NATMEC
Improving Traffic Data Collection, Analysis, and Use
Held in Conjunction with the 6th International Conference on Weigh-in-Motion (ICWIM6)

June 4–7, 2012
The Fairmont Dallas
Dallas, Texas

Organized by
Transportation Research Board

Supported by
Federal Highway Administration
Office of Highway Policy Information

Hosted by
Texas Department of Transportation

Cosponsored by
American Association of State Highway and Transportation Officials
North Central Texas Council of Governments

www.NATMEC.org
International Society for Weigh-in-Motion
http://iswim.free.fr
Conference Planning Committee

Catherine McGhee, Associate Director, Virginia Center for Transportation Innovation and Research
Yinhai Wang, Professor, University of Washington, Vice-Chair
Natalie Bettger, Senior Program Manager, North Central Texas Council of Governments
Bernard Jacob, Deputy Scientific Director- Transportation, Infrastructures, and Safety; French Institute of Sciences and Technologies for Transportation, Development and Networks
Daniel Jenkins, Transportation Specialist, Federal Highway Administration
Steven Jessberger, Transportation Specialist, Federal Highway Administration
William Knowles, Traffic Analysis Engineer, Texas Department of Transportation
Anne-Marie McDonnell, Transportation Engineer, Connecticut Department of Transportation
Dan Middleton, Program Manager, Texas Transportation Institute
Chade Saghir, Senior Transportation Planner, Southeast Michigan Council of Governments
Eileen Singleton, Principal Transportation Engineer, Baltimore Metropolitan Council
Elizabeth Stolz, Business Development Manager, Chaparral Systems Corporation
Benjamin Timerson, Weight Data and Engineering Coordinator, Minnesota Department of Transportation

TRB Staff
Thomas M. Palmerlee, Association Division Director
Matthew A. Miller, Senior Program Associate

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

The Transportation Research Board is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance. The National Research Council is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinaiy, 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. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

www.TRB.org
Do you believe in the value of quality traffic data? Are you looking for new ways to collect, store, manage, or analyze data to provide your agency with better information on the status of the transportation system and assets? If your answer to either of these questions is yes, NATMEC 2012 is exactly where you want to be. With dozens of technical sessions on a wide variety of data-related issues and an exhibit hall full of vendors demonstrating the latest in data collection and management tools, everyone will come away with information that can be put to use right away. Your active participation throughout the conference will add even more value for all attendees, so please share your thoughts through questions and comments in the session, in the exhibit hall, and as you visit with your colleagues.

This year’s NATMEC conference has added the benefit of joining forces with the International Conference on Weigh-in-Motion (ICWIM). The international participation and the focus that they bring to WIM data collection and management are both wonderful additions to an already solid NATMEC program. You are invited to participate in sessions from either the NATMEC or ICWIM programs, further enhancing the opportunities to learn and network. Welcome to NATMEC 2012! I look forward to learning from you.

—Cathy McGhee, P.E.
Conference Planning Team Chair
Virginia Center for Transportation Innovation and Research

Dallas, Texas, is a city of contrasts that blends wide-open spaces with towering skyscrapers. The old frontier town is now the Southwest’s largest banking center, is a leader in wholesale business, competes with the nation’s top cities in million-dollar companies, and ranks second in convention business. But the city still knows how to have fun! The West End Historic District and Marketplace boasts a festive mix of restaurants, nightclubs, boutiques, and street entertainers. Fair Park—a national historic landmark—attracts nearly three million visitors annually at the State Fair. Reunion Tower in downtown Dallas is a 50-story complex and focal point of the popular Reunion area; history buffs will find in its sixth floor museum an exhibit dedicated to the life and death of President John F. Kennedy. The city’s cultural highlights include the Dallas Symphony, the Dallas Museum of Art, and the Dallas Zoo. Sports fans have plenty to get excited about with the Cowboys, Rangers, Stars, and Mavericks. The Dallas Area Rapid Transit makes it easy for visitors to get to their favorite destinations.
### Opening Reception and Exhibits

**Monday, June 4, 5:30 p.m.–7:30 p.m., Regency Ballroom**

Please make an effort to attend.

