Contents

Intelligent Transportation Systems (ITS)

Campus Parking Characteristics Analysis: A Case Study of Tongji University Siping Campus .......................................................................................................................... 1 Qin-Zhe Wu and Yu-Chuan Du

Analysis of Resident Activity Range Based on Mobile-Phone Billing Data .................. 11 Zonghao Rao, Lingzheng Kong, and Dongyuan Yang

The Storage System Design for Dynamic Data of Internet of Vehicles Based on B+ Tree Technology ........................................................................................................... 19 Dongfusheng Liu, Lu Wang, Lei Zhang, and Wenwen Liu

Exploring Temporal Characteristics of Bus Trips in Tian’anmen Area Using Smart Card Data ................................................................................................................. 27 Ying Xiong, Guangquan Lu, Xiaolei Ma, Haode Liu, and Xianglong Liu

A Comparison of College Students’ Travel Patterns in Different Campuses Using Mobile Phone Positioning Data: A Case Study of Tongji University, China ......... 38 Zhengyu Duan, Chun Wang, Zengxiang Lei, and Dongyuan Yang

Social Media Application for Illegal Parking Problem .................................................. 49 Bo Wang, Liang Hua, and Inhi Kim

Online Prediction of Freeway Time-Dependent OD Flow: A Case Study of Jiangsu Province in China ................................................................................................. 59 Xiang Wang, Feixiang Zhong, Lei Yang, and Xiaohong Chen

Spatial Analysis for the Usage of Ride-Sourcing Services, an Application of Geographically Weighted Regression .................................................................................. 70 Jie Bao, Pan Liu, Hao Yu, and Jiaming Wu


An Attempt at Duration Analysis Based on a Non-Parametric Kernel Regression Algorithm .................................................................................................................. 89 Lingling Fan

Understanding Drivers’ Travel Behaviors through Vehicle Onboard Diagnostic Data Using Multi-Dimensional Discrete Hidden Markov Model ........................................... 98 Yunpeng Wang, Guohao Yin, and Xiaolei Ma

© ASCE
The Crowdsourcing-Based Estimation and Display of Rural Highway Condition from Smartphone Sensors under Natural Driving ................................................................. 108
Lin Meng, Shunxin Yang, Hong Yang, and Feng Xiao

Random Forests for Freeway Short-Term Traffic Speed Prediction .......................... 120
Hongyu Zheng, Xiaowei Chen, and Xiqun (Michael) Chen

Processing Inductance Loop Detector Data on an Urban Expressways .................. 131
Shuaifeng Huang, Linchao Li, Jian Zhang, and Wenliang Zhang

Activity Space Investigations for Nonresidents Using Mobile Phone Data ............. 142
Qing Yu, Wei-Feng Li, Zheng-Yu Duan, and Dong-Yuan Yang

Daily Time Allocation Behavior Analysis in Xiaoshan District of Hangzhou, China ................................................................. 152
Cheng Shi, Haixiao Pan, Ying Hui, and Xin Ye

Data-Driven Operation Characteristics Analysis of Traditional Taxis and Transportation Network Company Cars ................................................................. 168
Pengfei Lin, Jiancheng Weng, Siyong Ma, and Shuo Xu

Analysis of Priority Maintain Segmentation in Pavement Maintenance Management for National Freeways ................................................................. 178
Jyh-Dong Lin, Pin-Liang Liu, Shih-Ming Hsu, and Min-Che Ho

A Comprehensive Measure for Evaluating Urban Traffic Congestion: Continuous Congestion ................................................................. 184
Yi Gao, Guohua Song, Lei Yu, and Lin Zhu

Identification of Taxi Pick-Up and Drop-Off Hotspots Using the Density-Based Spatial Clustering Method ................................................................. 196
Dong Zhou, Rongrong Hong, and Jingxin Xia

Intelligent Transportation Decision System Based on Big Data Mining ................. 205
Ping Sun, Yifan Zhang, and Zhen Gao

Study on Job-Housing Distribution and Human Activity Space Based on Mobile Phone Data ................................................................. 215
Li Zhou and Yuxiong Ji

The Cluster of Vehicle Temporal Travel Behavior Based on License Plate Recognition Data ................................................................. 226
HuiYu Chen, Chao Yang, Xiangdong Xu, and Xun Zhang

Impact Analysis of Rainfall on Beijing Subway Transit Ridership with Heterogeneous Characteristics ................................................................. 236
He Tang, Yong Zhang, Hao Liu, Dehui Kong, and Yun Ge
Analysis of Travel Time Reliability for Beijing Jingtong Expressway ........................................... 248
Jiaxain Li, Yanyan Chen, Zhiling Han, and Zhixian He

Travel Characteristics Extracting Method Based on Cellular Network Recording Data......................................................... 258
Ning Huan, Enjian Yao, and Da Yang

Mining Combined Smart Card Data and Survey Data for Transit Users’ Travel Patterns and Demands ........................................ 270
Jia Yuan, Dongyuan Yang, Jian Li, Shichao Sun, and Weifeng Li

Development of the Database for Domestic System Interchanges ......................................................... 280
Hao Zhou, Qunhui Wang, Wenbing Jing, Lixin Guo, and Jianchuan Cheng

Home-Work Zone Identification from Taxi GPS Data: A Case Study of Shanghai, China ......................................................... 291
Huang Yan, Yue Li, Xujian Guo, and Changpeng Guo

An Investigation on the Effects of Holidays on Airport Landside Passenger Volume: A Case Study of Shanghai Hongqiao International Airport ......................................................... 300
Cheng Cheng, Yuchuan Du, and Feixiong Liao

A Deep Architecture Combining CNNS and GRBMS for Traffic Speed Prediction ......................................................... 310
Huachun Tan, Zhiyu Zhong, Yuankai Wu, Xiaoxuan Chen, and Jian Zhang

Actual Timetable Data Cleaning Method in Rail Transit Lines ................................................................... 320
Yanzhao Han and Zhibin Jiang

Study of Spatio-Temporal Data Modeling Based on Joint Activities of Household ......................................................... 328
Baohong He, Zhenhui Li, Yan He, and Wei Xu

Research on the Value of Road Freight Big Data in Government Statistics ......................................................... 339
Cuiping Ren, Chunguo Zhang, and Qunqi Wu

Privacy Protection of Transportation Big Data in Transportation: A Life-Cycle Perspective ......................................................... 346
Ye Li, Hanyu Shu, and Haopeng Deng

Person Re-Identification under the Problem of Path Selection ................................................................... 356
Xiaolong Ma, Zhiguo Jiang, and Jianming Hu

Research of Multiple UAVs Space Deployment Problem in Traffic Surveillance Mission ......................................................... 365
Bin Fang and XiaoFeng Feng
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamental Diagram and Passenger Comfort of Mixed Traffic Flow</td>
<td>373</td>
</tr>
<tr>
<td>Consisting of Adaptive Cruise Control Vehicles and Manual Vehicles</td>
<td></td>
</tr>
<tr>
<td>Yanyan Qin, Hao Wang, Wei Wang, and Qian Wan</td>
<td></td>
</tr>
<tr>
<td>Control Method of Variable Speed Limits for Freeways under Foggy</td>
<td>382</td>
</tr>
<tr>
<td>Weather Conditions</td>
<td></td>
</tr>
<tr>
<td>Shan Zhang, Cunbao Zhang, Hanhui Peng, and Changping Lv</td>
<td></td>
</tr>
<tr>
<td>Freeway Traffic State Estimation and Prediction Based on ETC-Based</td>
<td>393</td>
</tr>
<tr>
<td>Path Identification Toll System</td>
<td></td>
</tr>
<tr>
<td>Wenliang Zhang, Xinkai Ji, Jian Zhang, and Shanglu He</td>
<td></td>
</tr>
<tr>
<td>Public Transit Transfer Recognition Method Based on Vehicle GPS and</td>
<td>402</td>
</tr>
<tr>
<td>Smart Card Data</td>
<td></td>
</tr>
<tr>
<td>Min Fu, Wei Wang, Hao Wang, Yun Xiang, and Wanbo Yang</td>
<td></td>
</tr>
<tr>
<td>A Method of Real-Time Leading Vehicle Detection of Adaptive Cruise</td>
<td>411</td>
</tr>
<tr>
<td>Control System on Curved Road Based on V2V</td>
<td></td>
</tr>
<tr>
<td>Mengxiao Wu, Guangquan Lu, Peng Chen, and Chuan Ding</td>
<td></td>
</tr>
<tr>
<td>Research on the Identification of Urban Road Traffic State Based on</td>
<td>420</td>
</tr>
<tr>
<td>Vehicular Networks</td>
<td></td>
</tr>
<tr>
<td>Wei Yin and Zhongyi Zuo</td>
<td></td>
</tr>
<tr>
<td>Study on the Quantitative Evaluation System about the APPs of Public</td>
<td>429</td>
</tr>
<tr>
<td>Transportation Information</td>
<td></td>
</tr>
<tr>
<td>Zheng Zhang, Jiancheng Weng, and Yuan Wang</td>
<td></td>
</tr>
<tr>
<td>Optimal Path in Traffic Network Based on Carbon Emissions</td>
<td>438</td>
</tr>
<tr>
<td>Lu Chen and Yiyong Pan</td>
<td></td>
</tr>
<tr>
<td>Application of Long Short-Term Memory Neural Network for Multi-Step</td>
<td>444</td>
</tr>
<tr>
<td>Travel Time Forecasting on Urban Expressways</td>
<td></td>
</tr>
<tr>
<td>Zhihao Zhang, Yunpeng Wang, Peng Chen, and Guizhen Yu</td>
<td></td>
</tr>
<tr>
<td>Car-Following Model Based on Driver Time-Varying Propensity through</td>
<td>455</td>
</tr>
<tr>
<td>Dynamic Computing</td>
<td></td>
</tr>
<tr>
<td>Xiaoyuan Wang, Jinglei Zhang, Yaqi Liu, and Yunyun Wang</td>
<td></td>
</tr>
<tr>
<td>Optimization Method of Cycle Time in Signalized Intersection</td>
<td>466</td>
</tr>
<tr>
<td>Xiaotong Ma, Hong Chen, Danting Zhao, Siyu Yang, and Zhanguo Song</td>
<td></td>
</tr>
<tr>
<td>Mobile Phone Data Based Urban Functional Area Land Use Classification Algorithm</td>
<td>476</td>
</tr>
<tr>
<td>Jiyuan Tan, Luxi Dong, Yanwei Wang, Yibin Huang, Li Li, and Honghai Li</td>
<td></td>
</tr>
</tbody>
</table>
Real-Time Optimization of Signalized Intersection Based on Intelligent Video Analysis ................................................................. 485
Aibing Shu, Xindong Xu, Chaofeng Ma, and Qiang Fu

Game Theory Based Signal Control for Single Intersection in Intelligent Vehicle Infrastructure Cooperation Systems (IVICS) Circumstances ....................... 494
Liu Yang, Jianming Hu, Yujing Li, and Zuo Zhang

Dynamic Traffic Control and Direction Switch of Reversible Lanes for Continuous Flow Considering V2I .................................................. 505
Yingying Ma, Chao Song, and Chen Wen

Assessing the Benefits of the Auxiliary Road Metering System .................................................. 515
Honghai Li, Lin Wang, Jian Gao, and Sheng Yin

Variable Speed Limit Based on Intelligent Vehicle Infrastructure Cooperative Systems .................................................. 525
Ruobing Zhang, Jianming Hu, and Zuo Zhang

DSRC-Based Rear-End Collision Warning Application for Android Smartphone .................................................. 535
Shoucai Jing, Fei Hui, Tenglong Li, and Xiangmo Zhao

Development of a Novel Vehicle-Mounted Data Collection Terminal with Multisource Information Fusion for Connected Vehicles .................................................. 544
Pangwei Wang, Hongbin Yu, Li Wang, Wei Zhang, Chuan Jiang, and Yilun Jiang

Collaborative Scheduling for Optimization of Public Ground Transportation .................................................. 554
Erhui Chen, Jing Liu, and Zhongdong Yu

Consensus-Based Algorithm and Experimental Verification of Intelligent Vehicle Formation .................................................. 562
Hong Guan, Yang-Zhou Chen, Xiao-Jun Qu, and Gui-Ping Dai

A Multimodal Detection and Tracking System Based on Deep-Learning for Traffic Monitoring .................................................. 572
Xinxu Li, Guizhen Yu, Yunpeng Wand, Xinkai Wu, and Yalong Ma

The Traffic Information Collection and Transmission on Full-Scale Ring Road for Accelerated Loading Test .................................................. 583
Yi Chen, Zhenhua Li, and Xinke Wang

Application of the ARIMAX Model on Forecasting Freeway Traffic Flow .................................................. 593
Mofeng Yang, Jiaohong Xie, Peipei Mao, Chao Wang, and Zhirui Ye

© ASCE
Traffic Density Estimation of Urban Freeway by Dynamic Model Based Distributed State Observer ................................................................. 603
Yuqi Guo, Yangzhou Chen, and Wei Li

Intersection Actuated Signal Phase and Timing Algorithms in Connected Vehicle Environment ............................................................... 613
Jia-Run Lv, Jiang-Feng Wang, Ruo-Xi Xiong, and Da-Lin Chen

