GIS in Transit Conference
October 16-17, 2013 | Washington, DC

Jointly organized by the National Center for Transit Research (NCTR), Transportation Research Board (TRB) and Urban and Regional Information Systems Association (URISA). Co-sponsored by the Federal Transit Administration.
Conference Planning Committee

Linda Cherrington, Texas A&M Transportation Institute (TTI)
Jeff Becker, Denver Regional Transit District
Martin Catalá, USF Center for Urban Transportation Research
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Tom Scherer, Arlington County, VA
Kevin Webb, Conveyal
Ed Wells, Washington Metropolitan Area Transit Authority (WMATA)
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Letter from the Chair

Since 1999, the National Center for Transit Research (NCTR) has supported the National Transit Geographic Information Systems (GIS) Clearinghouse and produced seven national conferences for public transportation and GIS professionals. Through a partnership with the Urban and Regional Information Systems Association (URISA), NCTR bolstered the impact of the conferences in 2009 and 2011 and is pleased to announce an expanded collaboration with the Transportation Research Board (TRB) and the Federal Transit Administration (FTA) in 2013.

GIS in Transit is a unique conference specifically designed for transit planners, managers, researchers and GIS industry experts who are interested in sharing ways to use geographic and spatial analysis in transit planning, operations, and marketing to increase efficiency and effectiveness.

The conference program is organized into sessions that feature presentations on the use of GIS to enhance service planning and improve transit performance, transit agency GIS innovations and applications, and opportunities for public-private partnerships to create practical applications of new technology. A poster session, and reception also provide an opportunity for dialogue between conference participants and presenters on featured GIS applications.

This is a great opportunity for exchange of ideas about how GIS initiatives can add value for transit. Join us for a schedule full of rich opportunities to share your ideas and learn from others.

Linda K. Cherrington
Conference Chair

Texas A&M Transportation Institute (TTI)
Conference Chair
Featured Speakers

Joel Volinski, National Center for Transit Research
The Importance of Research and Innovation in Today’s Transit Industry

Joel Volinski is the Director of the National Center for Transit Research (NCTR) at the Center for Urban Transportation Research (CUTR), one of the 35 federally funded University Transportation Centers in the United States. In this capacity he manages the research program and develops the strategic plan for the Center. Joel is the former director of Broward County Transit, and is President of the Leadership APTA Alumni Association. He has made more than 50 presentations at conferences of TRB, APTA, and 14 different state transit associations, and has written 3 TCRP reports and 5 NCTR reports. He serves as an Ambassador Emeritus for the TCRP program and is the longest-serving member of the Florida Public Transportation Association’s Board of Directors. Joel earned his MS in Urban Planning at Columbia University.

Therese W. McMillan, Federal Transit Administration (FTA)
Geographic Information Systems in Transit - A Federal Perspective

Therese McMillan joined FTA as Deputy Administrator on July 2, 2009. Deputy McMillan assists the Administrator in leading a staff of more than 500 in the Washington D.C. headquarters office and 10 regional offices throughout the United States, and implementing an annual budget approximating $10 billion. With the passage of a new surface transportation authorization, MAP-21, she has assumed a key role in guiding FTA's implementation of transit-related provisions in the law and overseeing the development of critical guidance. Prior to her appointment, Ms. McMillan was the Deputy Executive Director-Policy at the San Francisco Bay Area Region’s Metropolitan Transportation Commission. Ms. McMillan received her B.S. degree in Environmental Policy and Planning Analysis from the University of California, Davis (1981) and a joint M.C.P./M.S. in city planning/civil engineering science (1984) from U.C. Berkeley.
Kevin Webb, Conveyal

**Using GTFS for Transit Scenario Modeling**

Kevin Webb is a co-founder and principal with Conveyal, a consulting firm specializing in open data and open source technology for the transportation sector. As a principal, Kevin builds mapping and trip planning tools to keep users informed about their transportation options. He has a long-time interest in planning, transit and open government. Prior to Conveyal, Kevin had leadership roles at OpenPlans and the Sunlight Foundation. Much of his career has been in early-stage research and development, including a software startup and several years as a partner in an industrial design consultancy. Kevin earned his degree from the University of North Carolina at Chapel Hill.

Brian Ferris, Google

**Google Transit with Real-Time Feed**

Brian Ferris is an engineer at Google in Zurich, Switzerland, working on public transit features of Google Maps. Before moving to Europe, Brian was a long-time resident of Seattle, where he developed the OneBusAway suite of transit applications, used by riders in Seattle, New York, and other cities around the world. Brian has a Ph.D. in computer science from the University of Washington, with a focus on innovative tools for public transit riders.

