

2015 GDOT/GTI Transportation Research Expo

Infrastructure Systems and Asset Management

Improved 5.9GHz V2V Short Range Path Loss Model

Billy Kihei, John A. Copeland, and Yusun Chang

A Data Mining Approach for Analyzing The Effects of Price Adjustment Clauses on Bid Price Considering Material Quantity and Project Size

Mohammad Ilbeigi, Baabak Ashuri, Soheil Shayegh

Alternative Cementitious Materials for Development of the Next Generation Transportation Infrastructure

Kimberly Kurtis

Assessment of High Early Strength Limestone Blended Cement for Next Generation Transportation Structures

Kimberly Kurtis

Assessment of Limestone Blended Cements for Transportation Infrastructure

Kimberly Kurtis

Barriers and Enabling Mechanisms for Development of Highway Projects Using Private Financing

Kia Mostaan, Baabak Ashuri

Best Practices for Budget-Based Design

Minsoo Baek, Baabak Ashuri

Construction Engineering Inspection Direct Cost Survey

Khalid Siddiqi, Zuhair El-Itr, Charner Rodgers

Determination of Range and Habitat Use for Federally Endangered Bat Species in Georgia

John Grider, Steven Castleberry, Jeff Hepinstall-Cymerman

Developing a GDOT Pavement Marking Handbook

James Tsai, Chengbo Ai, Yi-Ching Wu

Developing Georgia Long-Term Pavement Performance (GALPPP) Monitoring Program

James Tsai, Chengbo Ai, Yi-Ching Wu

Developing Georgia's high friction surface treatment program in

James Tsai, Chengbo Ai, Yi-Ching Wu

Development of an Automated Pavement Crack Sealing System

Jonathan Holmes, Wiley Holcombe, Wayne Daley, Colin Usher, Steve Robertson

Development of an Automated Raised Pavement Marker Placement Machine

Wiley Holcombe, Doug Britton, Jim Clark, Wayne Daley, Jonathan Holmes, Jake Leverett, Gary McMurray, Marlon Moses, Steve Robertson, Kevin Ruffin, Jack Simmons, and Colin Usher

Effects of Reclaimed Asphalt Pavement (RAP) Contents and Sources on Dynamic Modulus (E*) and Fatigue Performance of Asphalt Mixtures in Georgia

Sonny Kim

Evaluating the Performance of Guardrail Posts installed by Driving through Asphalt Layers

David Scott

Field Validation of a Drive-By Bridge Inspection System with Wireless BWIM + NDE Devices

Xinjun Dong, Yang Wang, Nasim Uddin, Laurence J. Jacobs, Jin-Yeon Kim

GDOT Forensic Guide for Pavements

Sonny Kim, Mi G. Chorzepa, Steve Durham, Catherine Johnson

GDOT Leadership Academy

Pavan Meadati

Hurricane Risk Assessment for GA Coastal Bridges

Mi G. Chorzepa, Christian, Steve Durham, Arash Saeidpour

Impact of LRFD Seismic Bridge Design for Georgia

Iris Tien, Reginald Desroches, Borja Zarco,

Implementation of A Pavement Management System for Georgia's Local Governments

James Tsai, Chengbo Ai, Yi-Ching Wu

Incorporating risk into GDOT's pavement preservation program

James Tsai, Chengbo Ai, Yi-Ching Wu

Intelligent Pavement Preservation Planner: Automated Crack Sealing and Filling

James Tsai, Chengbo Ai, Yi-Ching Wu

Intelligent Traffic Sign Retroreflectivity Condition Assessment Using Computer Vision and Mobile LiDAR

James Tsai, Chengbo Ai, Yi-Ching Wu

Job Shadowing for Knowledge Loss Management

Jie Cao, Fikret Atalay, David Frost

Long Term Performance of Granular Bases Including Inverted Base Pavement Performance