Analysis of Drivers’ Travel Behavior under Variable Message Sign Conditions ..................................................................................... 623
Ningning Song, Shuyan Chen, Qian Chen, and Yechun Lao

A Short-Term Forecast Method for Highway Traffic Conditions Based on CHMM ................................................................. 633
Jiadong Liang, Jianqun Wang, and Jingxuan Chen

Spare Part Demand Forecasting Based on Variable Message Signboard Fault Statistical Analysis ................................................................. 645
Siyu Hu, Jing Liu, and Yaona Li

Modeling Car-Following Behavior Impacted by Road Gradients ................................................ 653
Yi-Min Wang and Zhao-Cheng He

Vision-GPS Fusion for High Precision Vehicle Localization in Urban Environment ..................................................................................... 663
Zhehua Hu, Yunpeng Wang, Guizhen Yu, and Qi Chu

Traffic Congestion Prediction Based on Long-Short Term Memory Neural Network Models ................................................................. 673
Min Chen, Guizhen Yu, Peng Chen, and Yungpeng Wang

Analysis of Traffic Information Service Demand Characteristics on Expressway ..................................................................................... 682
Zhizhou Wu, Weina Fan, and Xiao Xiao

A New Car-Following Model Accounting for Multi-Preceding Cars’ Optimal Velocity Changes and Backward Looking Effects .................. 693
Fei Hui, Tenglong Li, and Shoucai Jing

Vision-Based Lane Departure Detection Using Local Hough Transform and Particle Filter ........................................................................... 703
Yong Zhu, Huachun Tan, and Xiaoli Chen

The Identification Method and Analysis of Ground Bus Travel Demand Characteristics Based on Massive Data ........................................ 713
Xiaojian Di, Jiancheng Weng, Jingjing Wang, and Jiayuan Han
Research on Image Dynamic Blurring Reconstruction Algorithm in 3S—UAV Traffic Modeling Platform ........................................ 724
Song Zeng, Huaikun Xiang, Ziling Jiao, and Peng Xia

Novel Microstrip Phased Array Antenna for Highway ITS-Station .......... 735
Jiahai Zhao, Xianghui Song, Yipeng Zhang, and Ling Sun

Research on Intelligent Transportation System of Multilane Separation Freeway ................................................................. 745
Changyin Dong, Zhenquan Liu, Hao Wang, Honghai Li, and Xiaoliang Sun

Signal Priority Control Methods Based on Automobile Electronic Registration Identification ............................................. 757
Zhengliang Sun, Guangjin He, and Jiabin Hu

Analysis of Bus Travel Decision-Making Behavior Based on the Theory of Planned Behavior .................................................. 765
Teng-Fei Yuan and Xiao-Qing Zeng

Coordinated Ramp Metering under the Connected Vehicle Environment .......................................................... 774
Yuesi Yang, Zhao Liu, Ye Kong, Xiang Miao, and Jianhua Guo

An Improved Model for Short-Term Traffic Forecasting Considering Weather Impacts ....................................................... 784
Xinchao Chen, Si Qin, Jian Zhang, Huachun Tan, Yunxia Xu, Guanchen Dai, and Xiaoxuan Chen

K Shortest Path Searching for Time-Dependent Road Networks .......... 793
Jiawei Lu, Xiaoxuan Chen, Qinghui Nie, Rongrong Hong, and Jingxin Xia

Hazard-Based Model of Mandatory Lane Change Duration ............... 805
Jiangling Wu, Shengrui Zhang, Amit Kumar Singh, and Si Qin

Driver Reaction Time in an Internet of Vehicles Environment ........... 812
Xiaoyu Cai, Ming Cai, Youjie Zhang, and Qishun Wu

Urban Road Traffic State Level Classification Based on Dynamic Ensemble Learning Algorithm ............................................. 823
Qingchao Liu, Yingfeng Cai, Haobin Jiang, Youguo He, and Long Chen

A Review of 3D Pavement Automatic Measurement System ............... 831
Hong Lang, Yuexin Lou, Jian John Lu, and Yao Chen

A Dynamic Carpooling System Based on Time Windows and Path Optimization: Reacting to Real-Time Reservation Rapidly .......... 842
Yujie Liu, Xiaoli Ma, Tao Xu, and Jian Lu
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic State Detection Methods for Mountainous Cities</td>
<td>850</td>
</tr>
<tr>
<td>Zhi Han, Zhenke Wang, and Yong Zhu</td>
<td></td>
</tr>
<tr>
<td>The Multi-Objective Optimization Strategy of Urban Railway Train</td>
<td>860</td>
</tr>
<tr>
<td>Automatic Train Operation (ATO)</td>
<td></td>
</tr>
<tr>
<td>Xinyu Lin and Ruichun He</td>
<td></td>
</tr>
<tr>
<td>Detection of Traffic Video Images with or without Signal Based on</td>
<td>871</td>
</tr>
<tr>
<td>AdaBoost Strengthening BP Neural Network</td>
<td></td>
</tr>
<tr>
<td>Jie-Ru Yao, Yong-Chao Song, Kai Du, Yong-Feng Ju, and Xu Bao</td>
<td></td>
</tr>
<tr>
<td>A Layout Model of Ambiguous Path Identification Stations on Freeway</td>
<td>879</td>
</tr>
<tr>
<td>Based on the Greedy Algorithm</td>
<td></td>
</tr>
<tr>
<td>Wenliang Zhang, Jian Zhang, Zhaohui Gao, and Shuaifeng Huang</td>
<td></td>
</tr>
<tr>
<td>Multi-Source Data Fusion Oriented Fixed Detector Placement Optimization</td>
<td>887</td>
</tr>
<tr>
<td>Method on Freeways</td>
<td></td>
</tr>
<tr>
<td>Gui-Hong Shi, Hao-Miao Wang, and Jian Zhang</td>
<td></td>
</tr>
<tr>
<td>Research of Pedestrian Traffic Parameter Extraction Algorithm</td>
<td>896</td>
</tr>
<tr>
<td>Shubo Wu, Bin Zhao, Qiang Luo, Xiangyan Guo, and Xia Lei</td>
<td></td>
</tr>
<tr>
<td>Expose Data as a Service in Cloud for Cooperative Intelligent</td>
<td>904</td>
</tr>
<tr>
<td>Transportation Systems—Communicating with Web Application Programming Interfaces</td>
<td></td>
</tr>
<tr>
<td>Junrong Qu, Jian Zhang, Pei Liu, Jiajian Lu, and Yang Cheng</td>
<td></td>
</tr>
<tr>
<td>A Novel Control Strategy of Urban Expressway Weaving Area</td>
<td>914</td>
</tr>
<tr>
<td>Ning Chen, Zhenhua Wang, Yanyan Chen, Fan Zhang, and Jian Gao</td>
<td></td>
</tr>
<tr>
<td>Estimating Pedestrian Walking Characteristics by Use of Smartphone</td>
<td>926</td>
</tr>
<tr>
<td>Sensing: An Experimental Study</td>
<td></td>
</tr>
<tr>
<td>Xiaomeng Shi, Xinwei Zhao, Zhirui Ye, Nirajan Shiwakoti, and Jiajian Lu</td>
<td></td>
</tr>
<tr>
<td>Lane Function and Signal Timing Optimization Model</td>
<td>939</td>
</tr>
<tr>
<td>Weili Zhang, Xiaoguang Yang, and Jinxin Cao</td>
<td></td>
</tr>
<tr>
<td>Creating Bus Timetables with Maximal Synchronization by a New</td>
<td>945</td>
</tr>
<tr>
<td>Algorithm Based on the PSO</td>
<td></td>
</tr>
<tr>
<td>Daxin Tian, Wenhao Liu, Peng Guo, Hui Rong, Wenyang Wang, Jinfeng Gong, Yunpeng Wang, and He Liu</td>
<td></td>
</tr>
<tr>
<td>Urban Integrated Transportation Information System Standard Framework—</td>
<td>955</td>
</tr>
<tr>
<td>A Case Study of a Typical Chinese City</td>
<td></td>
</tr>
<tr>
<td>Lijuan Shi and Xiangyu Li</td>
<td></td>
</tr>
<tr>
<td>Research on Real-Time Traffic Condition Identification of Highways</td>
<td>962</td>
</tr>
<tr>
<td>Based on Chinese BEIDOU Positioning Data</td>
<td></td>
</tr>
<tr>
<td>Zhiping Zhang and Hangfei Lin</td>
<td></td>
</tr>
</tbody>
</table>
Human-Like Longitudinal Velocity Control Based on Continuous Reinforcement Learning ................................................................. 972
Xin Chen, Chao Lu, Jianwei Gong, and Yong Zhai

Operation and Management

A Simple Aerial Map Matching Algorithm Based on Hidden Markov .............. 982
Xin Gu, Qiao-Jun Xiang, Yong Ma, and Ming-Hua Hu

Optimization of Air Transportation Network Using Link Prediction Methods ........ 991
Yue Zheng, Wenquan Li, Xi Cao, and Chunyang Sun

How Market Force and Government Regulation Affect Flight Fare and Safety Investment: A Microeconomic Analysis ............................. 1001
Yunrui Gao and Tianliang Liu

Spatial Aggregation of Worldwide Air Transportation Networks ...................... 1009
Xiaojian Sun and Sebastian Wandelt

The Impact of High-Speed Rail and Low-Cost Carriers on China’s Air Market .... 1020
Rui Zhang, Zaili Yang, Weixin Luan, and Zhihong Jin

Assessment Method of Dynamic Airspace Capacity Based on Weather Types .......... 1028
Ming Zhang, Kai Liu, and Xianglu Kong

Study on Low-Temperature Performance of Polyphosphoric Acid Composite Modified Asphalt ................................................................. 1039
Xing-Kai Fu and Wei-Dong Huang

The Effects of Measures on Lowering the Phreatic Line within Seasonal Soaking Subgrade ........................................................................ 1052
Peixiang Sun, Gongyun Liao, Zhigang Luo, Huaqing Chen, and Xiuyu Liu

Simulation Analysis of the Bearing Capacity and Settlement Detection of a Representative Bridge of Xiamen Bus Rapid Transit System ...................... 1062
Qifeng Cheng and Wangtu (Ato) Xu

Cost Management of Highway Construction Based on the Internal Data of Construction Enterprise ................................................................. 1068
Xiao-Dong Zang, Feng Ouyang, and Bin Xie

Damage Identification of High-Speed Maglev Track Girder Based on the Finite Element Simulation ................................................................. 1077
Xi Deng and Jingyu Huang

Fatigue Life of Semi-Rigid Pavement Influenced by Rainfall Infiltration Simulated in ABAQUS and FE-SAFE ................................................................. 1083
Xiuyu Liu, Qingqing Cao, Xiaoming Huang, Tao Ma, and Peixiang Sun
Traffic Characteristics Analysis and Simulation of Road Work Zone............................ 1093
Huanmei Qin, Xiuhan Yang, and Fei Zheng

Guideway Switch of Maglev Changsha Airport Express Line ........................................... 1105
Yihong Yuan, Guofeng Zeng, Feng Ye, Wen Ji, and Zhiwei Zhu

Effect of Rail Weld Irregularities on Dynamic Characteristics of Heavy Haul Railway’s Track-Subgrade System...................................................................................... 1111
Xinwen Yang, Xiaoyun Ma, and Tianhang Long

Test Research on Transverse Strengthen Methods for PC Void Beam Variable Width Cross-Section ................................................................. 1120
Fei Guo, Hui-Fang Li, and Jie-Liang Wu

Evaluation of Fatigue and Rutting Performance of In Situ Asphalt Pavement Based on Accelerated Pavement Testing ............................................................... 1125
Zexin Ma, Liping Liu, and Lijun Sun

Setting Method of the Depth to Rigid Layer in Modulus Back-Calculation ...................... 1135
Guo-Shuai Zang, Li Li, and Li-Jun Sun

Evaluation Method of Urban Road Riding Quality Affected by Pavement Partial Unevenness............................................................................................................. 1145
Yu Fang, Zhang Chen, Lijun Sun, and Fang Huang

Design Approach of Shear-Property Based Asphalt Pavement Structure for Long and Steep Sections ............................................................................................ 1154
Bang-Wei Wu, Hua-Ce Tao, Li-Ping Liu, and Li-Jun Sun

Study on the Fatigue Characteristics and Remaining Fatigue Life Prediction of Field Emulsified Asphalt Cold Recycled Mixture ...................................................... 1163
Huailei Cheng, Liping Liu, and Lijun Sun

Research on the Evaluation Method of Alignment Maintenance Effect in Shanghai Maglev Line .................................................................................................................. 1173
Zhiwei Zhu, Feng Ye, Guofeng Zeng, and Yihong Yuan

Deterioration Analysis and Forecasting Model of Urban Bridges ...................................... 1179
Xiongfeng Guo, Zhang Chen, Lijun Sun, and Wanxin Ji

Aerodynamic Effect on the Noise Barrier of High Speed Maglev Girder-on-Bridge System under Extreme Weather Conditions .................................................. 1190
Feng Ye, MingZhi Yang, and JingYu Huang

Study on the Structure of Bridge Girder Plates ..................................................................... 1196
Qi-Lun Li, Qun Yang, and Rong Li