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Wednesday, October 16, 2013

8:30-10:00am  Keck 100
Opening Session—Linda K. Cherrington, presiding, Texas A&M Transportation Institute
The Importance of Research and Innovation in Today’s Transit Industry—Joel Volinski, National Center for Transit Research
Using GTFS for Transit Scenario Modeling—Kevin Webb, Conveyal
Google Transit with Real-Time Feed—Brian Ferris, Google

10:30am–12:00pm  Keck 100
Innovative Transit Mapping and Design—Jonathan Paul Brooks, presiding, Texas A&M Transportation Institute
Innovations in Multimodal, Schematic Transit Mapping—Margaret Finch Carragher, Georgia Institute of Technology
Building a Web Map of Metro Rail Services in Los Angeles County—Bin Owen Mo, Los Angeles County Metropolitan Transportation Authority
Spider Maps: A Summary of Best Practices and Guide to Design and Implementation—Margaret Finch Carragher* and Wenwen Zhang, Georgia Institute of Technology
Modeling and Mapping Metro’s Rail Stations—Minhua Wang*, Andrew Oldham, and Voliya Arakkal, Washington Metropolitan Area Transit Authority (WMATA)

10:30am–12:00pm  Keck 101
Collecting, Presenting and Managing Geospatial Transit Data—Tom Scherer, presiding, Arlington County, Virginia
Using 3-D Demographics Analysis in Geographic Information Systems for Transit Planning and Design—Brian Reed, Parsons Brinckerhoff
Providing Bus Stop Amenity and Accessibility Information via WMATA’s Public Website—Diwakar Sharma* and Corinna Sigsbury, WMATA
Five Transit Agencies, One Goal: Big Savings through Partnership and Innovation—Mazedur Rahman, M2 Traffic Management, LLC

10:30am–12:00pm  Keck 109
Spatial Analysis for Replanning Service Networks and Areas—Linda K. Cherrington, presiding, Texas A&M Transportation Institute
Integrating Transit Data into Geographic Information Systems to Facilitate Service Planning and Network Development—Matthew Lee*, Steer Davies Gleave, Canada; and Forest Yang and Lindsey Radford, Strathcona County Transit
Measuring Transit-Coverage Level of Service in United States Border Cities—Luis David Galicia, Texas A&M Transportation Institute

* Indicates primary presenter on behalf of multiple contributors
Census Transportation Planning Products (CTPP) Program Crash Course—
Penelope Weinberger, American Association of State Highway and Transportation Officials

1:00–2:30pm  Keck 101

Title VI and Paratransit—Lawrence Harman, presiding, Bridgewater State College
Geographic Information Systems for Title VI Compliance—Zachariah Van Gemert, Denver Regional Transportation District (RTD)
Interactive Web-Based Mapping for Title VI Analysis and Public Transit System Data Management—Nicholas E. Lownes, University of Connecticut
Geographic Information Systems in Paratransit—A. Jeff Becker, Denver RTD

Delivering Agency Geographic Information Systems: Transit Geographic Information Systems Tools—Martin Catalá, presiding, University of South Florida Center for Urban Transportation Research
Strategies for Organization, Validation and Distribution of Transit Geographic Information Systems Data—Jonathan Wade, Denver RTD
Washington Metropolitan Area Transit Authority’s Metroview: Delivering Geographic Information Systems Benefits Across the Enterprise via Web Services—Anurag Mehta* and Santhosh Tumkur Renu, WMATA
Integration and Analysis Tools for Transit Geographic Information Systems Data—Chetan Joshi, PTV America, Inc.

1:00–2:30pm  Keck 100

Geospatial Analysis in Transit Demand Estimation Utilizing Intelligent Transportation Systems Applications—Peter Bang, Federal Highway Administration
Implementation of a Web-Based, Geospatial Transit Performance Data Archive—Jonathan Makler, Portland State University
Passenger O-D Trip Table from Farebox Receipts—Kelly Chan, HDR Engineering, Inc.

3:00–4:30pm  Keck 101

Visualizations in Transit Planning—Jason J. Bittner, presiding, University of South Florida Center for Urban Transportation Research
Geographic Information Systems for Transportation Corridor Planning—Zachariah Van Gemert, Denver RTD
Geographic Information Systems-Based Rail Line Asset Viewer—Minhua Wang, WMATA

* Indicates primary presenter on behalf of multiple contributors
3:00–4:30pm
Keck 100
Better Spatial Tools and Concepts for Evaluating Transit Coverage Level of Service: Commute Trips, Connectivity and Continuous Accessibility—Ed Wells, presiding, WAMTA
I’ll Take You There: Using Longitudinal Employer-Household Dynamics Data to Measure Transit Coverage Level of Service—Stephen Crim, Mobility Lab
Evaluation of Geographic Information Systems Spatial Analysis Tools in the Resolve of Service Areas for Transportation Systems: Case Study of the Bus Rapid Transit Transmilenio Station “Portal Norte”—Daniel Páez Barajas* and Álvaro Caviedes Cómbita, Universidad de Los Andes, Colombia
Evaluating and Planning Transit Service Using Continuous Accessibility—Andrew Owen, University of Minnesota, Twin Cities

