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Research Reports
Transportation-related research reports by University of Minnesota researchers, published by CTS, MnDOT, the Minnesota Local Road Research Board, and other sponsors in 2014. These reports are available in PDF format at www.cts.umn.edu/Publications/ResearchReports/.

Access Across America: Transit 2014
Andrew Owen, David M Levinson
Report no. CTS 14-11
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2380

Access Across America: Transit 2014 Methodology
Andrew Owen, David M Levinson
Report no. CTS 14-12
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2382

Building Local Agency Capacity for Public Engagement in Local Road Systems Planning and Decision Making
Kathryn S Quick, Guillermo Narvaez, Emily Saunois-Sandgren, Zhirong Zhao
Report no. MnDOT 2014-17
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2358

Innovative Parking Pricing Demonstration in the Twin Cities: Introducing Flexibility and Incentives to Parking Contracts
Adeel Lari, Frank Douma, Kate Lang Yang, Kathryn Caskey, Colin Cureton
Report no. CTS 14-02
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2342

Nice Stations: An Exploration of Nice Ride Bike Share Accessibility and Station Choice
Jessica Schoner, David M Levinson
Report no. CTS 14-03
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2344

Statistical Analysis of Fare Compliance
Diwakar Gupta, Yibin Chen
Report no. CTS 14-08
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2370

Value Increase and Value Capture: The Case of TH-610 in Maple Grove, Minnesota
Zhirong Zhao
Report no. MnDOT 2014-03
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2374

Transportation Infrastructure
Acoustic Emission Monitoring of a Fracture-Critical Bridge
Arturo E Schultz, Daniel L Morton, Anton S Tillmann, Javier E Campos, David Thompson, Alexandria J Lee-Norris, Ryan M Ballard
Report no. MnDOT 2014-15
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2350

Anchorage of Shear Reinforcement in Prestressed Concrete Bridge Girders
Brian Matths, Catherine E French, Carol K Shield
Report no. MnDOT 2014-36
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2390

Development and Evaluation of Effective Turbidity Monitoring Methods for Construction Projects
Rebekah Perkins, Brad Hansen, Bruce Wilson, John S Gulliver
Report no. MnDOT 2014-24
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2394

Evaluation of Concrete and Mortars for Partial Depth Repairs
Eshan V Dave, Jay Dailey, Eric Musselman
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www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2396

Modeling and Monitoring the Long-Term Behavior of Post-Tensioned Concrete Bridges
Catherine E French, Carol K Shield, Brock D Hedegaard
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2394

Quantifying Moisture Effects in DCP and LWD Tests Using Unsaturated Mechanics
Danielle Tan, Kimberly Hill, Lev Khazanovich
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www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2350

Scour Monitoring Technology Implementation
Matthew Lueter, Jeff Marr
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www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2386
Simplified Design Table For Minnesota Concrete Pavements
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Environment and Energy in Transportation
Assessing and Improving Pollution Prevention by Swales
Farzana Ahmed, Poornima Natarajan, John S Gulliver, John S. Weiss, John L Nieber
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Rod Squires
Report no. CTS 14-01
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2340

Transportation Safety and Traffic Flow
Advanced LED Warning System for Rural Intersections: Phase 2 (ALERT-2)
Taek Mu Kwon, Husam Ismail
Report no. MnDOT 2014-10
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2348

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Henry Liu, Jianfeng Zheng
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Development of a Navigation System Using Smartphone and Bluetooth Technologies to Help the Visually Impaired Navigate Work Zones Safely
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Report no. MnDOT 2014-12
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Brian Davis, Max Donath
Report no. CTS 14-09
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2376

Effect of Signing and Lane Markings on the Safety of a Two-Lane Roundabout
John Houndos, Veronica Richfield
Report no. 2014-04
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2338

Estimating the Crash Reduction and Vehicle Dynamics Effects of Flashing LED Stop Signs
Gary A Davis, John Houndos, Hui Xiong
Report no. MnDOT 2014-02
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Expanding and Streamlining of RTMC Freeway Network Performance Reporting Methodologies and Tools
John Houndos, Stephen Zitzow
Report no. MnDOT 2014-05
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Gordon Parikh, John Houndos
Report no. CTS 14-05
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2362