© ASCE
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Contract with Call Options in an Inflexible Supply Chain</td>
<td>1322</td>
</tr>
<tr>
<td>Zhen Wu</td>
<td></td>
</tr>
<tr>
<td>The Area-Through Path Planning Algorithm Reflecting the User’s Intention</td>
<td>1331</td>
</tr>
<tr>
<td>Jinhui Zhang, Zhaosheng Zhang, and Keqiang Li</td>
<td></td>
</tr>
<tr>
<td>Modeling the Berthing Time Distributions for Different Types of Ships at the Ningbo-Zhoushan Port</td>
<td>1339</td>
</tr>
<tr>
<td>Zhanhua Shi and Lili Lu</td>
<td></td>
</tr>
<tr>
<td>Integrated Quay Crane and Yard Truck Schedule for the Dual-Cycling Strategies</td>
<td>1346</td>
</tr>
<tr>
<td>JinXin Cao, XiaoTing Shang, and XueRu Yao</td>
<td></td>
</tr>
<tr>
<td>The Continuous Berth Allocation and Quay Crane Assignment Problem Based on the Operational General Time Loss of Vessels</td>
<td>1358</td>
</tr>
<tr>
<td>Jie Ren, JinXin Cao, and Cong Cong Xue</td>
<td></td>
</tr>
<tr>
<td>Route Optimization of Milk-Run Model of FAW International Logistics Components</td>
<td>1368</td>
</tr>
<tr>
<td>Yingchan Wang and Xiaofa Shi</td>
<td></td>
</tr>
<tr>
<td>Improved Artificial Bee Colony Algorithm and Its Application in Solving VRPTW</td>
<td>1378</td>
</tr>
<tr>
<td>Bao-Long Liu and Jian-Ming Hu</td>
<td></td>
</tr>
<tr>
<td>Cold Chain Logistics Bi-Objective Location Optimization Problem Based on Customers’ Satisfaction</td>
<td>1386</td>
</tr>
<tr>
<td>Hai-Lan Yang, Da-Wei Hu, Chen Sang, and Jing Kong</td>
<td></td>
</tr>
<tr>
<td>The Research of Location-Routing Problem in Emergency Logistics Based on Uncertainties</td>
<td>1396</td>
</tr>
<tr>
<td>Ya-Shuai Ji, Da-Wei Hu, and Shu-Hao Li</td>
<td></td>
</tr>
<tr>
<td>Routing Optimization for Hazmat Transportation with Explicit Consideration of Equity</td>
<td>1406</td>
</tr>
<tr>
<td>Huo Chai, Ruichun He, Cunjie Dai, Changxi Ma, and Xiaoyan Jia</td>
<td></td>
</tr>
<tr>
<td>Mixed Strategy Game Analysis on Suppliers and Manufacturers during Logistics Procurement</td>
<td>1413</td>
</tr>
<tr>
<td>Huifang Li and Luan Su</td>
<td></td>
</tr>
<tr>
<td>Supply Chain Stability under Disruptions Based on Predator-Prey Model</td>
<td>1423</td>
</tr>
<tr>
<td>Hai Ma, Hui Hu, Jingbo Zhang, Yunna Zhang, and Yitong Xue</td>
<td></td>
</tr>
</tbody>
</table>

© ASCE
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-Optimal-Based Model for the Berth Allocation Problem by Mixed</td>
<td>1432</td>
</tr>
<tr>
<td>Integer Programming</td>
<td></td>
</tr>
<tr>
<td>Yu Yuan</td>
<td></td>
</tr>
<tr>
<td>Study on Logistics Park’s Radiation Scope Based on Breaking Point Model</td>
<td>1440</td>
</tr>
<tr>
<td>Jiayu Xu, Jingshuai Yang, Chong Gao, Li Zhang, and Teng Ma</td>
<td></td>
</tr>
<tr>
<td>The Design and Analysis of the Matching System for the Urban Freight</td>
<td>1447</td>
</tr>
<tr>
<td>Taxis</td>
<td></td>
</tr>
<tr>
<td>Chong Gao, Jingshuai Yang, Jiayu Xu, Pengzhi Chu, and Li Zhang</td>
<td></td>
</tr>
<tr>
<td>Logistic Supply and Demand Analysis on Online Shopping of Double</td>
<td>1453</td>
</tr>
<tr>
<td>Eleven Day</td>
<td></td>
</tr>
<tr>
<td>Tao Tao and Xiaofa Shi</td>
<td></td>
</tr>
<tr>
<td>Urban Freight Routing Based on Static User Equilibrium</td>
<td>1460</td>
</tr>
<tr>
<td>Liang Ma</td>
<td></td>
</tr>
<tr>
<td>A Study on Price Evaluation and Management of Urban Freight Taxi in</td>
<td>1472</td>
</tr>
<tr>
<td>Shanghai</td>
<td></td>
</tr>
<tr>
<td>Rong Zhang and Ling Wang</td>
<td></td>
</tr>
<tr>
<td>Value of Time for Inland Leg of International Containerized Transport in China</td>
<td>1481</td>
</tr>
<tr>
<td>Rong Zhang and Wenliang Jian</td>
<td></td>
</tr>
<tr>
<td>Trip Chain Behavior of Freight Vehicles Departing from Logistics Park</td>
<td>1490</td>
</tr>
<tr>
<td>Rong Zhang, Lu Li, and Wenliang Jian</td>
<td></td>
</tr>
<tr>
<td>The Stochastic and Dynamic Vehicle Routing Problem with Crowdshipping</td>
<td>1500</td>
</tr>
<tr>
<td>Liucheng Sun, Yan Sun, and Wenjia Zheng</td>
<td></td>
</tr>
<tr>
<td>Research on Sea-Railway Transport Hinterland of Ningbo Port Based on</td>
<td>1511</td>
</tr>
<tr>
<td>Nest-Logit Model</td>
<td></td>
</tr>
<tr>
<td>Yuling Ye, Wenbo Su, and Liucheng Sun</td>
<td></td>
</tr>
<tr>
<td>Location Optimization of Cross Dock Network Considering Carbon</td>
<td>1519</td>
</tr>
<tr>
<td>Emissions</td>
<td></td>
</tr>
<tr>
<td>Dandan Chen and Yong Zhang</td>
<td></td>
</tr>
<tr>
<td>Study on the Developmental Level of Environmental Logistics Based on</td>
<td>1528</td>
</tr>
<tr>
<td>AHP and FCE</td>
<td></td>
</tr>
<tr>
<td>Xuefeng Li and Yong Zhang</td>
<td></td>
</tr>
<tr>
<td>Gaining a Full Understanding of the New Trends in China’s Development of Cargo Transportation under New Normal Economy</td>
<td>1535</td>
</tr>
<tr>
<td>Yan-Hong Li, Jian-Ming Feng, Zhong-Kui Li, and Jing-Ling Jiang</td>
<td></td>
</tr>
</tbody>
</table>
Logistic Development Forecasting of CEKE Port Based on the Grey Theory .................. 1544
Jie Zhang and Yiyang Wang

Research on the Relationship between Container Accumulation and National Economic Development ........................................................................................................ 1551
Yu Ma, Weixin Luan, Hui Wang, and Rui Zhang

Train Rescheduling Strategies in a Complete Blockage: Compare the Two Rescheduling Strategies Applied in Chinese Railway and Dutch Railway .................. 1560
Shuguang Zhan and Qiyuan Peng

SWOT Analysis on the Development of Maglev Transportation .................. 1572
Huanxi Xu and Shao-Zhi Hong

Mechanics Analysis of Single-Toe Elastic Bar Fastening and Type III Elastic Bar Fastening in Urban Rail Transit .................................................. 1580
Yu Zhou, Difeng Kuang, and Xiaofeng Zheng

Modeling the Cooperative Speed of Bus Systems under the CVIS Environment .......... 1591
Jialiang Chen, Zhiwei Cai, and Yong Yang

Site Optimization Design of Urban Rail Transit Feeder Bus Routes .................. 1601
Chen Sang, Da-Wei Hu, Hai-Lan Yang, and Jing Kong

Analysis of Factors Affecting the Satisfaction of Railway Passengers with the Consideration of Access and Egress Journeys .................................................. 1611
Zao Lin, Wei Wang, Min Yang, and Xiang Pu

Improved Railway Passenger Comfort Benefit Quantitative Calculation Approach: Based on Candidate Time Value Set .................................................. 1622
Wen-Cheng Huang, Bin Shuai, and Mei-Lin Li

A Method to Determine the Policy Headway for Bus Routes: A Case Study of Beijing ................................................................. 1632
Yuhuan Wang, Xumei Chen, Changhai Wei, Yong Gao, and Jiaqing Wu

Walking Attraction Area Model for Urban Rail Transit Station .................. 1641
Ru-Yu Dai, Yong Liu, and Wei-Xiong Zha

A Feasibility Study on the Application of Flexible-Route Bus System in Chinese Medium and Small-Sized Cities .................................................. 1648
Ruoxiao Feng, Zhirui Ye, and Xiaomeng Shi

Dynamic Evolution of Headway and Critical Block Section on High-Speed Railway .................................................................................. 1656
Baoming Han and Pei Liu
Research on Vehicle Scheduling Model of Shuttle Bus under Intelligent Transportation System ................................................. 1667
Li Zhang, Jingshuai Yang, Pengzi Chu, Jiayu Xv, and Chong Gao

The Utilization Analysis of Long-Distance Bus Based on Smart Card Data ......................... 1676
Yuyang Zhou, Qianyang Zhao, Lin Yao, Yanyan Chen, and Songtao Tang

Rail Transit Assignment Model Development Based on Random Regret Minimization under Multi-Class User Conditions ........................................... 1685
Yufang Gao and Dewei Li

Optimizing Bus Bridging Strategies during Metro Disruptions Considering Bridging Time and Passenger Delays ..................................................... 1694
Wei Gu, Yue Liu, Yuxiong Ji, H. Michael Zhang, and Yujing Zheng

Information Flow Analysis on Operational Control Systems Regarding High-Speed Maglev Transportation .................................................. 1706
Yijun Chen, Huahua Zhao, Yi Yu, and Zhangyang Li

Bus Timetable Investigation Based on Smart IC Card Data ............................................... 1716
Shu-Ni Zheng, Yu-Sheng Ci, Jia-Fa Zhao, and Li-Na Wu

A Headway Adjustment Method Based on Bus Arrival Time Prediction ....................................... 1725
Jiaojiao Zhu, Zhirui Ye, Chao Wang, and Yu Yan

Urban Rail Transit Operation Simulation Based on Virtual Reality Technology ................................................. 1736
Ang-Yang Chen and Jun-Hua Chen

Discussion on the Development of Modern Trams in China ............................................. 1746
Junhong Hu and Haijun Zhang

Temporal-Pattern Based Redistribution Strategy of Public Bicycle System:
A Case Study in Nanjing ................................................................................................. 1754
Li Lin, Xiucheng Guo, Tao Tao, and Hanxia Shen

Analysis of Factors Affecting Bus Lane Operation in Shanghai, China, Based on Decision Tree Modeling .............................................................. 1764
Linghui He, Weifeng Li, Chuan Chen, and Dongyuan Yang

Study on Critical Distance for Pedestrian Access to Urban Rail Transit:
A Case Study in Nanjing ................................................................................................. 1774
Xiaotian Zhang, Xiucheng Guo, and Yueyan Xu

Estimating Subway Passenger Paths Using Automatic Fare Collection Data .................... 1783
Xing Chen, Leishan Zhou, Jinjin Tang, and Lu Tong

© ASCE
Study on Bus Holding Control Strategies for Urban and Rural Public Transit Transfer Station .................................................................................................................................................................................................................................................................................................................. 1793
Hanxia Shen, Xiucheng Guo, Tingting Hu, and Li Lin

Modeling and Algorithm of Transfer Stations’ Train Timetable Coordination in Urban Rail Network .................................................................................................................................................................................................................................................................................................................. 1804
Qin Luo, Ying Guo, Xuan Li, and Xiongfei Zhang

Simulation and Modeling of Multi-Stations’ Mass Passenger Flow Control Based on Waiting Time Equalization in Urban Rail Line .................................................................................................................................................................................................................................................................................................................. 1813
Qin Luo, Zhuoqun Wang, Xuan Li, Xiongfei Zhang, and Ping Xiong

Timetable Optimization of Urban Rail Transit: A Flexible Skip-Stop Scheme .................................................................................................................................................................................................................................................................................................................. 1822
Peitong Zhang, Zhanbo Sun, and Xiaobo Liu

Generating Alternative Pre-Trip Guidance for Metro Users by Considering Travel Time and Trip Feeling .................................................................................................................................................................................................................................................................................................................. 1834
Jiawei Lu, Yuqing Wang, Ning Zhang, Xiaoxuan Chen, and Jingxin Xia

Optimization for Urban Rail Timetable under Dynamic Passenger Demand on Different Days .................................................................................................................................................................................................................................................................................................................. 1845
Yu Qiao, Chunfu Shao, and Tianyu Zhang

Analyzing the Effects of Public Transit Information Systems Based on Mobile Terminal on Choice Behavior of Travelers on Route .................................................................................................................................................................................................................................................................................................................. 1855
Jing Teng, Hefei Wang, and Xueqi Lei