3:00–4:30pm
Keck 109
Public Transit Modeling—Nazrul Islam, presiding, Federal Transit Administration
The TBEST Framework for Data Analysis and Forecasting—Rodney Bunner*, Xuehao Chu and Steven E. Polzin, University of South Florida Center for Urban Transportation Research
Toward More Realistic Estimation of Energy Consumption with General Transit Feed Specification and National Elevation Dataset—Jan-Mou Li* and Zhenhong Lin, Oak Ridge National Laboratory
Geographic Information Systems Estimation of Transit Access Parameters for Mode Choice Models—Ronald Eash, Parsons Brinckerhoff
General Transit Feed Specification-Based Geographic Information Systems Tool for Creating Practical Applications—Sang Gu Lee, East-West Gateway Council

4:30–6:30pm
Atrium 3rd floor
Poster Session and Reception
Calculating Food Deserts for the Transit-Dependent Population: What Southwest Ohio Regional Transit Authority Time-of-Day Effects Do We See?—Melinda Morang, Environmental Systems Research Institute
Evaluation of Geographic Information Systems Spatial Analysis Tools in the Resolve of Service Areas for Transportation Systems: Case Study of the Bus Rapid Transit Transmilenio Station “Portal Norte”—Daniel Páez Barajas and Álvaro Caviedes Cómbita, Universidad de Los Andes, Colombia
A Geographic Information Systems Methodology for Cycling Investment Prioritization Using Cadastre and Urban Form Information—Daniel Páez Barajas and Álvaro Caviedes Cómbita, Universidad de Los Andes, Colombia
Transit Accessibility and Its Effects on Mode Share: An Application of Geospatial Analysis and Logistic Regression—Nilesh Deshpande and Kaitlin Morano, Georgia Institute of Technology

* Indicates primary presenter on behalf of multiple contributors
Quantifying Park and Ride Demand Using Longitudinal Employer-Household Dynamics, O-D Employment Statistics, and Case Study Analysis—Jonathan Paul Brooks, Texas A&M Transportation Institute

Interactive Web-Based Mapping for Title VI Analysis and Public Transit System Data Management—Nicholas E. Lownes, Timothy Becker, and Curtis Denton, University of Connecticut

Depot Relocation Analysis—Andrew Ferry, Southeastern Pennsylvania Transportation Authority (SEPTA)

WMATA Paratransit Fleet Garage Relocation Analysis—Andrew Oldham and Minhua Wang, WMATA

Frequency Changes on the Chicago Transit Authority Network—Raymond Chan, Ömer Verbas and Hani S. Mahmassani, Northwestern University

Implementation of a Web-Based, Geospatial Transit Performance Data Archive—Jonathan Makler, Portland State University

Revealing the Journey: The Role of Coordinated Geographic Data in Improving Urban Mobility—David Figueroa, T-Kartor USA

Evaluating and Planning Transit Service Using Continuous Accessibility—Andrew Owen, University of Minnesota, Twin Cities

Role of Transit Connectivity in a Multimodal Transportation Network—Anupam Anand, University of Maryland, College Park

Whether at 20,000 feet or firmly on the ground, our GIS professionals understand mapping, data collection and spatial analysis.
Thursday, October 17, 2013

8:00–9:30am  Keck 109

Transit Agency Geographic Information Systems Innovations and Applications—Jennifer L. Weeks, presiding, Transportation Research Board

Geographic Information Systems Support of New Jersey Transit’s Smart Bus Program—Harry Brown*, and Glenn Newman, New Jersey Transit

Staying Relevant in the GIS World: A Broad Look at GCRTA Mapping Application Goals and Challenges—Samantha Erickson, Greater Cleveland RTA

Time-Based Linear Referencing in Transit Geographic Information Systems: A Working Prototype at WMATA—Anurag Mehta*, Sakshi Mehta, and Mark Faulkner, WMATA

8:00–9:30am  Keck 100

Transit Geographic Information Systems on the Web: Expanding Their Reach—Kevin Webb, presiding, Conveyal

Creating Web-Based Real-Time Interregional and Intermodal Public Transportation Navigation Tools from Boston to Cape Cod for the Summer of 2013—Lawrence Harman*, U. Shama, C. Van Zandt, GeoGraphics Laboratory, Bridgewater State University; and D. Walsh, Cape Cod Regional Transit Authority

Revealing the Journey: The Role of Coordinated Geographic Data in Improving Urban Mobility—David Figueroa, T-Kartor USA

National Environmental Policy Act & Preliminary Engineering Working Together through Web-Based Geographic Information Systems—Brian Reed, Parsons Brinckerhoff