Andres Peralta, Alejandro Martinez, David Frost

Performance Optimization of a Contention Based Broadcasting Algorithm in VANETs

Hamza Ijaz Abbasi, Razvan Cristian Voicu, John A. Copeland, and Yusun Chang

Prefab Bridges for Georgia City and County Roads

Junsuk Kang, Jackson, Maldonado, Rogers, and Maghiar

Review and Business Case Analysis of Transportation-STEM Programs with State DOT Involvement

Amekudzi-Kennedy, Margaret-Avis Akofio-Sowah, Stephanie Brodie, Yanzhi Xu

Transportation Systems Health: Meeting Deficiency Needs and Growth Aspirations Systematically -- Concepts, Applications, Significance

Amekudzi-Kennedy, Margaret-Avis Akofio-Sowah, Richard Sarpong Boadi, Stephanie Brodie, Stephanie Amoaning-Yankson, Janille Smith-Colin, Jamie Fischer, Thomas Wall

Using Fog Seal to Preserve High-Traffic-Volume Interstate Highways: A Case Study on I-475

James Tsai, Chengbo Ai, Yi-Ching Wu

Safety and Operations

Application of the Highway Safety Manual to Georgia

Michael Rodgers, Alana Wilson, Atiyya Shaw, Matthew T. Barton, Michael Hunter

Calibration of the 2010 HCM Roundabout Capacity Equations for Georgia

Laura Schmidt, Christina Barry, Wonho Suh, Michael Hunter, Michael Rodgers

Cooperative Vehicle-Highway Automation (CVHA) Technology – Simulation of Benefits and Operational Issues

Ziwei Huang, Wonho Suh, Prabha Pratyaksa, Aaron Greenwood, Angshuman Guin, Michael Hunter, Michael Rodgers

Driver Perception of Simulated and On-Road Environments

Atiyya Shaw, JongIn Bae, Aaron Greenwood, William Woolery, Yanzhi Xu, Angshuman Guin, Gregory M. Corso, Michael Rodgers, Michael Hunter

Effects of Attention Deficit Disorders on Driver Performance

Atiyya Shaw, JongIn Bae, William Woolery, Michael Rodgers, Gregory Corso, Michael Hunter

Effects of Roadway Factors on the Perception of Complexity

JongIn Bae, Atiyya Shaw, Aaron Greenwood, William Woolery, Yanzhi Xu, Angshuman Guin, Gregory Corso, Michael Rodgers, Michael Hunter

Evaluation of Roundabout Illumination and Safety

Franklin Gbologah, Michael Hunter, Michael Rodgers

Evaluation of the Cost Effectiveness of Illumination as a Safety Treatment at Rural Intersections

Franklin Gbologah, Michael Hunter, Michael Rodgers, Angshuman Guin

Evaluation of Vehicle Detection Technologies for Applications in Georgia

Jidong Yang

Feasibility Study for Using Video Detection System Data to Supplement Automatic Traffic Recorder

Michael Hunter, Angshuman Guin, Wonho Suh, James Anderson

Flashing Operations at Malfunctioning Traffic Signals

Peter Jenior, Justin Bansen, Valerio Oricchio, David Jared, Laura Schmidt, Michael P. Hunter

Improved Methods for Delineating Diverges in Work Zones

Aaron Greenwood, Yanzhi Xu, Gregory Corso, Michael Rodgers, Michael Hunter

Integrating Intersection Traffic Signal Data into a Traffic Monitoring Program

Angshuman Guin, Sam Harris, James Anderson

Microsimulation-based real-time congestion pricing strategy for managed lanes

Hyun Woong Cho, Jorge Laval

Operating Performance of Diverging Diamond Interchange

Angshuman Guin, Michael Rodgers, Michael Hunter, Wonho Suh, James Anderson

Optimal Ramp Metering with GA-based Parameter Optimization

Bhargava Rama Chilukuri, Jorge Laval, Angshuman Guin

Predicting Car Collisions using RSSI

Billy Kihei, John A. Copeland, Yusun Chang

Role of Transportation Management Associations in Traffic Operations

Abhilasha Saroj, Samuel Harris, Chris Maddox, Michael Rodgers, Michael Hunter, Angshuman Guin