Statistical Analysis of Metro Operational Accidents in Shanghai and Safety Countermeasures .................................................................................................................................................................................................................................................................................................................. 1866
Xiaoli Ma, Yujie Liu, and Jian Lu

Travel Behavior Analysis of Event-Related Urban Rail Transit Passengers during Large Special Events .................................................................................................................................................................................................................................................................................................................. 1876
Xingchuan Wang and Enjian Yao

Congestion Degree Classification for Urban Rail Transit System Based on Hierarchical Cluster Analysis .................................................................................................................................................................................................................................................................................................................. 1886
Binbin Li and Enjian Yao

An Implicit Enumeration Algorithm to Optimize the Preparation of Shunting Plan of Intermediate Station .................................................................................................................................................................................................................................................................................................................. 1897
Wenjia Zheng, Yan Sun, and Liucheng Sun

The Impact of Changsha Maglev Line on Land-Side Transportation of Changsha Huanghua International Airport .................................................................................................................................................................................................................................................................................................................. 1909
Ji Fu, Hangfei Lin, Xiaohong Chen, and Min Huang
An Evaluation Method of an Urban Rail Transit Line Network for Valley City Based on Set Pair Analysis .......................................................... 1916
Zhaoguo Huang, Xiucheng Guo, and Chunbo Zhang

Analysis on TD-CDMA and LTE Wireless Technologies in High-Speed Railway Environment ................................................................. 1928
Ziyi Qin and Bo Sun

Ticket Price Sensitivity Analysis of High-Speed Railway Passengers .......................................................... 1934
Yulong Zhou, Rudong Yang, and Tianjie Xu

Prediction of Bus Travel Time between Adjacent Signalized Intersections Based on BP Neural Network ................................................................. 1941
Yuliang Guo, Zhen Yang, Hongneng Wang, Xue Yan, and Ran Liu

Research on Priority Organization Mode of Modern Tram .......................................................................................... 1949
Shanshan Liu, Yongtao Zheng, Shujie Zheng, Yu Fu, and Minshen Quan

An Optimization Model for Urban Rail Transit Crew Pairing Problem Based on Workload Equilibrium ................................................................. 1960
Zhiyuan Huang, Wei Zhang, Feng Zhou, and Zezan Cai

Research on Elements of Urban Rail Transit Crew Scheduling .......................................................................................... 1969
Rudong Yang, Wenbin Wang, Wei Zhagn, and Yulong Zhou

Empirical Analysis of Failing to Board and Traveling Backward in an Overcrowded Urban Rail Transit System ................................................................. 1979
Ya-Nan Li, Feng Zhou, Ling Hong, and Wei Zhu

Multi-Intelligent Railway Emergency Solutions and Effect Evaluations .......................................................................................... 1990
Hanqi Wang and Xiaoqing Zeng

A Simulation Model to Calculate Turn-Back Capacity in Metro Stations .......................................................................................... 1997
Ling Hong

The Method of Analyzing Metro Complaint Data and Its Application .......................................................................................... 2005
Jing Teng, Chang-Peng Guo, Jian-Lin Li, Yue-Qin Chen, and Xin-Zheng Yang

Information Flow Analysis on Forced Stop Management of Operation Control System in High-Speed Maglev Transportation ................................................................. 2017
Yijun Chen, Huahua Zhao, Yi Yu, and Zhangyang Li

Study on URT Train Organization Improving Method under Abnormal Conditions Based on Supplementary Collision Avoidance System .......................................................................................... 2026
Gang Wang, Tuo Shen, and Xiaoqing Zeng
A Scheduling Optimization Model of Coordinated Operation between Rail Transit and Bus Transit ................................................................. 2033
Mengdi Wang, Zhirui Ye, and Yueru Xu

Mathematical Programming Model for Passenger Inflow Control of Urban Metro Stations in Peak Hours .......................................................... 2045
Min Zhou

Train Speed Measurement and Position Identification Approach Based on Confidence Interval ................................................................. 2053
Ke Cui and Decun Dong

Study on Satisfaction Evaluation of Public Bicycle in Xi’an .................................................. 2061
Jianyou Zhao, Sanchao Li, Yang Liu, and Zheng Yang

Fast Detection and Evaluation Methods of Semi-Rigid Base Compaction Quality Based on Portable Falling Weight Deflectometer (PFWD) .................................................................................. 2072
Haoran Xia, Long Wang, and Xiaoguang Xie

Research on Traffic Control Mode Selection of Ring-Intersection ........................................ 2081
Si Qin, Shengrui Zhang, Xinchao Chen, and Jiangling Wu

Traffic State Evaluation under Interrupted Flow Based on Delay Vector .................................. 2089
Wenwen Qin and Fan Yang

A System Dynamics Model for Congestion Formation Mechanism at Intersection Group ............................................................................. 2100
Xuecai Xu, Junhao Shao, and Xiangjian Luo

The Method of Successive Averages and Method of Successive Weighted Averages for Logit-Based Stochastic User Equilibrium Assignment ......................................................... 2114
Manyuan Zhang and Lin Cheng

Schedule-Driven Signal Priority Control for Modern Trams Using Reinforcement Learning .............................................................. 2122
Lun Zhang, Shan Jiang, and Zheng Wang

Optimization Model of Signalized Intersections Considering Vehicle Emission Characteristics ........................................................................ 2133
Jingya Zhao and Pan Liu

Congestion Charging on New Road Incorporating Induced Traffic in China .................................................. 2143
Nan He and Baoyu Hu

Research on Two-Lane Ramp Traffic Characteristics Based on Single-Lane Exit .................................................. 2152
Jiangang Qiao and Qiuyu Ke
Evaluation of the Impacts of Driver Population Heterogeneity on Capacity and Traffic Performance Using Microscopic Simulation .......................................................... 2158
Haifei Yang, Zhong Wu, Changjiang Zheng, and Jian Lu

How Taxi Operation Change in the Development of E-Hailing APPs: A Case Study in Shanghai, China ................................................................. 2167
Qian Ye, Jian Cen, Xiaohong Chen, and Hua Zhen

Research on Bus Priority Control of Intersection Downstream Stop ........................................................ 2178
Dan-Ting Zhao, Hong Chen, and Long Zhang

Construction of the Block Traffic-Violation Penalty: Illegal Parking as an Example .......................................................... 2189
Xiancai Jiang

Operation Efficiency and Safety Analysis of Integrated Ramp Metering and Mainstream Traffic Flow Control via Variable Speed Limits on Freeway ............... 2201
Yuan Zheng, Xu Qu, Bin Ran, Jian Zhang, and Guanchen Dai

Impact Analysis on Setting Spacing of Chevron Alignment Sign Based on Driving Simulator .......................................................... 2211
Yanqun Yang, Aixiu Hu, Sheng Yu, and Yu Liang

Benefit Zone Analysis of the Shared Lane Design at Signalized Intersections in China .......................................................... 2222
Jiaming Wu, Pan Liu, and Jie Bao

Research on Bike Sharing Routing and Scheduling Optimization for Different Time Periods .......................................................... 2231
Jing Kong, Da-wei Hu, and Chen Sang

Simulation Analyses of Two On-Ramp Lane Arrangements .......................................................... 2242
Xu Wang and Xiaobo Qu

A Study on the Factors and Management Strategy of Traffic Block Incidents on National Highway .......................................................... 2252
Honghai Li, Juan Wen, Jian Gao, Fan Zhang, and Sheng Yin

Analysis of Route Choice Behavior Based on Travel Time Reliability .......................................................... 2261
Guobin Lin and Mengyang Wang

Golden-Ratio Genetic Algorithm Based Parameter Calibration of VISSIM Simulation Model .......................................................... 2270
Lun Zhang, Wenwen Zhao, and Zheng Wang

An Optimal Timing Model for Continuous Flow Intersection with Non-Motorized Traffic .......................................................... 2278
Yuntao Chang and Yitong Wang
A Traffic Network Capacity Reliability Considering Mean-Excess Travel Time with Perception Error ............................................................... 2290
Junjie Zhang, Yunpeng Wang, and Guangquan Lu

Optimizing Traffic Flow among Traffic Zones Using Macroscopic Fundamental Diagrams ........................................................................... 2301
Yingying Ma, Yaolu Lv, Jianmin Xu, and Xiaowen Yan

Research on Active Discrimination of Commercial Vehicle’s Fatigue Driving Based on Highway Passing-Through Information .................................. 2311
Keng Zhang, Shuai Chen, and Sen Zhang

Studies about Characteristics of the Mixed Non-Motorized Traffic Flow in Shanghai of China ........................................................................ 2317
Xueli Fang, Xiaohong Chen, Wenhua Jiang, and Kui Yang

Collaborative Control Based on Fuzzy Control .......................................................................................................................... 2330
Xiaoyu Hou, Yaona Li, and Siyu Hu

A Study on Coordinated Urban Traffic Guidance ................................................................................................................ 2340
Meng Wu and Shuang Li

A Study on the Optimization of Urban Traffic Micro-Circulation Network Based on Road Network Pressure Equilibrium ..................................... 2348
Shuang Li and Meng Wu

Research on the Applicability of Different Kinds of Exit and Entrance Combination Modes on Urban Expressway ..................................................... 2358
Chenqing Liu, Jianjun Shi, Jing Cao, Changmei Dong-Ye, and Zeyu Shi

Traffic Flow Characteristics and Congestion Evolution Rules for Urban Road Networks during Special Events ........................................................................ 2368
Zhongyu Wang, Hang Yang, and Bing Wu

Research on Autonomous Vehicle Safety Tests in China: Part One— From the Perspective of Driving Test ................................................................. 2381
Hanzhong Pan, Wenjie Lu, and Dongwei Qin

The Research and Application of the Traffic Control Method of Setting Left-Turn Lane Using Exit Lanes ................................................................. 2388
Zhangbin Weng, Jian Rong, Chenjing Zhou, Xin Chang, and Ankang Zhu

Urban Parking Characteristic Investigation and Parking System Evaluation: A Case Study in Xi’an ....................................................................... 2399
Chenlin Fu and Min Huang

© ASCE
Ramp Metering and Speed Limit Control Coordination Strategy on Urban Expressways .................................................. 2411
Dekang Zhang, Jianjun Shi, Pengfei Li, and Chenqiang Liu

Evolutionary Game Theory-Based Choice Behavior Analysis of Order Dispatching Modes for Online Car-Booking Service .................................................. 2417
Zhu Bai, Weidong Liu, and Yan Xing

Urban Rail Transit Feeder Bus Departure Interval Optimization Based on Multi-Objective Programming .................................................. 2426
Fang-Fang Yan and Wei-Xiong Zha

Dynamic Fare Multiplier Setting Mechanism for Tailored Taxi Service Based on Multinomial Logit Model .................................................. 2434
Yaning Xue, Dongyuan Yang, and Enjian Yao

Gradient Boosting Regression Tree for Traffic Flow Prediction Considering Temporal and Spatial Correlations .................................................. 2444
Shuaichao Zhang, Xingbin Zhan, and Xiquan (Michael) Chen

Adaptability Evaluation of Internet of Things in Transportation Management .................................................................................. 2455
Jingbo Zhang, Hui Hu, Hai Ma, and Dongdong Zhang

A Comprehensive Analysis on Logistics Center Location Determination .................................................. 2463
Yong Zhang and Zezhou Yang

Simulation and Evaluation of Double Lane Traffic Running Rules with Uncertainty of Driver Parameters .................................................. 2472
Yizhe Wang, Xiaoguang Yang, Guizheng Zhang, and Yangdong Liu

Research on the Setting Method and Applicability of Comprehensive Waiting Area at Signalized Intersections in Shenzhen .................................................. 2484
Xiongfei Zhang, Yifan Xiang, and Qin Luo

Prediction Model for Traffic Congestion Based on the Deep Learning of Convolutional Neural Network .................................................. 2494
Jiangfeng Wang, Botong Wang, Sichu Zhou, and Cuicui Li

Impact of Advisory Speed on Intersection Traveling Efficiency in Connected Vehicles Environment .................................................. 2506
Jiangfeng Wang, Sichu Zhou, Botong Wang, and Jiarun Lv