Using Web-Based Geographic Information Systems to Visually Depict the Predicted Effects of Bus Frequency Changes on the Chicago Transit Authority Network—Raymond Chan*, Ömer Verbas and Hani S. Mahmassani, Northwestern University

8:00–9:30am  Keck 204

Geographic Information Systems Tools and Analysis for Bus Stop Management—A. Jeff Becker, presiding, Denver Regional Transportation District


Riding More Frequently: Disaggregate Ridership Elasticity Estimation for Chicago’s Bus Network—Charlotte Frei, Northwestern University

* Indicates primary presenter on behalf of multiple contributors
10:00–11:30am

Keck 100

**Web-Mapping and the Cloud**—Michael L. Pack, presiding, University of Maryland, College Park

Creating a Cloud-Based Geographic Information Systems Web Application and Integration with SharePoint—Michael Hino, Long Beach Transit

Can Cloud Computing Transform Geographic Information Systems-Transit Business?—Shirley Sywn-Tien Hsiao, Long Beach Transit

Web-Mapping to Assist Americans with Disabilities Certification and Paratransit Travel Training—Hersh Singh and Brad Thompson, Regional Transportation Authority

Using Web-Mapping and Desktop Geographic Information Systems to Assist in Federal Transit Program Management—Lawrence Harman*, U. Shama, M. Pacha-Sucharzewski, GeoGraphics Lab, Bridgewater State University; and Matthew Lesh, Federal Transit Administration

10:00–11:30am

Keck 109

**Public Transit Performance Measures**—Martin Catalá, presiding, University of South Florida Center for Urban Transportation Research

Social Equity in Distance Based Transit Fares—Steven Farber*, Keith Bartholomew, Xiao Li, The University of Utah; Antonio Paez, McMaster University; and Khandker Habib, University of Toronto

The Use of Web-Based GIS Tools to Support Transit Planning, Analysis and Multi-Modal Projects—Chris Wright, Oregon Department of Transportation

Customer-Oriented Transit Performance Measures—Martin Catalá, University of South Florida Center for Urban Transportation Research

The Application Programming Interface Advantage: Utilizing Cloud Data Sources for Transit Modeling—Catherine Theresa Lawson, State University of New York, Albany

10:00–11:30am

Keck 204

**Geographic Information Systems Tools and Analysis for Transit Facility Location**—Ed Wells, presiding, WMATA

Depot Relocation Analysis—Andrew Ferry, SEPTA

Quantifying Park & Ride Demand Using Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics and Case Study Analysis—Jonathan Paul Brooks, Texas A&M Transportation Institute

Geographic Information Systems Methodology for Bicycle Parking Planning in Bus Rapid Transit Systems: Case Study in Bogota, Colombia—Andrés Escobar Orjuela* and Daniel Páez Barajas, Universidad de los Andes

* Indicates primary presenter on behalf of multiple contributors
11:30am–12:30pm Keck 100

Closing Session—Linda K. Cherrington, presiding, Texas A&M Transportation Institute

A Web-Based Accessibility Toolkit for Transportation Planners—Howard L. Slavin, Caliper Corporation

What’s Next for the Transit GIS Community? – A Panel Discussion—Ed Wells, WMATA; Michael Pack, University of Maryland, College Park; and Martin Catala, University of South Florida Center for Urban Transportation Research

1:00-2:00pm Keck 101

Planning Committee Debrief (members only)—Linda K. Cherrington, presiding, Texas A&M Transportation Institute

Sponsoring Organizations

NCTR (www.nctr.usf.edu)

The National Center for Transit Research (NCTR) was created at the Center for Urban Transportation Research (CUTR) as a result of Congressional designations of University Transportation Centers (UTC) in 1991. The objectives of UTCs are to advance the nation’s transportation system through research, education, and technology transfer. Among the 22 UTCs in the country, NCTR is one of only two that are transit-focused. NCTR works closely with FTA and the Florida Department of Transportation (FDOT) to identify and conduct research projects intended to improve public transit safety, state of good repair, economic competitiveness, livability, and environmental sustainability. In addition to conducting extensive research, NCTR provides opportunities for students to become familiar with transit and alternative forms of transportation as a potential career.

URISA (www.urisa.org)

Founded in 1963, URISA - The Association for GIS Professionals - is a leading provider of learning and knowledge for the GIS community. URISA connects great ideas and great people to inspire leadership and achievement. We strive to provide exceptional educational experiences, a vibrant and connected community, and the essential resources you need to be successful in your career. URISA is a multidisciplinary association where professionals from all parts of the spatial data community come together to share concerns and ideas.

TRB (www.TRB.org)

The Transportation Research Board (TRB) is one of six major divisions of the National Research Council, TRB’s mission is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board’s varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest.

* Indicates primary presenter on behalf of multiple contributors
Notes

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