Safety Evaluation of Roundabouts in Georgia

Marisha Pena, Jerome Sin, Michael Hunter, Michael Rodgers, Angshuman Guin

Safety Impact of Centerline Rumble Strips

Marisha Pena, Jerome Sin, Michael Hunter, Michael Rodgers, Angshuman Guin

Microsimulation- based Framework for Travel Time Forecasting

Bhargava Rama Chilukuri, Jorge Laval, Angshuman Guin

Travel-time Optimization on I-285 with Improved Variable Speed Limit Algorithms

Bhargava Rama Chilukuri, Hyun Woong Cho, Jorge Laval, Angshuman Guin

Transit, Bike, and Pedestrian Systems

Bicycle and Pedestrian Safety in the Highway Safety Manual

Kari Watkins, Adity Mishra, Alice Grossman

Development of a Portable Bicycle/Pedestrian Monitoring System for Safety Enhancement

Colin Usher, Wayne Daley

Transit Fleet GHG Management Using the Fuel and Emissions Calculator

Yanzhi Xu, Randall Guensler, Michael Rodgers, Dong Yeon Lee, Franklin Gbologah

Using Crowdsourcing to Prioritize Bicycle Route Network Improvements

Kari Watkins, Adity Misra, Alice Grossman

Transportation Planning

Bringing Freight Components into Statewide and Regional Travel Demand Forecasting

David Jung-Hwi Lee, Catherine L. Ross, William G. Allen, Jr., Frank Southworth, Andrew J. Sullivan, Virginia P. Sisiopiku, Ozge Cavusoglu, Peter Hylton, Fangru Wang

Commute Warrior: Android Application for Real-time Travel Monitoring and Electronic Travel Diaries

Alper Akanser, Vetri Elango, Ramik Sadana; Yanzhi Xu, and Randall Guensler

Economic Development and Workforce Impacts of State DOT Highway Expenditures

Thomas D. Boston, Ruth Oyelere

Estimating the Monetary Benefits of Reducing Delays on Heavily Trafficked Truck Freight Corridors in Georgia

Frank Southworth

Evaluation of GDOT Small Business Program

Thomas Boston

Freight Movement, Port Facilities and Economic Competitiveness

Catherine L. Ross, David Jung-Hwi Lee, Chelsea C. White III, Alan Erera, Peter Hylton, Fangru Wang

GDOT Noise Analysis Procedures

Rob Funk

Generating Independent Sidewalk Networks Using Roadway Network and Parcel Data

Hanyan Li, Yanzhi Xu, Sara Khoeini, Vetri Elango, Randall Guensler

High Occupancy Toll Lane Decision Making: Income Effects on Atlanta’s I-85 Express Lanes

Adnan Sheikh, Adity Misra, and Randall Guensler

Innovative Technologies for Sidewalk Assessment

Alice Grossman, Alpen Akanser, Alexandra Frackelton, Chris Toth, and Randall Guensler.

Local Beneficiary Analysis of TIA Project Expenditures: Establishment of Baseline Conditions and Expectations

Thomas D. Boston, Catherine Ross, Sarah Smith McCord, Jon Schmid

Micro-Dynamics Of Business Location And Growth And Its Effects On The Transportation Network And Congestion In Georgia And The Southeast Region

Frank Southworth

MOVES-Matrix: Setup, Implementation, and Application

Randall Guensler, Hanyan Lui, X. Xu, Yanzhi Xu, and Michael Rodgers

Northside Dr.—Enhancing Atlanta’s Economic Competitiveness through The Planning and Design of a Multimodal Boulevard

Michael Dobbins

Sidewalk Scout: Crowdsourcing the Collection of Sidewalk and Ramp Defect Data

Alpen Akanser, Vetri Elango, Alice Grossman, Yanzhi Xu, Q. Chu, and Randall Guensler

Engineering Education

Engaging in Transportation Engineering Initiatives with K-12 Students

Atiyya Shaw, Alice Grossman, Prabha Pratyaksa, Aaron T. Greenwood, JongIn Bae, Yanzhi Xu, Randall Guensler, Michael Hunter