The Identification of Virtual Traffic Bottleneck Based on Traffic Equilibrium Assignment .................................................. 2516
Lijia Wu, Jian Lu, and Yunxuan Li
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Multi-Objective Optimization Method for Taxi Stands Location</td>
<td>2524</td>
</tr>
<tr>
<td>Selection</td>
<td></td>
</tr>
<tr>
<td>Cheng Zhang and Xiaoguang Yang</td>
<td></td>
</tr>
<tr>
<td>Hybrid Management in Private-Public Mixed Transportation Networks</td>
<td>2531</td>
</tr>
<tr>
<td>Research on Urban Road Congestion Charging: A Case Study of Xi’an</td>
<td>2538</td>
</tr>
<tr>
<td>Hi-Tech Industries Development Zone</td>
<td></td>
</tr>
<tr>
<td>Jun Zeng, Zhenjun Zhu, and Hongsheng Chen</td>
<td></td>
</tr>
<tr>
<td>An Improvement in Level of Taxi Operation Brought by Taxi-Hailing</td>
<td>2547</td>
</tr>
<tr>
<td>Apps: A Case in Shanghai</td>
<td></td>
</tr>
<tr>
<td>Ye Li, Yuanlin Liu, and Tian Xia</td>
<td></td>
</tr>
<tr>
<td>Location of Signs at Tunnel Entrance and Layout Combination of Signs</td>
<td>2559</td>
</tr>
<tr>
<td>and Markings</td>
<td></td>
</tr>
<tr>
<td>Cancan Song, Zhongyin Guo, and Yadan Qiao</td>
<td></td>
</tr>
<tr>
<td>Causal Analysis on Travelers’ Perceptions in Traffic States</td>
<td>2570</td>
</tr>
<tr>
<td>Heng Shi, Zhiliang Ye, Huizhao Tu, and Hao Li</td>
<td></td>
</tr>
<tr>
<td>Study on the Equivalent Travel Time Cost of Road Ride Quality</td>
<td>2578</td>
</tr>
<tr>
<td>Deterioration</td>
<td></td>
</tr>
<tr>
<td>Min-Hua Shao, Xiu-Meng Yun, and Li-Jun Sun</td>
<td></td>
</tr>
<tr>
<td>Optimization of One-Way Traffic Organization in the Old City:</td>
<td>2588</td>
</tr>
<tr>
<td>A Case Study in Nanqiao New Town</td>
<td></td>
</tr>
<tr>
<td>Si-Jin Long, Shi-Wen Zhang, Yue-Xin Lou, and Jian Lu</td>
<td></td>
</tr>
<tr>
<td>Road Functional Characters of Shanghai Based on Intersection</td>
<td>2597</td>
</tr>
<tr>
<td>Turning Movement Proportion</td>
<td></td>
</tr>
<tr>
<td>Xujian Guo and Hangfei Lin</td>
<td></td>
</tr>
<tr>
<td>Delay Analysis for Shared Right-Turn Lane Considering Influence</td>
<td>2608</td>
</tr>
<tr>
<td>of Bicycles</td>
<td></td>
</tr>
<tr>
<td>Chuping Yang and Wei Wang</td>
<td></td>
</tr>
<tr>
<td>A New Method for Detecting Critical Threshold for Setting Ramp</td>
<td>2619</td>
</tr>
<tr>
<td>Metering by Considering the Safety Issue during Merging</td>
<td></td>
</tr>
<tr>
<td>Wenjing Wu and Fangwu Ma</td>
<td></td>
</tr>
<tr>
<td>Investigation of Lane-Changing Behaviors at the Intersection with</td>
<td>2627</td>
</tr>
<tr>
<td>Off-Ramps and Lanes Exchanging</td>
<td></td>
</tr>
<tr>
<td>Yu Bai, Pengyue Tu, and Siqi Li</td>
<td></td>
</tr>
</tbody>
</table>
Operating Characteristics of Bicycle Groups: Statistics Analysis with the Data in Nanjing ................................................................. 2638
Li Zhu, Xingchen Yan, Tao Wang, Jun Chen, and Xiaofei Ye

Reversible Lane Segment Design for Urban Signalized Intersection: A Case Study ................................................................. 2648
Heng Ding, Yu Zhang, Han-Yu Yuan, Xiao-Yan Zheng, and Fang Guo

Analysis of Influence Factors of Electric Vehicle on the Following Characteristics ................................................................. 2657
Linghui Xu, Jia Lu, Jian Zhang, and Xiaoxuan Chen

Modeling Waiting Endurance Time of E-Bike at Signalized Intersection ................................................................. 2669
Jibiao Zhou, Qunyan Wang, Sheng Dong, and Renfa Yang

Optimization Method of Vehicle Route Scheme for Bus Rapid Transit ................................................................. 2680
Li-Juan Zheng and De-Cun Dong

Identification of Congestion Bottleneck in Urban Road Networks ................................................................. 2690
Junqing Shi, Sulan Li, Zhiqiang Li, Hongwei Zhu, and Ruiping Wang

Modeling and Simulation of Oversaturated Traffic Flow Based on Cellular Automata ................................................................. 2697
Gang Ren, Yi Wang, Jia-Jie Chen, and Hang Jiang

A Study of Drivers’ Awareness and Acceptance on PR China National Highway Route Marker ................................................................. 2704
Nina Zhao, Ming-Ling Sun, and Yuan Zhao

A Study on Highway Corridor Traffic State Identification Based on Data Fusion of DSRC Data and ETC Data ................................................................. 2712
Fan Zhang, Shuyun Niu, Jian Gao, and Marianthi Mermygka

Dijkstra-Based Dynamic Algorithm for Strongest Road Capacity ................................................................. 2725
Teng Long, Bo Sun, Qingxia Yang, and Guangtao Long

Policy, Environment, and Energy

Determining Road Toll for Multimode Transportation Network Based on Bi-Level Programming Model Applying Super-Network ................................................................. 2731
Rong Huang, Wei Wang, and Jiankun Du

Mathematical Models for the Matching and Routing Problem of Customized Bus Service with Multiple Origins and Destinations ................................................................. 2741
Kai Huang, Yu Gu, Haoming Yang, Kun An, and Zhiyuan Liu
Modeling Asymmetric and Non-Additive P&R Schemes in Multimodal Network Equilibrium Problem .......................................................... 2751
Xinyuan Chen, Zhiyuan Liu, Inhi Kim, and Qian Cheng

Arterial Green-Wave Band Design with Tram Priority .......................................................... 2761
Zhiwei Chen and Hao Wang

Study on the Threshold of Bus Arrival Rate of Shared Bus Stops Based on Queuing Probability .......................................................... 2773
Qi Yang, Li Lin, Jun Chen, and Wei Guang Wu

Switch to Subway SP&R or Not: Impacts of Multimodal Traveler Information .......................................................... 2781
Hongcheng Gan

Competitive Model of Transportation Modes Based on Group Size Difference .......................................................... 2791
Jiafa Zhao, Yusheng Ci, Shuni Zheng, and Lina Wu

Improvement of Passenger Choice Based on Multimodal Traffic Impedance Model in Integrated Transportation Network .......................................................... 2798
Yi Zhu, Jun Chen, and Hao Wang

Attention Characteristics of Drivers under Risky Traffic Situations .......................................................... 2809
Qian-Qian Xu, Hua-Sen Wan, Hai-Ping Mo, and Ning-Ning Zhang

Fault Injection Technique Applications in Vehicle Operation Control System Simulation Tests for High-Speed Maglev Transportation .......................................................... 2820
Huahua Zhao, Yijun Chen, Zhiming Liao, and Yi Yu

Bike-Share System Users’ Satisfaction Assessment Based on a Structural Equation Model .......................................................... 2830
Yifan Chen, Feifei Xin, Yitong Ye, and Yuliang Zhang

Analysis on Transportation Multi-Mode Choice Behavior: A Case Study of Suzhou, China .......................................................... 2838
Fanglei Jin, Enjian Yao, and Xuesong Wang

Optimal Bus Stop Location to Coordinate Transfer between Urban Rail Transit and Feeder Bus near Urban Road Intersection .......................................................... 2847
Gang Ren, Zhi-Gang Yu, Chun-Qiang Yuan, Hui Xue, and Qiu-Yun Jiang

Research on Public Bicycle Shuttle Demands in Urban Rail Transit Station .......................................................... 2856
Gang Ren, Jia-Jie Chen, Hui Xue, Qiu-Yun Jiang, and Chun-Qiang Yuan

Study on the Location of Hub City Based on Container Multimodal Transport .......................................................... 2866
Xueqi Li and Wei Wang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Road Maximum Flow Control Method Based on Mixed Model</td>
<td>2876</td>
</tr>
<tr>
<td>Deyong Guan, Lianhua An, and Lei Huang</td>
<td></td>
</tr>
<tr>
<td>Inland Port Location Planning Based on User Equilibrium</td>
<td>2886</td>
</tr>
<tr>
<td>Jingyi Wei, Daxin Tian, Hui Rong, Peng Guo, Wenyang Wang, Jinfeng Gong, Yunpeng Wang, and He Liu</td>
<td></td>
</tr>
<tr>
<td>Different Impacts of Socio-Demographic Characteristics on Travel Mode Choice of Urban and Rural Resident in Eastern China</td>
<td>2893</td>
</tr>
<tr>
<td>Mayila Aizezi, Lei Zhai, and Zhigang Yao</td>
<td></td>
</tr>
<tr>
<td>Car Sharing to Develop in China</td>
<td>2902</td>
</tr>
<tr>
<td>Hui Gao and Zhendong Qian</td>
<td></td>
</tr>
<tr>
<td>Study on the Operational Status of Shanghai EVCARD Electric Vehicle Car-Sharing Project</td>
<td>2912</td>
</tr>
<tr>
<td>Yingying Liu and Xiaohong Chen</td>
<td></td>
</tr>
<tr>
<td>Analysis of Thermal Properties of Rejuvenated Asphalt Using Molecular Dynamic Simulations</td>
<td>2924</td>
</tr>
<tr>
<td>Bin Sun</td>
<td></td>
</tr>
<tr>
<td>Low Carbon Development Trends and Emission Reduction Potential</td>
<td>2932</td>
</tr>
<tr>
<td>Analysis of Car Transport in China</td>
<td></td>
</tr>
<tr>
<td>Zhenyu Li and Chao Li</td>
<td></td>
</tr>
<tr>
<td>Vehicle Emission Estimation Based on Video Tracking of Vehicle Trajectories</td>
<td>2942</td>
</tr>
<tr>
<td>Qingyang Xia, Yangzhou Chen, and Lan Cheng</td>
<td></td>
</tr>
<tr>
<td>Investigation and Analysis of the Metro Noise in Xi’an</td>
<td>2952</td>
</tr>
<tr>
<td>Hui Peng, Hanxuan Dong, Xiaotian Zhang, Qiannan Ai, and Jingrui Yang</td>
<td></td>
</tr>
<tr>
<td>Estimating Life-Cycle CO₂ Emissions from Freeway Greening Engineering</td>
<td>2962</td>
</tr>
<tr>
<td>Di Li, Yuan-Qing Wang, Yuan-Yuan Liu, Shuo Feng, and De-Wei Wang</td>
<td></td>
</tr>
<tr>
<td>Estimating Life-Cycle CO₂ Emissions of Typical Freeway Passenger Vehicles</td>
<td>2972</td>
</tr>
<tr>
<td>Shuo Feng, Yuan-Qing Wang, Yuan-Yuan Liu, Di Li, and De-Wei Wang</td>
<td></td>
</tr>
<tr>
<td>Research on Design and Simulation of Dynamic Performance of Pure Electric Vehicle Based on ADVISOR</td>
<td>2982</td>
</tr>
<tr>
<td>Jianyou Zhao, Ke Gong, Haoyu Zhang, Zheng Yang, and Sanchao Li</td>
<td></td>
</tr>
<tr>
<td>Research on the Relationship between Driving Vibration Noise and Tire-Road Contact Pressure</td>
<td>2990</td>
</tr>
<tr>
<td>Liyuan Liu, Zhang Chen, and Xiao Zhang</td>
<td></td>
</tr>
</tbody>
</table>
On-Road Emissions and Fuel Consumption of Tourist-Oriented Heavy Duty Diesel Vehicles in Beijing ................................................................. 3000
Ye Zhang and Yanyan Chen

Development of an Eco-Driving Control Algorithm in Urban Area Using Connected Vehicle Technology .................................................. 3010
Menglin Yang, Pan Liu, Hao Yu, and Jie Bao

Dynamic Environmental Assessments on a Network Level Based on DTA .......................................................................................... 3020
Yu Chen and Hao Li

Green Level and Sustainability Evaluation with Bus Enterprises .......................................................... 3032
Yue Qian, Liyuan Ding, Wenjing Wang, and Guoliang Qiao

Vehicle Emission Comparisons along Electronic and Manual Toll Collection Lanes ................................................................. 3042
Yu Yan, Zhirui Ye, Chao Wang, and Jiaojiao Zhu

Vehicle Emission Modeling and Analysis for the Low Carbon Dioxide Travel Modes in Dongguan, China ............................................ 3059
Liu Yang, Yuanqing Wang, and Zihe Zhang

A Comparison of Different Transportation Strategies for Road Freight Enterprises from a Carbon Footprint View ........................................ 3066
Yi Gao

Analyzing Usage Behaviors and Energy Consumption of Electric Vehicles with the Actual Driving Data ............................................. 3074
Dan Li, Hongwei Guo, Yuan Zou, and Wuhong Wang

Optimizing Fuel Consumption and Passenger Comfort of Urban Bus Operation at Intersections .................................................. 3083
Yuchuan Du and Linghan Zheng

Optimal Maintenance Scheduling for Minimizing the Network Fuel Consumption ................................................................. 3094
Cheng-Long Liu, Yu-Chuan Du, and Yang Song

Analysis of Transit Bus Emission along an Urban Corridor Based on the CAN Bus Data and IC Card Data ........................................ 3106
Yanyan Chen, Chengcheng Song, Wang Han, and Ning Chen

Study on Carbon Emissions of Urban Rail Transit with Different Land Use Patterns ................................................................. 3117
Yufeng Shi, Zhiwang Qian, and Xiaolei Du
A Train Timetable Optimization Approach for Metro Rail Operations Based on Regenerative Energy Utilization ................................................................. 3122
Tianjie Xu, Feng Zhou, Yulong Zhou, and Linghui He