Minnesota Department of Transportation Rural Intersection Conflict Warning System (RICWS) Reliability Evaluation
Arvind Menon, Max Donath
Report no. CTS 14-06
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2364

Options for Automated Speed Enforcement Pilot Projects in Minnesota Work and School Zones
Frank Douma, Lee Munnich, Thomas Garry
Report no. CTS 14-06
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2360

A Next Generation Non-Distracting In-Vehicle 511 Traveler Information Service
Nichole Morris, Alice Ton, Jennifer Cooper, Christopher Edwards, Max Donath
Report no. CTS 14-13
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2384

Rural and Small Urban Multimodal Alternatives for Minnesota
Carol Becker
Report no. MnDOT 2014-42
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2332

Uncontrolled Pedestrian Crossing Evaluation Incorporating Highway Capacity Manual
Unsignalized Pedestrian Crossing Analysis Methodology
Bryan Nemeth, Ross Tillman, Jeremy Melquist, Ashley Hudson
Report no. MnDOT 2014-21
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2388

Using Truck GPS Data for Freight Performance Analysis in the Twin Cities Metro Area
Chen-Fu Liao
Report no. MnDOT 2014-14
www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2354

Research Summaries
Access Across America: Transit 2014
CTS Research Brief

Safety and Risk in Modern Urban Roundabouts
CTS Research Brief

Annual Reports
2014 CTS Annual Report

Newsletters
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CTS Catalyst
A monthly publication on the latest transportation innovations at the University of Minnesota. Available in both print and electronic formats.

Minnesota LTAP Exchange
A newsletter of the Minnesota Local Technical Assistance Program (LTAP) (quarterly)

AirTAP Briefings
News and how-to information for personnel operating, maintaining, and administering Minnesota’s public-use airports (periodic) Available in print and e-mail.

CTS Freight & Logistics E-News
News and events from the community of freight and logistics professionals (periodic).

Roadway Safety Institute News
E-mail news update about research and educational activities at the Roadway Safety Institute (quarterly).
Minnesota LTAP Exchange Express
New publications and resources from various sources, plus other items of interest to local agencies (periodic).

TERRA E-News
A newsletter for the Transportation Engineering and Road Research Alliance (quarterly).

Journals

Journal of Transport and Land Use
An open-access, peer-reviewed online journal publishing original interdisciplinary papers on the interaction of transport and land use.
www.jtlu.org

Videos
These and other videos are available at www.cts.umn.edu/Publications/videos/ and on the CTS YouTube channel: www.youtube.com/ctsumn.

2014-15 CTS Research Highlights Video
This year’s video highlights a dozen University of Minnesota researchers and their recent work.

2014-15 Seminars
Available for viewing online at www.cts.umn.edu/events/seminars/

February 20, 2015
“Determining Creep Compliance and Strength of Asphalt Mixtures at Low Temperatures”
CTS Research Seminar
Mihai Marasteanu, professor of civil, environmental, and geo-engineering.
www.cts.umn.edu/events/seminars/2015/022015

February 25, 2015
“Experiments on Culvert Design for Fish and Aquatic Organism Passage in Minnesota”
CTS Research Seminar
Jessica Kozarek, research associate and research manager of the Outdoor Stream Lab at the University of Minnesota's St. Anthony Falls Laboratory.
www.cts.umn.edu/events/seminars/2015/022515

February 27, 2015
“Statistical Analysis of Fare Compliance”
CTS Research Seminar
Diwakar Gupta, professor in the Department of Industrial and Systems Engineering at the University of Minnesota.
www.cts.umn.edu/events/seminars/2015/022715

December 4, 2014
“Improving Traffic Safety and Mobility Using DSRC-Based V2V Communication”
Roadway Safety Institute Seminar
M. Imran Hayee, professor of electrical engineering at the University of Minnesota Duluth.
www.roadwaysafety.umn.edu/events/seminars/2014/120414/index.html

