo, Jiaojiao Wang, Xuchen Li, Qingyi Liu, and Linshan Zhao	
Study on the Application of Microwave Heating in Thermal Regeneration of Asphalt Pavement	3886
Zhu Qiao, Changpeng Men, Sen Han, Qixin Zhang, and Xue Gui	
Study on the Relationship between Water Accumulation and Linear Shape in the Ultra-High Transition Section of Expressway	3898
Yifei Zhao, Hao Tang, Zhoujun Ye, Hao Xiao, and Yanfei Zhang	
The Impact of Highway Space Alignment on Autonomous Vehicles Trajectory Deviation.....	3908
Chao Wang, Yueli Guo, Nathanael Melkisedek Coulibaly, Ziqi Wang, and Xiaofei Wang	
Three-Dimensional Modeling of Super-High Pier Column of Bridge Engineering Based on Laser Scanning Technology	3918
Li Ai, Ying Dang, Shasha Hu, Bangqun Zhang, Lingkai Meng, Guohua Wu, Shujing Dong, Yuhua Zhan, and Yulong Zhao	
Traffic Pattern Division Based on Mobile Signaling Data	3929
Luyi Yu, Xun Zhu, Shasha Zhou, and Jingyuan Wang	
Urban Road Traffic Bottleneck Identification	3937
Zhaoqian Jiang, Lin Cheng, Siyu Zhang, Chenhao Zhang, and Haocheng Wang	