### Tour de NATMEC

**Thursday, June 7, 2:15 p.m.–5:00 p.m.**

You are invited to participate in the easy-paced biennial Tour de NATMEC. Stay an extra afternoon and tour the Katy Trail that runs through the Uptown and Oak Lawn areas of Dallas, following the path of the old Missouri-Kansas-Texas Railroad, which was known as MKT or the Katy. We are planning to rent bikes in Dallas, so all you need to bring is comfortable pedaling clothing. RSVP to Natalie Bettger (nbettger@nctcog.org) to confirm your attendance and reserve a bike.
TRB COMMITTEE MEETINGS

All conference attendees are encouraged to attend the TRB committee and subcommittee meetings. The committees are communities of interest that identify research needs; stimulate needed research; facilitate the adoption of appropriate research findings into practice; and provide a mechanism for mutual exchange of information on social, economic, and technological developments.

Monday, June 4

11:00 a.m.–1:30 p.m.
TRB Information Systems and Technology Committee (ABJ50)
Frances D. Harrison, Spy Pond Partners, Inc., presiding

1:30 p.m.–3:30 p.m.
TRB Highway Traffic Monitoring Committee (ABJ35)
Peter Keen, Digital Traffic Systems, Inc., presiding

3:30 p.m.–5:30 p.m.
TRB Urban Transportation Data and Information Systems Committee (ABJ30)
Catherine T. Lawson, State University of New York, Albany, presiding

Tuesday, June 5

7:00 a.m.–8:15 a.m.
TRB Weigh-in-Motion Subcommittee, ABJ35(2)
Anne-Marie H. McDonnell, Connecticut Department of Transportation, presiding

12:15 p.m.–1:45 p.m.
TRB Statewide Transportation Data and Information Systems Committee (ABJ20)
Jack Stickel, Alaska Department of Transportation and Public Facilities, presiding

Wednesday, June 6

7:15 a.m.–8:15 a.m.
TRB ADUS Joint Subcommittee ABJ35(1)
Kristin A. Tufte, Portland State University, presiding

12:15 p.m.–1:45 p.m.
TRB Bicycle and Pedestrian Data Joint Subcommittee ABJ35(3)
Elizabeth Stolz, Chaparral Systems Corporation, presiding
OTHER MEETINGS

Monday, June 4
7:00 a.m.—1:00 p.m.
Traffic Monitoring Guide Update Panel (members only)

8:00 a.m.—9:30 a.m.
ISWIM Board Meeting (members only)

8:00 a.m.—5:30 p.m.
Long-Distance Passenger Travel Origin–Destination Panel

Wednesday, June 6
5:30 p.m.—6:30 p.m.
ISWIM General Assembly

6:00 p.m.—8:00 p.m.
TAC Meeting for LTPP SPS Traffic Data Collection Pooled-Fund Study (members only)

Thursday, June 7
7:15 a.m.—8:15 a.m.
Loop- and Length-Based Classification Pooled-Fund Meeting (members only)

12:30 p.m.—2:00 p.m.
NATMEC Planning Committee (members only)
Catherine McGhee, Virginia Center for Transportation Innovation and Research, presiding

12:30 p.m.—2:00 p.m.
ISWIM Board Meeting (members only)
Monday, June 4, 2012, 7:00am – 12:30pm, Oak
Traffic Monitoring Guide Update Panel (members only)

Monday, June 4, 2012, 7:30am – 5:30pm, Regency Ballroom Foyer
Registration Opens

Monday, June 4, 2012, 8:00am – 9:30pm, Continental
ISWIM Board Meeting (members only)

Monday, June 4, 2012, 10:00 a.m.-12:00 p.m., Gold Room
ICWIM6 Session 1A: WIM Algorithms, Technology and Testing,
Anne-Marie McDonnell, Connecticut Department of Transportation and Jesus Leal, CEDEX, presiding

An Experimental Wireless Accelerometer-Based Sensor System for Applications to WIM and Vehicle Classification
Pravin Varaiya, University of California, Berkeley, CA

Hidden Markov Modeling for Weigh-In-Motion Estimation
Robert Abercrombie, Oak Ridge National Laboratory, Oakridge, Tennessee

Automatic Vehicle Classification for WIM Systems
Piotr Burnos, AGH University of Science and Technology, Cracow, Poland

Experimentation of a Bridge WIM System in France and Applications to Bridge Monitoring and Overload Screening
Franziska Schmidt, IFSTTAR, France