Urban Rail Transit Environmental Benefits .......................................................... 3132
Bin Shang, Chuanzhong Yin, Yingchun Zhang, and Yongbin Jia

Design of Road Pricing Strategies under Emission Uncertainty ................................ 3140
Xijie Li, Shanshan Wang, Ying Lv, and Kailong Zhang

Analysis of Vehicle Stop-and-Go Driving Behaviors at Signalized Intersections ................................................................. 3150
Sicong Zhu, Inhi Kim, Qi Zhao, Guohua Song, Lei Yu, and Zhigui Chen

A Study on the Differences between Bicycle Travelers' Fatigue Perception and Physical Expenditure ................................................................. 3161
Congying Li and Jialiang Xue

Research on Credit Evaluation Index Systems in the Transportation Sector ................................................................. 3169
Zhihong Chen, Lizeng Mao, Di Song, Qi Zhang, Xiao Huang, and Yu Wang

The Optimization and Adjustment of Passenger Transport Hub Based on the Urban Spatial Evolution ................................................................. 3177
Wenjiao Qiao, Zhiqing Zhang, Chenglin He, Bozhao Shen, and Hao Liu

Survey Method for Evaluation of Pedestrian Level of Service on Sidewalks ................................................................. 3185
Dongdong Wu, Lin Zhao, Yang Bian, Jin Rong, and Xuan Zhang

Evolutionary Game Analyses of Private Capital Investment in Public Transportation ................................................................. 3196
Yunqiang Xue, Hongzhi Guan, Ping Wu, and Huanmei Qin

Balance of Reliability and Efficiency in Adaptive Signal Control Strategy ............. 3206
Ding Wang and Wenxin Qiao

Evolution Characteristics of Bus Dynamic Network Based on Vehicle Distribution ................................................................. 3216
Yinan Zhao, Liyang Wei, and Liufang Cao

Route Choice Optimization of Demand Responsive Transit Based on Analytical Hierarchy Process ................................................................. 3227
Panpan Ding, Rui Li, Yuexin Chen, Changjiang Zheng, and Jinxing Shen

© ASCE
Curb Parking Pricing Model Cooperating with Off-Street Parking Price in Cade Business District ................................................................. 3237
Jin-Long Li, Xia Luo, Nian Zhang, and Peng-Fei Zhai

Perspectives on Opening a Gated Community and Its Effect ................................................................. 3248
Chao-Qun Song, Yuanqui Bao, Tian-Qi Gu, and Inhi Kim

Structural Equation Modeling for Travel Behavior of Residents in Large Residential Community ................................................................. 3258
Haiyan Sun and Dongyuan Yang

Vehicle Lane Changing Model Based on Genetic Algorithm and Random Utility ................................................................. 3270
Qian-Nan Ai, Chao-Qun Ma, and Han-Xuan Dong

Towards Sustainable Transport: A Transit Signal Priority Model Based on Emission and Delay Reduction ................................................................. 3280
Wenxin Qiao, Yujie Sun, and Ding Wang

Study on Residents’ Choice of Non-Work Tour Based on Logistic Model ................................................................. 3290
Ping Zhang and Yangshijia Sun

Planning and Design of Urban Bus Microcirculation System Based on Bi-Level Programming ................................................................. 3301
Jianyou Zhao, Haoyu Zhang, Zheng Yang, Ke Gong, and Sanchao Li

A Typology of Public Bicycle Stations Based on an Indicator Evaluation System to Analyze the Accessibility: A Case Study of Hohhot ................................................................. 3311
Shuang Yang, Jinxin Cao, Changjiang Qian, and Kaiyuan Duan

Analysis of Rental Demand for Public Bicycle Sites Based on Logit Model ................................................................. 3321
Yaqiong Zhao, Jinxin Cao, and Yingqi Wang

The Elderly’s Joint Choice Behavior of Travel Mode and Departure Time in Shenzhen ................................................................. 3331
Hongxin Zhang, Yeqin Wang, and Binglei Xie

Research on Urban Street Design and Traffic Management in Historical District ................................................................. 3341
Zhao Fang, Zhirui Ye, Xiaomeng Shi, and Gang Sun

Research on Road Network Planning of Small and Medium-Sized Cities of Mountainous Areas Using Nanhua County as a Case ................................................................. 3351
Shuai Chen

A Wavelet Neural Network Method for Evaluating Sustainable Development of Urban Rail Transit ................................................................. 3361
Jinxin Li and Wanming Liu
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on the Influence of Built Environment of “Urban Village” on Travel Mode Choice in Shenzhen</td>
<td>3370</td>
</tr>
<tr>
<td>Le Yu, Binglei Xie, Kunpeng Zhang, and Lei Jin</td>
<td></td>
</tr>
<tr>
<td>Travel Mode Choice Analysis of Urban Corridor Based on Fuzzy Comprehensive Evaluation</td>
<td>3380</td>
</tr>
<tr>
<td>Yue Wu, Rui Li, Genghua Ma, Yi Cao, and Rui Zheng</td>
<td></td>
</tr>
<tr>
<td>Optimal Model for Tour Route Considering the Multimodal Transportation</td>
<td>3390</td>
</tr>
<tr>
<td>Xiong-Bin Wu, Hong-Zhi Guan, and Lei Zhao</td>
<td></td>
</tr>
<tr>
<td>Discussion on Profit Distribution Model under the Shared Parking Policy</td>
<td>3398</td>
</tr>
<tr>
<td>Xiaowei Hu and Xiang Liu</td>
<td></td>
</tr>
<tr>
<td>Pricing Policy between Container Terminals with Different Capital Natures</td>
<td>3407</td>
</tr>
<tr>
<td>Gang Dong</td>
<td></td>
</tr>
<tr>
<td>Do Demographic Factors Have an Effect on Resident’s Satisfaction of the Transportation System? A Case Study of Nansha District in Guangzhou</td>
<td>3413</td>
</tr>
<tr>
<td>Yingying Ma, Xiangli Zou, and Jianmin Xu</td>
<td></td>
</tr>
<tr>
<td>Understanding the Impacts of Interchanges on the Traffic Status of Urban Road Networks Using Microscopic Fundamental Diagrams</td>
<td>3423</td>
</tr>
<tr>
<td>Yingying Ma, Wenjing Wang, and Jianmin Xu</td>
<td></td>
</tr>
<tr>
<td>Analysis on Time Window of Shared Parking in Hospitals Based on Parking Behaviors</td>
<td>3435</td>
</tr>
<tr>
<td>Qin Chen, Peng He, Jun Chen, and Qi Yang</td>
<td></td>
</tr>
<tr>
<td>Forecast of Time Variant Parking Demand by Time Sequence Models for Multi-Type Hotels in Urban Centers</td>
<td>3445</td>
</tr>
<tr>
<td>Weiguang Wu, Yuanyuan Wu, Jun Chen, and Qin Chen</td>
<td></td>
</tr>
<tr>
<td>The Design and Adjustment Method of the Shared Parking Time Window of Typical Malls in Downtown</td>
<td>3455</td>
</tr>
<tr>
<td>Qi Yang, Zhiguang Liu, Jun Chen, and Qin Chen</td>
<td></td>
</tr>
<tr>
<td>Bi-Level Programming Model of Locating Public Charging Stations for Electric Vehicles</td>
<td>3465</td>
</tr>
<tr>
<td>Xiang Liu, Ren-Yong Guo, and Chun-Yan Zhang</td>
<td></td>
</tr>
<tr>
<td>Optimal Deployment of Electric Vehicle Lanes in Mixed Transportation Networks</td>
<td>3475</td>
</tr>
<tr>
<td>Chun-Yan Zhang, Ren-Yong Guo, and Xiang Liu</td>
<td></td>
</tr>
<tr>
<td>Transit Network Planning of Chengyu City Cluster’s Intercity Railway</td>
<td>3485</td>
</tr>
<tr>
<td>Chang Liu, Lu Ma, and Xuedong Yan</td>
<td></td>
</tr>
</tbody>
</table>
The Decision Making of Bus Entering Lane-Changing Behavior Analyzed by Back-Propagation Neural Network Model ................................................................. 3496
Hongyan Xiang, Yueqi Liu, and Yunpeng Bai

Traffic Network Optimization Design Considering Vehicle Emission under Elastic Demand ........................................................................................................ 3506
Lisha Zhan, Yinping Fu, and Weixiong Zha

Station-Area Land Use Planning under the Integrated Framework of Public Transit and Land Use .......................................................................................... 3515
Yang Sun, Huan Li, Wenbo Fan, and Xinguo Jiang

A New Strategy to Optimize the Flex-Route Transit Service .................................................. 3524
Chunyang Sun, Wenquan Li, Zike Shao, and Yue Zheng

Effectiveness of Smartphone Traffic Information Provided by Smart Ningbo Tong App .................................................................................................................. 3534
Xiaofei Ye, Xingchen Yan, Shejun Deng, Jun Chen, and Yingying Zhu

Parking Location Choice Model in Mixed Residential and Commercial Land Considering Parking Sharing Policy ........................................................................... 3543
Yan Han, Wenbo Huang, Xinsen Wu, and Guang Yang

Prediction Model of Urban Traffic Performance Index Using ARIMAX ................................ 3551
Qing He, Yong-Shen Chen, Jun Qiao, Jian-Dong Qiu, and Yang Li

Effects of the Panama Canal Expansion on the U.S. Intermodal System Based RUBMRIO Model ......................................................................................... 3561
Junwei Yu and Guangmin Wang

Bike Rental Station Deployment Planning in Xi’an ................................................................ 3571
Xiao-Tian Zhang, Han-Xuan Dong, and Wan-Cang Zhu

Parking Choice Model in Resettlement Housing Area Considering Parking Sharing Policy ...................................................................................................... 3581
Yan Han, Wanying Li, Guang Yang, and Xinsen Wu

Commuting Trip Rate of the Private Cars Based on Differentiation of Household Income in Guangzhou ................................................................................. 3590
Jingxiang Huang, Yucong Hu, Manying Zhang, and Yifei Shi

A Predicting Method of Urban Traffic Network Volume Based on STARIMA Model ............................................................................................................. 3600
Deyong Guan, Lei Huang, and Qiankun Qu

Analysis on Relationship between Urban Transportation Index and Its Influencing Factors in Beijing .................................................................................... 3607
Li Zeng Mao, Zejun Li, Zhihong Chen, and Jingjing Wang
Research on Newly Traffic Distribution of Construction Project-Take Tian Yuan Xin Zuo Project as an Example ................................................................. 3617
Hui Chen, Lu Ma, and Xuedong Yan

Taxipooling: Research of the Demand and System ................................ 3627
Zheyi Zhong and Ping Zhang

Agent Simulation of Time Allocation on Daily Activity-Travel Patterns ........ 3635
Tianming Luo, Wei Wang, Min Yang, and Zehao Xin

Research of the Characteristics of Pupils’ Commuting Trip in Peak Hours Based on Questionnaire Investigation ........................................ 3645
Changmei Dongye, Jianjun Shi, Jing Cao, Chenqiang Liu, and Zeyu Shi

Cellular Automaton Model for Analyzing Traffic Flow on a Road Section .... 3655
Yao Zhang, Guoqiang Zhang, and Biqing Ye

Development and Evaluation Index System for Sustainable Urban Multi-Modal Transit Development .............................................................. 3663
Shaozhi Hong, Jinxin Li, and Huanxi Xu

Validating Train Dwell Time Estimation Model without Considerations of Passengers ................................................................. 3672
Dewei Li, Yonghao Yin, and Hong He

Improved Social Force Models Considering Heterogenous Characteristics among Social Groups .......................................................... 3682
Yan Feng and Dewei Li

Comprehensive Evaluation Method of Signalized Intersection in View of Multiple Efficiency Indexes ...................................................... 3691
Zhuoran Ji and Xiaoguang Yang

Snowfall Impact on Travel Mode Choices .............................................. 3702
Zijing Lin

Traffic Delay Analysis near the Curbside Bus Stop Based on CPH Model ........ 3710
Aihua Fan, Xumei Chen, Xiaobao Yang, Weibin Kou, and Yi Qi

Prospect Theory-Based Travel Choice Behavior Modeling: State of the Art and Critical Issues ............................................................. 3720
Zhi Zuo and Xiao-Feng Pan

An Optimized Hybrid Lane-Based Short-Term Urban Traffic Forecasting Using Artificial Neural Network and Locally Weighted Regression Models ....... 3734
Asif Raza and Ming Zhong
Transit Mixed Lane Management with Congestion Fee Based Control Technology Study: A New HOT Transit Lane Method ................................................................. 3749
Chao Zhao and Jiahao Wu

The Effect of Transportation Infrastructure on Economic Growth—From the View of Private Investment ................................................................. 3759
Dong Yang and Yan Wang

Discussion on the Planning and Design of Taxi Service Center: A Case Study of Jiangning District, Nanjing City ................................................................. 3765
Yue Wang and Fang-Fang Zheng

Analysis of Traveler Willingness to Pay for Multi-Level Public Transport Based on an Ordered Logit Model ................................................................. 3775
Na Li, Hai Yan, Xiao-Ming Liu, Wen-Ping Zhang, and Lu-Ning Jin

Multi-Level Integrated Optimization Methods for Urban Traffic Structure ............................................................................................................. 3785
Zhenjun Zhu, Xiucheng Guo, Jun Zeng, and Hongsheng Chen

