

Data and Methods to Understand Travel 2018

Transportation Research Record: Journal of the Transportation
Research Board

Volume 2672, Issue 42

ISBN: 978-1-5108-7837-2

Printed from e-media with permission by:

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



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

Published by Sage Publications USA

Copyright© (2018) by Transportation Research Board of the National Academies
All rights reserved.

ISBN (Print) 978-1-5108-7837-2
ISBN 2018 Printed Set (All Issues) 978-1-5108-7735-1

Printed by Curran Associates, Inc. (2019)

For permission requests, please contact sagepub.com/journals-permissions

Additional copies of this publication are available from:

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

Contents

Data and Methods to Understand Travel

Articles

e-mission: An Open-Source, Smartphone Platform for Collecting Human Travel Data <i>K. Shankari, Mohamed Amine Bouzaghrane, Samuel M. Maurer, Paul Waddell, David E. Culler, and Randy H. Katz</i>	1
Strict and Deep Comparison of Revealed Transit Trip Structure between Computer-Assisted Telephone Interview Household Travel Survey and Smart Cards <i>Robert Chapleau, Philippe Gaudette, and Tim Spurr</i>	13
Application of the “Foot-in-the-Door” Compliance Technique for Traveler Intercept Surveys <i>Benjamin R. Sperry, Emily Siler, and Tristan Mull</i>	23
Factors Affecting Interview Duration in Web-Based Travel Surveys <i>Pierre-Léo Bourbonnais and Catherine Morency</i>	33
Network Level Clearance Assessment using LiDAR to Improve the Reliability and Efficiency of Issuing Over-Height Permits on Highways <i>Suliman Gargoum, Lloyd Karsten, and Karim El-Basyouny</i>	45
Interstate Speed Profiles <i>Wenjing Pu</i>	57
A Latent Class Pattern Recognition and Data Quality Assessment of Non-Commute Long-Distance Travel in California <i>Adam W. Davis, Elizabeth C. McBride, and Konstadinos G. Goulias</i>	71
Identifying Temporal and Spatial Characteristics of Residents’ Trips from Cellular Signaling Data: Case Study of Beijing <i>Zufen Li, Lei Yu, Yong Gao, Yizheng Wu, Guohua Song, and Dapeng Gong</i>	81
Exploring the Relationships between the Non-Work Trip Frequency and Accessibility Based on Mobile Phone Data <i>Wenxiang Li, Ye Li, Xuegang (Jeff) Ban, Haopeng Deng, Hanyu Shu, and Dongcan Xie</i>	91
A Comparative Study between Private-Sector and Automated Vehicle Identification System Data through Various Travel Time Reliability Measures <i>Whoibin Chung, Mohamed Abdel-Aty, Juneyoung Park, and Raj Ponnaluri</i>	103
Carsharing Trip Characteristic Analysis: Do Users Choose Carsharing Rather Than Taxi to Economize? <i>Ying Hui, Cuiyi Liu, and Mengtao Ding</i>	115
Is There a Limit to Adoption of Dynamic Ridesharing Systems? Evidence from Analysis of Uber Demand Data from New York City <i>Raymond Gerte, Karthik C. Konduri, and Naveen Eluru</i>	127
Resampling Methods for Estimating Travel Time Uncertainty: Application of the Gap Bootstrap <i>Bhaven Naik, Laurence R. Rilett, Justice Appiah, and Lubinda F. Walubita</i>	137

Reconstructing Vehicle Trajectories to Support Travel Time Estimation <i>Zheng Li, Robert Kluger, Xianbiao Hu, Yao-Jan Wu, and Xiaoyu Zhu</i>	148
Exploring the Spatial Dependence and Selection Bias of Double Parking Citations Data <i>Jingqin Gao, Kun Xie, and Kaan Ozbay</i>	159
Performance Measures for Characterizing Regional Congestion using Aggregated Multi-Year Probe Vehicle Data <i>Thomas M. Brennan, Jr., Mohan M. Venigalla, Ashley Hyde, and Anthony LaRegina</i>	170
Cross-Vendor and Cross-State Analysis of GPS Probe Data Latency <i>Zhongxiang Wang, Masoud Hamedj, Elham Sharifi, and Stanley Young</i>	180
Profiling Transport Network Company Activity using Big Data <i>Drew Cooper, Joe Castiglione, Alan Mislove, and Christo Wilson</i>	192
A Methodology to Assess the Quality of Travel Time Estimation and Incident Detection Based on Connected Vehicle Data <i>Md Shahadat Iqbal, Samaneh Khazraeian, and Mohammed Hadi</i>	203
Discovering Regularity in Mobility Patterns to Identify Predictable Aggregate Supply for Ridesharing <i>Ivan Mendoza, Clas Rydergren, and Chris M. J. Tampère</i>	213
Closing the Loop: Improving Transit through Crowdsourced Information <i>Sean J. Barbeau</i>	224
Characteristics and Temporal Stability of Recurring Bottlenecks <i>Ishtiak Ahmed, Nagui M. Rouphail, and Shams Tanvir</i>	235
Integrated Incident Decision-Support using Traffic Simulation and Data-Driven Models <i>Tao Wen, Adriana-Simona Mihăiță, Hoang Nguyen, Chen Cai, and Fang Chen</i>	247
Using National Performance Management Research Data Set for Corridor Performance Measures: A US-281N Corridor Case Study <i>Venktesh Pandey and Natalia Ruiz Juri</i>	257
A Comparative Analysis of Tree-Based Ensemble Methods for Detecting Imminent Lane Change Maneuvers in Connected Vehicle Environments <i>Saleh R. Mousa, Peter R. Bakhit, Osama A. Osman, and Sherif Ishak</i>	268
Enriching Activity-Based Models using Smartphone-Based Travel Surveys <i>Bat-hen Nahmias-Biran, Yafei Han, Shlomo Bekhor, Fang Zhao, Christopher Zegras, and Moshe Ben-Akiva</i>	280
Wind Data Collection and Analysis of Topographical Features along a Highway for Traffic Safety Assessment Based on Mobile Mapping Technology <i>Yatian Pu, Feng Chen, Peiyan Chen, and Xiaodong Pan</i>	292