Analysis of B-WIM Signals by Statistical Tools
Ieng Sio-Song, IFSTTAR, France

----------------------------------------------------------------------------------------------
Monday, June 4, 2012, 11:00am – 1:30pm, Continental
TRB Information Systems and Technology Committee (ABJ50)
Frances D. Harrison, Spy Pond Partners, Inc. presiding

Monday, June 4, 2012, 12:00pm – 1:30pm, Parisian
ICWIM6 Lunch

Monday, June 4, 2012, 1:30 p.m.-3:30 p.m., Gold Room
ICWIM6 Session 1B: WIM Algorithms, Technology and Testing,
Bernard Jacob, IFFSTAR and Jesus Leal, CEDEX, presiding

Bridge Weigh-In-Motion by Strain Measurement of Transverse Stiffeners
Eiki Yamaguchi, Kyushu Institute of Technology, Japan

Field Verification of a Filtered Measured Moment Strain Approach to the Bridge Weigh-in-Motion Algorithm
Nasim Uddin, University of Alabama, Birmingham

Strategies for Axle Detection in Bridge Weigh-in-Motion Systems
Susan Taylor, Queen’s University of Belfast, Ireland

Using Strips to Mitigate the Multiple-Presence Problem of BWIM Systems
Ales Znidaric, Slovenian National Building and Civil Engineering Institute, Slovenia

Experimental Testing of a Multiple-Sensor Bridge Weigh-In-Motion Algorithm in an Integral Bridge
Eugene O’Brien, UCD, Ireland

Monday, June 4, 2012, 3:30pm – 5:30pm, Oak
TRB Highway Traffic Monitoring Committee (ABJ35)
Peter Keen, Digital Traffic Systems, Inc., presiding

Monday, June 4, 2012, 1:00pm – 3:00pm, Oak
TRB Urban Transportation Data and Information Systems Committee (ABJ30)
Catherine T. Lawson, State University of New York, Albany, presiding

Monday, June 4, 2012, 4:00 p.m.- 5:30 p.m., Gold Room
ICWIM6 Session 2: WIM for Enforcement
Chia-Pei Chou, National Taiwan University and Victor Dolcemascolo, Ministry of Transport, France presiding

WIM Systems in Chile, a Successful Experience
Raul Diaz, Highway Administration, Chile
ANPR-MMR & WIM for Detection of Overloaded Vehicles
Janusz Wrobel, Neurosoft Sp. z o.o., Wroclaw, Poland

One Year Experience with use of Certified HS-WIM Systems intended for Direct Enforcement in the Czech Republic
Emil Doupal, RTS GmbH, Switzerland

Integration of WIM technology into National Institute of Standards and Technology’s Handbook 44, 2012 Edition
Dan Middleton, Texas Transportation Institute, College Station, TX

Monday, June 4, 2012, 5:30pm – 7:30pm, Regency Ballroom
Opening Reception with Posters and Exhibits

Monday, June 4, 2012, 7:00pm – 10:00pm, Continental
Data Section Executive Board Meeting (Members only)

Tuesday, June 5

Tuesday, June 5, 2012, 7:15am – 8:15am, Continental
TRB Weigh-in-Motion Subcommittee, ABJ35 (2)
Anne-Marie H. McDonnell, Connecticut Department of Transportation, presiding

Tuesday, June 5, 2012, 7:30a.m.-8:30a.m., Regency Ballroom Foyer
Breakfast

Tuesday, June 5, 2012, 8:30 a.m.-10:00 a.m., Gold Room
Opening Session
Catherine McGhee, Virginia Center for Transportation Innovation and Research, presiding

Welcome and Conference Objectives
Catherine McGhee, Virginia Center for Transportation Innovation and Research
ICWIM6
Bernard A Jacob, French Institute of Sciences and Technologies for Transportation, Development and Networks; Anne-Marie H. McDonnell, Connecticut Department of Transportation
Join the Team and Working Better Together to Deliver
David Winter, Federal Highway Administration
Improving MPO Decisions with Better Traffic Data
Michael R. Morris, North Central Texas Council of Governments

The Importance of Quality Traffic Data within Texas DOT
Marc Williams, Texas Department of Transportation

Tuesday, June 5, 2012, 10:00 a.m.-10:30 a.m., Regency Ballroom
Morning Break

Tuesday, June 5, 2012, 10:30 a.m.-noon, Oak
ICWIM6 Session 3A: WIM Standard, Calibration, Data Quality and Management Section
David Jones, FHWA, Marcio Paiva, UFSC, Brazil, presiding