Travel Cost of Private Cars in Metropolitan Areas with the Impact of Traffic Congestion: An Empirical Study in Beijing ................................................................. 3793
Ze Liu, Minzheng Sun, Hongwei Guo, Yuejun Liu, and Wuhong Wang

Combined Parking Pricing Forecasting Model Based on Time Series Forecast and Regression Analysis .................................................................................. 3803
Meng-Chen He, Jin-Long Li, Xiang-Chen Li, and Nian Zhang

Characteristic Variables and Behavior Analysis of Simple and Complex Non-Work Trip Chains Base on Binary Logit Model ................................................................. 3811
Yuanlin Liu and Ye Li

Comparative Analysis of Different Driving Rules in Freeways Based on Cellular Automata Model and Analytic Hierarchy Process ................................................................. 3822
Guizheng Zhang, Jianhong Ye, Yizhe Wang, and Weiwei Jing

Study on the Effect of Traffic Analysis Zone Design on Road Network Flow Assignment: Based on City Madrid ............................................................................. 3833
Menglu Jiang, Minhua Shao, and Lijun Sun

A Forecasting Model of the Proportion of PPR in Urban Mass Transit System: A Case Study of Chongqing ............................................................................. 3843
Yan Cheng, Xiafei Ye, Qingxing Yu, and Lifeng Zhou

Exploration of Daily Travel Time Stability under the Context of Urban Expansion: A Case Study in 85 Chinese Cities ............................................................................. 3854
Xiaohong Chen, Xi Cai, Hua Zhang, Jianhong Ye, and Lianghui Qian

© ASCE
The Impact Analysis of New Parking Lot in Large Business Center
Yan Li, Xiaohong Chen, and Kaiguo Li

Road Congestion Pricing Based on Bi-Level Programming Model
Shiwen Zhang, Xiaonan Cai, Sijin Long, Jian Lu, and Hongjun Zhang

E-Hailing Taxis Management Mode Innovation Based on the Credit Evaluation
Yuanlin Liu and Ye Li

Leisure Footpath Walking Speed and Dimension Analysis Considering Pedestrian Distinction
Yu Bai, Xueqi Lei, and Hefei Wang

Impact Analysis of Public Facilities Configuration Standard to Residents’ Non-Commuting Activities: A Case Study of Six Residential Parcels in Shanghai
Jiaorong Wu, Jingyun Hu, and Qizheng Zhu

Model to Optimize Location and Planning of Electric Car Sharing Rental Site
Ye Li and Jing Fan

Study on the Improvement of Highway Transportation Service
Linbo Li, Mengfei Cao, Yu Jiang, and Linjuan Kang

Spatial Scale Analysis and Layout Optimization of Commuting Circle Based on One-Hour’s Law: A Case Study of Shanghai Metropolis
Xiang Zhou, Xiao-Hong Chen, and Tian-Ran Zhang

Research on Supply and Demand Non-Equilibrium Depth of Urban Agglomeration Transportation System
En-Jian Yao and Tian-Wei Lu

Identifying Critical Links in Transportation Networks Based on Route Diversity Redundancy
Jun Chen, Zhaoqi Zang, Xiangdong Xu, and Chao Yang

Airport Security Screening Process: A Review
Mohamad Naji, Sherif Abdelhalim, Ahmed Al-Ani, and Hiyam Al-Kilidar

Development of Destination Choice Model for Taxi Passengers in Shanghai, China
Jiayu Zhu and Xin Ye

Development of Mode Choice Model to Understand Why Auto Owners Use Rail for Commute in Shanghai, China
Ruone Zhang, Ke Wang, Jiayu Zhu, and Xin Ye
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commuter Travel Behavior of Trip Chaining Based on Binary Logit Model</td>
<td>4009</td>
</tr>
<tr>
<td>Hongguo Zhu, Yiyi Zhang, and Zhuanglin Ma</td>
<td></td>
</tr>
<tr>
<td>Evolutionary Spatial-Economic Distribution in Port Regions in China</td>
<td>4018</td>
</tr>
<tr>
<td>Lin Feng and Liwei Yuan</td>
<td></td>
</tr>
<tr>
<td>City-Periphery Residents’ Travel Mode Captivity: Case Study of a</td>
<td></td>
</tr>
<tr>
<td>Large-Scale Residential Area in Shanghai, China</td>
<td>4038</td>
</tr>
<tr>
<td>Jinping Guan and Zhichao Guan</td>
<td></td>
</tr>
<tr>
<td>Study on Departure Station Selection Behavior of Urban Rail Transit</td>
<td>4051</td>
</tr>
<tr>
<td>under the Condition of Large Passenger Flow</td>
<td></td>
</tr>
<tr>
<td>Shipeng Xu and Xiaohong Chen</td>
<td></td>
</tr>
<tr>
<td>Game Model of the Route Selection for Bus Rapid Transit</td>
<td>4061</td>
</tr>
<tr>
<td>Hua-Wei Gong, Wen-Zhou Jin, Xiao-Dong Zang, and Qiang Luo</td>
<td></td>
</tr>
<tr>
<td>Selection and Evaluation of Road Structure Type of Urban Expressway</td>
<td>4069</td>
</tr>
<tr>
<td>Rui-Wei Fang and Xie-Dong Zang</td>
<td></td>
</tr>
<tr>
<td>Model and Simulation of Bi-Directional Pedestrian Flow Self-Organization Based on Cellular Automata</td>
<td>4077</td>
</tr>
<tr>
<td>Yongchao Song, Xueli Liu, Jie Yang, and Xiaonian Xie</td>
<td></td>
</tr>
<tr>
<td>Research on the Integrated Evaluation Method of Road Transport Modernization—A Case Study in Ningbo</td>
<td>4084</td>
</tr>
<tr>
<td>Yuqi Zhang</td>
<td></td>
</tr>
<tr>
<td>Research on the Parking Supply Strategy of the Old Community Based on Livable Environment</td>
<td>4093</td>
</tr>
<tr>
<td>Shuang Li, Ru-Hua Zhang, and Yue-Chun Ge</td>
<td></td>
</tr>
<tr>
<td>A Self-Adaptive Step-Size Sensitivity Based Heuristic Method for Road Network Capacity Problems</td>
<td>4100</td>
</tr>
<tr>
<td>Muqing Du, Heqing Tan, Xiaowei Jiang, and Lin Cheng</td>
<td></td>
</tr>
<tr>
<td>Study on Application for Parking Demand Prediction with Scenario Analysis</td>
<td>4110</td>
</tr>
<tr>
<td>Yong Xue, Changqiao Shao, and Yilin Chen</td>
<td></td>
</tr>
<tr>
<td>Agent-Based Spatial Economic Simulation of Highway Development and Industrial Transfer: A Case Study of Guangdong Province</td>
<td>4121</td>
</tr>
<tr>
<td>Ying Xu and Ling Xue</td>
<td></td>
</tr>
<tr>
<td>Coordination and Optimization of Bus Lines and Rail Transit Based on Clustering Analysis</td>
<td>4132</td>
</tr>
<tr>
<td>Lin Wang, Mengke Zhang, and Yiyuan Ma</td>
<td></td>
</tr>
</tbody>
</table>
Research on Model of the Urban Public Transport Financial Subsidy .......................................... 4142
Xueke Shang and Xiaofa Shi

A Multi-Layer Evolution Algorithm for Optimizing Highway Alignments .................................. 4151
Chi Zhang, Xiao-Min Yan, Xing Huang, Tian-Yu Zhang, and Wen-Jun Zhu

Concession Period for PPP Model of Expressway Based on Dynamic Trilateral Option-Game Theory ................................................................. 4163
Ying-Wei Ren and Jia-Ying Hoa

Performance Evaluation of the Keep-Right-Except-to-Pass Rule .................................................. 4170
Huiting Yang, Wei Deng, and Dingxin Wu

Sensitivity Analysis of Bus Lane with Intermittent Priority Based on Cellular Automaton .................. 4181
Ding-Xin Wu, Wei Deng, Yan Song, Hui-Ting Yang, and De-Wen Kong

Traffic Safety, Security, and Emergencies

Velocity Discreteness in Heterogeneous Traffic Flow under Meta-Stable State ................................ 4189
Yan Li

Overview Research of Influence of In-Vehicle Intelligent Terminals on Drivers’ Distraction and Driving Safety .............................................................. 4197
Yi Luo, Yan Gao, and Zhidong You

A Statistical Analysis of Road Traffic Accidents Involving Children in Beijing .................................. 4206
Mingyue Miao and Yanqun Yang

Evaluation of Pedestrians Crossing Behavior at Crosswalks by Age and Gender .............................. 4220
Yao Wu, Jian Lu, Yue Chen, and Jibiao Zhou

Vehicle Trajectory Typologies at Curved Sections of Complex Two-Lane Mountain Roads ............... 4230
Jin Xu, Xiao Luo, and Yiming Shao

The Design of Human Machine Interface of Head Up Display (HUD) in a Complex Road Environment ................................................................. 4239
Changyu Qian, Liya Yao, and Kun Wang

Research on Curve Radius Design Based on the Car-Road Coupling Mechanism .............................. 4249
Qiang Tu, Lin Cheng, and Qiaozhen Wang
Research on Dynamic Nature of Dilemma Zone at Signalized Intersections ................................................................. 4258
Huilin Zhang, Lin Cheng, Qiang Tu, and Qiaozhen Wang

Effect of Horizontal Geometric Features of Road on Trajectory and Speed of Vehicle under Driving Pattern of Curve Cutting: A Simulation Study .................................... 4267
Jin Xu, Wei Lin, and Yi-Ming Shao

Visual Search Pattern of Novice and Veteran Drivers on Rural Road Dangerous Sections ............................................................................................................................... 4284
Liang Zhao

Detection of Drivers’ Moderate Drowsiness Using a Wavelet-Entropy-Based Smart Algorithm ............................................................................................................. 4292
Xiaohong Chen, Lishengsa Yue, Zhizhou Wu, and Yue Wang

Case Study on Traffic Safety Improvement of Access Point in Urban Main Road ........................................................................................................................................ 4302
Feng Lu and Hao Luo

Research on the Illegal Occupancy Behavior of Motorway Emergency Lane Based on the Theory of Planned Behavior ........................................................................... 4310
Zhongxiang Feng, Yingjie Du, Lei Wang, Jing Liu, Weihua Zhang, Liping Yang, and Jingjing Zhan

Traffic Control Management of Long Expressway Tunnels: A Simulation Study ................................................................................................................................. 4320
Jun-Feng Zhang, Shuo Liu, Lan-Fang Zhang, and Shou-En Fang

Development and Validation of Vehicle Safety Margin for Design of Highway Horizontal Curve .............................................................................................................. 4331
Yikai Chen, Ting Shi, Qin Shi, Changjun Wang, and Pingfan Li

Collision Risk Research at Intersecting Routes Based on Performance Based Navigation ...................................................................................................................... 4340
Dongbin Li, Xiaohao Xu, and Xiong Li

Study of the Drivers' Visual Information in Non-Light Controlled Intersections Based on the Eye Tracker ........................................................................................................ 4351
Deli Han, Don Liu, and Yan Zhao

Gender and Emotion Influence on the Head-On Time-to-Collision Estimation .......................................................................................................................... 4360
Shuai Sun, Rende Yu, Ting Pan, and Linxiao Song

New Research on Improved Highway Tunnel Based on Visual Illusion .................................................................................. 4369
Zhi-Gang Du, Yun-Hao Tang, Jun Xie, and Ping-Fan Li
Towards Comprehensive Threat Modeling for Intelligent Vehicle Cyber Security .............................................................................................................. 4380
Haojie Ji, Guizhen Yu, Yunpeng Wang, Zhao Zhang, and Hongmao Qin

Effects of In-Vehicle Secondary Distraction Tasks on Driving Performance: A Naturalistic Driving Study and Findings ......................................................... 4391
Yanli Ma, Huimin Shi, and Luyang Fan

Understanding Road Rage: Insights from a Synthesis of Research ................................................................................................................................. 4399
Xiaohui Xu, Huilong Hao, Zihao Liu, Hanyu Lin, and Inhi Kim

Research on Crossing Safety in Urban Unmarked Roadway ................................................................................................................................. 4410
Haiyue Zhao and Ziyang Wang

An Analysis on Conformity Violation Road-Crossing Behavior of Students Based on Bass Model .......................................................................................................... 4420
Weishan Wang, Hong Chen, Peng Chen, and Wei He

Crash Risk Prediction Modeling Based on the Traffic Conflict Technique for the Freeway Interchange Diverging Area ................................................................................. 4428
Shen Li, Qiaojun Xiang, Yongfeng Ma, Xin Gu, and Shipeng Zhao

Forecast of Large Airport Access Mode Choice Based on Nested Logit Model .................................................................................................................... 4438
Lan-Fang Zhang and Tao Bian

Research on Installation of Changeable Message Signs in Freeway Work Zones Based on Driving Simulation ................................................................. 4448
Zhanzhou Lin, Xiaohua Zhao, Han Ding, Jian Rong, and Hon Zhou

Analysis on Safety Characteristics of Stopping Behaviors at Intersections with Countdown-Type Traffic Signals .............................................................................. 4459
Mingxia Huang, Weidong Liu, Zhu Bai, and Yan Xing