November 20, 2014
Roadway Safety Institute Seminar
William Schneider, assistant professor of civil engineering at the University of Akron.
www.roadwaysafety.umn.edu/events/seminars/2014/111204/index.html

November 18, 2014
“Planning and Implementation of Complete Streets at Multiple Scales”
CTS Research Seminar
Carissa Schively Slotterback, associate professor and director of the Urban and Regional Planning program at the Humphrey School of Public Affairs.
www.umn.edu/events/seminars/planning-and-implementation-complete-streets-multiple-scales

November 6, 2014
“Investigating the Impact of the I-94 Active Traffic Management System on Safety”
Roadway Safety Institute Seminar
John Hourdos, director of the Minnesota Traffic Observatory at the University of Minnesota.
www.roadwaysafety.umn.edu/events/seminars/2014/110614/index.html

October 30, 2014
“Obesity and Crash Risk in a Population of Tractor-Trailer Drivers”
Roadway Safety Institute Seminar
Stephen Burks, professor of economics and management at the University of Minnesota Morris.
www.roadwaysafety.umn.edu/events/seminars/2014/103014/index.html

October 23, 2014
“Model Criticism and Validation in Crash Reconstruction”
Roadway Safety Institute Seminar
Gary Davis, professor of civil, environmental, and geo-engineering at the University of Minnesota.
www.roadwaysafety.umn.edu/events/seminars/2014/102314/index.html

October 16, 2014
“Computerized Crash Reports Usability and Design Investigation”
Roadway Safety Institute Seminar
Nichole Morris, research associate at the HumanFIRST Laboratory at the University of Minnesota.
www.roadwaysafety.umn.edu/events/seminars/2014/101614/index.html

October 9, 2014
“Big Brother is My Co-Pilot: Impacts of and Attitudes Towards Driver Behavior Regulations”
Roadway Safety Institute Seminar
Frank Douma, research fellow and associate director of the State and Local Policy Program at the Humphrey School of Public Affairs. Nichole Morris, research associate at the HumanFIRST Laboratory at the University of Minnesota.
www.roadwaysafety.umn.edu/events/seminars/2014/100914/index.html

October 2, 2014
“Micro and Macro Analysis of Railroad Grade Crossing Safety”
Roadway Safety Institute Seminar
Rahim Benekohal, professor in the Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign.
www.roadwaysafety.umn.edu/events/seminars/2014/100214/index.html

September 29, 2014
“Examining the Time-Dependent Behavior of the I-35W St. Anthony Falls Bridge for Long-Term Monitoring”
CTS Research Seminar
Cathy French, CSE Distinguished Professor with the Department of Civil, Environmental, and Geo-Engineering. Carol Shield, professor with the Department of Civil, Environmental, and Geo-Engineering.

September 25, 2014
“Performance Measures for Bicycle and Pedestrian Safety: Challenges in Monitoring Traffic and Assessing Exposure to Risk”
Roadway Safety Institute Seminar
Greg Lindsey specializes in environmental planning, policy, and management.
www.roadwaysafety.umn.edu/events/seminars/2014/092514/

September 18, 2014
“Emerging Safety Countermeasures for Wrong-Way Driving Crashes”
Roadway Safety Institute Seminar
Huaguo Hugo Zhou, associate professor in the Department of Civil Engineering at Auburn University.
www.roadwaysafety.umn.edu/events/seminars/2014/091814/index.html

September 11, 2014
“Supporting New Teen Drivers During Independent Driving”
Roadway Safety Institute Seminar
Janet Creaser, former research fellow in the HumanFIRST Laboratory.
www.roadwaysafety.umn.edu/events/seminars/2014/091114/index.html
How to Obtain These Publications

Titles of publications are listed in alphabetical order under subject area. Most publications, where noted, are available in electronic format online at no charge. Publications also may be requested from CTS. A complete listing of all publications available from CTS and ordering information may be found online at:

www.cts.umn.edu/publications

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