Standardization of Weigh-In-Motion in Europe
Bernard Jacob, IFSTTAR, France
Testing and Certification of WIM Systems
David Cornu, Kistler Instrumente AG, Switzerland and Christian Wuethrich, METAS, Switzerland
Modern Calibration & Verification Techniques of WIM Data
Rob Sik, Mikros Systems, South Africa
Enhanced Auto-Calibration of WIM Systems
Piotr Burnos, AGH University of Science and Technology, Cracow, Poland

Tuesday, June 5, 2012, 10:00 a.m.-4:00 p.m., Regency Ballroom
NATMEC Poster Session
*Authors will be in attendance during breaks and lunch

Public vs. Private: The Future of Data Collection for the San Francisco Bay Area 511 System
Janet Banner, Metropolitan Transportation Commission
Using Video Detection for Traffic Field Data Collection
John Cukjati, Kansas Department of Transportation
Weigh-In-Motion A Practical Usage
Douglas Deckert, Washington State Department of Transportation
Deploying Intelligent Transportation Systems to Reduce GHG Emissions
Randy Hanson, International Road Dynamics, Inc., Canada
Length-Based Vehicle Classification
Erik Minge, SRF Consulting Group, Inc.
A Framework for Multimodal Arterial Data Archiving
Christopher M. Monsere, Portland State University
Generalizing FHWA’s Ramp Counting Procedure for Arbitrary Network Topologies: Some Examples of How to Count More with Less
Manwo Ng, Old Dominion University
Validating the Consistent Count Accuracy of Wireless Magnetometers for Data Collection
Ricky Parker, Sensys Networks, Inc.

Comparison Testing of Video, Surface Mounted Magnetic Sensors, and Tube Data Collectors
Art Penn and Bruce Strake, Gewalt Hamilton Associates, Inc.

Integrating Open Source TMC Software with an Archive Data Management System
Karl Petty, Iteris, Inc., and Michael Darter, Iteris, Inc.

Anonymous Wireless Address Matching (AWAM) for Travel Time Data Collection
Darryl Puckett, Texas Transportation Institute

Evaluating Oregon’s (ODOT) Innovative ITS Grant Program
Shaun Quayle, Kittelson & Associates, Inc.

Clustering of Vehicle Classification Data to Support Regional Implementation of the Mechanistic-Empirical Pavement Design Guide
Jonathan D. Regehr, University of Manitoba, Canada

Detection Using In-vehicle GPS Sensors
Yaser Rehem, SQLstream

Using GPS Data to Estimate Pavement Damage and Fuel Consumption
Jose Antonio Romero, Universidad Autonoma de Queretaro, Mexico

Methodology for Calculating VMT Using the SEMCOG’s Regional Traffic Count Database in Conjunction with the Travel-Demand Forecast Model
Chade Saghir, Southeast Michigan Council of Governments

Using WIM Data and Reports to Increase the Effectiveness of Weight Enforcement at a Fracture Critical Bridge
Benjamin Timerson, Minnesota Department of Transportation

Wavetronix in Minnesota
Chu Wei, MNDOT

Adapting Technology for Gains in Efficiency
Lawrence Whiteside, Michigan Department of Transportation


Tuesday, June 5, 2012, 10:30 a.m.-noon, Far East
Section 1201: Meeting Federal Requirements AND Leveraging Resources
James S. Pol, USDOT ITS Joint Program Office, presiding

Section 1201 of SAFETEA-LU requires all states to establish a real-time information management system. As states strive to meet the requirements of Section 1201, they are also finding ways to integrate the data into their processes and procedures. Come and hear how others have used this federal requirement to enhance existing processes.

Real-Time System Management Information Programs – Making Them Work To Your Advantage
Jack R. Stickel, Alaska Department of Transportation and Public Facilities

Real-Time Traffic Monitoring System
Hazem H. Refai, University of Oklahoma

The “Perfect World”: Measuring Congestion/Reliability for Performance Management
Richard V. Taylor, Federal Highway Administration

Tuesday, June 5, 2012, 10:30 a.m.-noon, Gold Room
Data for Decision Making
Reginald R. Souleyrette, University of Kentucky, presiding

The complexity of transportation decisions facing State, regional, and local agencies is growing as both demands and constraints on transportation systems expand. Busy decision makers rely on their support teams to provide concise and timely answers to tough questions based on available data. In this session, participants of a recent TRB conference on Critical Data Needs for Decision Making discuss key findings and implications for future collection and presentation of travel information.