Exploring Safety Impacts of the Number and Arrangement of Lanes on Freeway Entrance Ramps ......................................................................................... 4466
Guoqiang Zhang and Zhenyu Wang

Real-Time Crash Prediction Estimation of Freeway Safety: A Review ........................................................................................................................... 4475
Wenhui Chu and Hui Zhang

Study on the Safety Evaluation of Modern Tram at Intersection Based on Traffic Conflict .................................................................................................... 4483
Qingsheng Gong, Lishan Sun, Yuchen Huang, Jing Qiao, and Chong Liu

Sex Differences of Drivers’ Parking Behavior: The Influence of Environment, Psychology, and Driving Ability ........................................................................ 4493
Weihua Zhang, Yanbin Shen, Jinhiao Gu, Zhongxiang Feng, and Kun Wang

© ASCE
A Recognition Method of Construction Conflict on the Bases of Driver’s Eye Movement ................................................................. 4504
Yi Xu, Shi-Wu Li, Zhi-Fa Yang, Wen-Cai Sun, Meng Chai, and Xue-Xin Wei

A Route Planning Model for Transit-Based Regional Emergency Evacuation .......... 4519
Gang Ren and Ting-Ting Duan

A Driver Behavior Survey Study on Traffic Accidents in China ................................................. 4530
Qi Zhang, Chaozhong Wu, Wenhui Chu, and Hui Zhang

Irregular Merging Behavior Investigation of Left-Turning Vehicles at Un-Signalized T-Intersections ................................................................. 4541
Pengying Ouyang, Pan Liu, Jiaming Wu, and Hao Yu

Traffic Safety Performance Investigations Impacted by Large Vehicles along Upgrade Freeway Sections ............................................................... 4551
Zhanji Zheng, Qiaojun Xiang, Xin Gu, and Zhigang Du

Skid Resistance Analysis on Asphalt Pavement Based on Rubber Friction Mechanisms ................................................................. 4562
Qingqing Cao, Xiuyu Liu, and Xiaoming Huang

Seat Belt Use Investigations for Safety Performance Improvements in Beijing .......... 4573
Ting Liu and Zhiyong Zhang

Impact Factor Investigations on Driver Reaction Time Based on Analytic Hierarchy Process ................................................................................. 4582
Zhiyong Zhang and Jianlin Jia

Artificial Fish Algorithm Application to Enhance Relief Supply Distribution .......... 4591
Yunna Zhang, Hui Hu Hui, Jingbo Zhang, and Hai Lin

Unscented Kalman Filtering-Supported Accident Prevention System Based on Prediction of Vehicle Tire Forces Guided by Using Digital Map .......... 4598
Kun Jiang and Diange Yang

Pedestrian Conflict Investigations along Rail Transit Corridors: A Physiological Approach .................................................................................... 4609
Shunchao Wang, Lishan Sun, Wei Luo, Pengfei Zhao, and Kun Wang

Evaluating Road Lighting Effects on Traffic Safety around Critical Road Sites ............................................................................................... 4620
Cuicui Sun, Yueru Xu, and Zhirui Ye

Manual Monitoring Reliability Model and Simulation of Unexpected Events along Expressway Tunnels ................................................................. 4631
Yue-Qi Hu and Jin-Lei Li

© ASCE
Safety Impact Factor Analysis at Intersections with Left-Turn Waiting Areas Based on Ordered Logit Model .......................................................... 4640
Mengying Li, Lin Cheng, Guoshan Xu, and Guopeng Zhang

Research on Collisions of Fishing Boats Based on Finite Element Method ............... 4650
Lipeng Wang, Yajie Yun, and Qing Li

Characteristics Analysis on Eye Moving and Lane Changing of Taxi Drivers in the Congestion State ................................................................. 4660
Weiwei Qi, Haiyang Hu, Tianzhao Guo, Siming Cao, and Chen Chen

Investigating Sideslip of Semi-Trailer Combination Vehicle on Curved Downslope Expressway Segment by Simulation ........................................ 4667
Gui-Xian Qu, Yu-Long He, Xiao-Duan Sun, Lu-Fei Zhang, and Bing-Bing Feng

A Method of Building Bus Satisfaction Evaluation Index System Based on Passengers’ Perception ............................................................... 4675
Chang Wang, Jian-Cheng Weng, Zhi-Hong Chen, Jing-Jing Wang, and Shu Peng

A Multi-Objective Model of Railway Emergency Rescue Center Location .................. 4684
Min Ling, Su Liu, Si Ma, and Jia-Liang Zhang

Application of Vehicle Tail Light Identification Technology in Traffic Safety .......... 4693
Fengyuan Wang, Shi He, and Jian Zhong

Study on an Active Traffic Safety Management System for Mountain Highway in Rural Area ................................................................. 4699
Xiaodong Ma, Wen Shen, Muting Ma, and Fengchun Han

Longitudinal Risky Driving Behavior Recognition Based on Naturalistic Driving Study .................................................................................. 4711
Zhengwei Sun, Xin Pei, Pengju Wang, Haowei Liu, Dajun Wang, and Zuo Zhang

Driver’s Warning Threshold Choice in Rear-End Collision Avoidance System under Different Speeds............................................................... 4721
Chenxuan Yang, Tong Zhu, and Yu Sun

Incorporating the WIM Data into the Analysis of Road Traffic Risk ......................... 4730
Qingjun He, Ying Wang, Huizhao Tu, and Xin Ruan

Phone Use Behavior of Chinese Drivers Based on Naturalistic Driving Data ............ 4740
Yilun Xing and Xuesong Wang

Research on Evaluation Method of Road Safety Maintenance Management .......... 4750
Yue Xin Lou, Hong Lang, Si Jin Long, and Jian John Lu
A Method of Prioritizing Intersection Improvement in Satellite Cities Based on Risk Management .......................................................... 4762
Xiaowan Ge, Hao Liu, and Jian Lu

Ship AIS Data Mining and Processing Method in Bridge Waters of Inland River .................................................................................. 4770
Jie Xue, Chaozhong Wu, and Zhijun Chen

Urban Transportation Emergency Strategy Design Based on Petri Net ............................................. 4780
Yu Shan, Hao Liu, and Jian John Lu

Reliability-Based Assessment of the Truck Safe Following Distance Considering Multiple Influencing Factors ................................................................ 4792
Bowen Dong, Wenjun Du, Feng Chen, Qi Deng, and Xiaodong Pan

Influence Factors of Friction Performance for SMA-13 and AC-13 Pavement under Icing Condition .............................................................. 4800
Xiang Peng, Zhongyin Guo, and Can-can Song

Research on the Influence of Different Green Tail Signal Switching Patterns on Traffic Safety at Intersections ........................................... 4811
Meiping Yun and Xuyan Weng

Analysis of Vehicle Trajectory on the Tunnel Entrance and Exit in the Large Longitudinal Slope Based on Driving Simulation .................................. 4819
Zichu Zhou, Zhongyin Guo, and Yong Fang

An Advanced Method to Rapidly Detect Vehicle-Guardrail Collision Accident and Transmit Alarm Signals on Highway ........................................ 4829
Yuchuan Du, Jinsong Yue, Chenglong Liu, and Yuxiong Ji

Adaptability Evaluation of the Upgraded Highway’s Geometric Alignments Based on Speed-Related Characteristics: A Case Study .................. 4840
Lai Zheng and Xianghai Meng

Effects of Freeway Alignment on Driving Performance and Workload Based on Simulated Driving ..................................................................... 4850
Lian Xie, Chaozhong Wu, Nengchao Lyu, Min Duan, and Tao Wang

Research on Formation Mechanism and Recognition Technology of Traffic Congestion: Brief Review and New Development ................................... 4861
Kequan Chen, Wei Liu, Liang Zhang, and Chiyu Zhang

The Security Potency Study for Freeway Windbreaks on Vehicle Safety under Strong Crosswind Conditions ...................................................... 4870
Daiquan Xiao, Haiyan Duan, Min Wang, and Xuecai Xu
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Analysis of Urban Traffic Accidents Based on Bayesian Network</td>
<td>4879</td>
</tr>
<tr>
<td>Wenyong Li, Shuqing Zheng, and Yuan Lu</td>
<td></td>
</tr>
<tr>
<td>Theoretical Evaluation Model of Effects of Traffic Safety Improvement Measures for Rural Highways</td>
<td>4889</td>
</tr>
<tr>
<td>Yang Ma, Yu-Bing Zheng, Zhao-Jun Zhang, and Jian-Chuan Cheng</td>
<td></td>
</tr>
<tr>
<td>Research on the Impact of Typical Sections in Urban Tunnel on Drivers’ Psychology and Physiology</td>
<td>4902</td>
</tr>
<tr>
<td>Peiyan Chen, Feng Chen, Peng Chen, and Xiaodong Pan</td>
<td></td>
</tr>
<tr>
<td>The Effect of Different Drowsiness Levels on Driving Suitability Test Results</td>
<td>4913</td>
</tr>
<tr>
<td>Tong Liu, Rui Fu, Ming-Fang Zhang, and Wen-Dong Cheng</td>
<td></td>
</tr>
<tr>
<td>Curved Roads Speed Advisory Strategy under Connected Vehicle Environment</td>
<td>4922</td>
</tr>
<tr>
<td>Qiongying Feng, Zhizhou Wu, Dongdong Wang, and Yunyi Liang</td>
<td></td>
</tr>
<tr>
<td>Analysis on Security Systems of the Subway Doors</td>
<td>4932</td>
</tr>
<tr>
<td>Jian-Jun Wang, Jing-Rui Yang, Dao-Fu Li, Zhen-Guo Wang, and Han-Xuan Dong</td>
<td></td>
</tr>
<tr>
<td>Analysis of the Effect of Warning Facilities on Driving Behavior at Unsignalized Intersections</td>
<td>4941</td>
</tr>
<tr>
<td>Bozhao Shen, Zhiqiong Zhang, Chenglin He, Hao Liu, and Wenzhao Qiao</td>
<td></td>
</tr>
<tr>
<td>Potential Traffic Conflict Prediction Model Considering Interaction of Conflict Spots at an Unsignalized Intersection</td>
<td>4954</td>
</tr>
<tr>
<td>Yan Wang</td>
<td></td>
</tr>
<tr>
<td>Research on Evaluation Method of Driving Behavior Safety for Taxi Driver Based on Space–Time Trajectory Feature</td>
<td>4968</td>
</tr>
<tr>
<td>Ye Li, Yuao Wei, Wenxiang Li, and Lei Bao</td>
<td></td>
</tr>
<tr>
<td>Driver’s Neglect to the Cyclist at the Intersection</td>
<td>4977</td>
</tr>
<tr>
<td>Yu Sun, Peng Sun, Chen-Xuan Yang, and Tong Zhu</td>
<td></td>
</tr>
<tr>
<td>Waiting Behavior Characteristics of Non-Motor Vehicle at the Signal Intersection</td>
<td>4986</td>
</tr>
<tr>
<td>Tao Wang, Qiong Peng, Jun Chen, Xingchen Yan, and Xiaofei Ye</td>
<td></td>
</tr>
<tr>
<td>Modeling the Range Information Inaccuracy Risk of Battery Electric Vehicle</td>
<td>4994</td>
</tr>
<tr>
<td>Xinrui Xie, Huizhao Tu, Hailin Chen, and Yu Lin</td>
<td></td>
</tr>
</tbody>
</table>
Reliability Study on Control Unit of Metro Train Auxiliary Inverter Based on Improved Monte Carlo Algorithm
Ying Ji, Xiaobo Li, Hao Wu, and Pengfei Cai

Research on Mountainous Expressway Crash Prediction Model Based on IHSDM in China
Chi Zhang, Chen Qi, Yalong He, and Yuanyuan Liu

Simulation and Optimization of Traffic Organization at Highway Reconstruction and Extension Area under the Situation of Large Traffic Volume
Xing Huang, Dongjian Shao, Quanli Gong, Wenjun Zhu, and Hao Wei

Safety Evaluation Effect of Variable Speed-Limit Control System Based on the Empirical Bayesian Model
Cheng Ding and Chennan Gou

Research on Traffic Strategy for Emergency Vehicle Based on Variable Approach Lane
Xin Zhao, Shanshan Chen, and Can Li

The Influence of Road Lighting on Safety at Crossings
Yueru Xu, Cuicui Sun, Zhirui Ye, and Qin Zhao

Review and Discussion on Driving Workload Quantification in Traffic Safety
Nengchao Lyu, Zeyuan Ren, and Lian Xie

Risky Driving Behaviors of Electric Bike Users Based on Structural Equation Model
Tao Wang, Qiong Peng, Jun Chen, Xingchen Yan, and Xiaofei Ye

Factor Comparison between Electric-Tricycle Crashes and Manpower-Tricycle Crashes
Quan Yuan, Cheng Li, and Yibing Li

Three New Car-Following Models Based on Driving Safety Framework for Studying Driving Behavior
Xiuling Huang, Hong Zhou, Liang Guo, and Hui Li

The Research on Construction Risk Evaluation in Mountainous Roads
Hao Liu, Yu Shan, Xiaowan Ge, and Jian Lu

Research on Adjustment of China Road Development Policy and Highway Concession System with PPP Mode
Haiyang Wang