Wakeup Call or Business as Usual?
Ed Christopher, Federal Highway Administration

FHWA Data Programs in a Time of Change
Tianjia Tang, Federal Highway Administration

Paradigm Shifts for Data Capture and Integration
Peter Keen, Digital Traffic Systems, Inc.

Delivering Data for Decision Making: Plotting the Future
Frances D. Harrison, Spy Pond Partners

Tuesday, June 5, 2012, 10:30 a.m.-noon, Parisian

Freight Data - An Untapped Resource
Chade Saghir, Southeast Michigan Council of Governments; Mark E. Hallenbeck, University of Washington, presiding

A considerable amount of effort has been expended to define and evaluate freight movement on US roadways. This information, when combined with more traditional traffic flow data could provide a more robust picture of our transportation system. Unfortunately, these datasets are not linked in any way in most areas. This session will explore the potential for creating these linkages and the benefits that could result.

Compiling Aggregate Freight Flows and Origin/Destination Information Using GPS Data
Jeffrey Bradford Short, American Transportation Research Institute

Advances in Freight Probe Data in Support of National Transportation System Performance Management
Tom Kearney, Federal Highway Administration

Linking Travel Monitoring and Goods Movement Planning at Delaware Valley Regional Planning Commission
Scott Brady, Delaware Valley Regional Planning Commission

Connecting Freight Data and Traditional Traffic Data Programs
Mark E. Hallenbeck, University of Washington

Tuesday, June 5, 2012, 12:00p.m.-1:30p.m., Regency Ballroom

Lunch
Tuesday, June 5, 2012, 12:15pm – 1:45pm, Continental
TRB Statewide Transportation Data and Information Systems Committee (ABJ20)
Jack Stickel, Alaska Department of Transportation and Public Facilities, presiding

Tuesday, June 5, 2012, 1:30 p.m.-2:45 p.m., Regency Ballroom
ICWIM6 Poster Session
*These posters will be on display throughout the conference with authors in attendance at breaks, lunch and the designated 1:30-2:45pm time.

Designing WIM Data Aggregating Systems
Victor Dolcemascolo, Ministry of Transport, France

Checking WIM Axle-Spacing Measurements
Gerhard de Wet, BKS (Pty) Ltd, Pretoria, South Africa

An Appraisal of Mass Differences between Individual Tyres, Axles and Axle Groups of a Selection of Heavy Vehicles in South Africa
Morris de Beer, CSIR Built Environment, South Africa

WIM System Approved for Direct Enforcement
Otto Fucik, CAMEA and Emil Doupal, RTS Consulting

Traffic-1: User Tailored Measuring System for Road Traffic Parameters
Janusz Gajda, AGH University of Science and Technology, Cracow, Poland

Applications from a Centralized System of WIM
Antoine Jaureguiiberry and Benoit Geroudet, STERELA, France

Assessing Validity of Classification Data
David Jones, FHWA

Statistical Study of MS-WIM Data Acquired in Maulan Experimental Site
Eric Klein, CETE de l'Est, France

Assessment of Weigh-in-motion (WIM) Systems: a Nationwide Survey
Athanassios Papagiannakis, University of Texas San Antonio, Texas, USA

Early Experience with a Commercial BWIM System for Enforcement
Nasim Uddin, University of Alabama Birmingham, USA

WIM in Brazil
Helio Goltsman, Consultant, Brazil

Tuesday, June 5, 2012, 2:45 p.m.-3:30 p.m., Oak
ICWIM6 Session 3B: WIM Standard, Calibration, Data Quality and Management Section
David Jones, FHWA, Marcio Paiva, UFSC, Brazil, presiding

Data-Based WIM Calibration and Data Quality Assessment in South Africa
Gerhard de Wet, BKS (Pty) Ltd, Pretoria, South Africa

Evaluation of Several Piezoelectric WIM Systems
Jesus Leal, CEDEX - Ministry of Fomento, Spain
Improvement of Weigh-in-Motion Accuracy by Taking into Account Vehicle Lateral Position
Eric Klein, CETE de l'EST, France

Findings from LTPP SPS WIM Systems Validation Study
Dean Wolf, Applied Research Associates inc., USA

Tuesday, June 5, 2012, 2:00 p.m.-3:30 p.m., Gold Room

Motorcycle Data Collection
David W. Gardner, Ohio Department of Transportation, presiding

Motorcycle detection has become more important with the FHWA requirement to include them in HPMS reporting. This session provides information on promising cutting edge technologies and an ongoing NCHRP research project on motorcycle detection that looks at both technologies and methods to locate data collection sites.

Improving the Quality of Motorcycle Travel Data Collection
Dan Middleton, Texas Transportation Institute

Accurate Vehicle Classification Including Motorcycles Using Mezoelectric Sensors
Hazem H. Refai, University of Oklahoma

Standalone Motorcycle Detection and Counting System Using Microphone Array, Stereo and Infrared Cameras
Bo Ling, Mlgma Systems, Inc.

Tuesday, June 5, 2012, 2:00 p.m.-3:30 p.m., Parisian

Making the Most of Data Collection Efforts
Jennifer Anderson, Alaska Department of Transportation and Public Facilities, presiding

Doing more with less has become mandatory in many aspects of data collection. This session offers ways to expand the uses of current data collection devices without a lot of additional effort or cost.

Dual-Use Continuous Count Stations for Data Collection and Traffic Monitoring
Sudhir Murthy, TrafInfo Communications, Inc.

An Unexpected Data Bonus
Carie Lynn Frederick, City of Calgary, Canada

Simple Matching to Extract Travel Time From Single Loops
Karl Petty, Iteris, Inc., and Jaimyoung Kwon, Iteris, Inc.

Tuesday, June 5, 2012, 2:00 p.m.-3:30 p.m., Far East

Leveraging Data to Increase Information
Natalie Bettger, North Central Texas Council of Governments, presiding

Public agencies are seeking diligently to leverage data collection efforts to extend the reach of each dollar spent on data collection and expand the covered network where necessary. This session offers information on probe data from commercial providers and an innovative way to leverage existing inductive loop count data.
Investigating Relationships between Intersection Delay and Private Sector Speed Data on an Arterial Street Network
Jothan Samuelson, Maricopa Association of Governments
HD Traffic
Nicholas D. Cohn, TomTom International, Netherlands
Traffic Flow Data Collection using Inductive Loop Detectors at Signalized Intersections
KoSok Chae, City of Durham/Durham-Chapel Hill-Carrboro Metropolitan Planning Organization

Tuesday, June 5, 2012, 3:30 p.m.-4:00 p.m., Regency Ballroom
Afternoon Break

Tuesday, June 5, 2012, 4:00 p.m.-5:30 p.m., Oak
ICWIM6 Session 3C: WIM Standard, Calibration, Data Quality and Management Section
David Jones, FHWA, Marcio Paiva, UFSC, Brazil, presiding

Weigh-in-Motion Data: Quality Control, Axle Load Spectra, and Influence on Pavement Design
Rafiqul Alam Tarefder, University of New Mexico, USA
Quality Control of Alabama Weigh-In-Motion Data from Data User Perspective and Development of MPEDG Traffic Inputs
Derong Mai, Auburn University Alabama, U.S.A.
The Metamorphosis of LTPP Traffic Data
Deborah Walker, Federal Highway Administration U.S.A.

Tuesday, June 5, 2012, 4:00 p.m.-5:30 p.m., Gold Room
Managing State Traffic Data Programs
Timothy J. Lomax, Texas Transportation Institute, presiding

Managing a state data program in these times of decreasing budgets and increasing pressures to outsource can be challenging. This session will describe how three states have met that challenge. Learn from their experiences and share your own during the interactive panel discussion.

Overview & Evaluation of Outsourced Data Collection in Support of the NHDOT Traffic Monitoring System
Robert Bollinger, New Hampshire Department of Transportation
15 Year History and Experiences of an Ever Growing Outsourced State Traffic Data Collection Program
Rob E Robinson, Illinois Department of Transportation
Traffic Data Programs at VDOT: Ten Years of Innovation
Peter Keen, Digital Traffic Systems, Inc.
Panel Discussion

Tuesday, June 5, 2012, 4:00 p.m.-5:30 p.m., Parisian

Utilizing Geo-Referencing to Enhance the Value of Data
Chade Saghir, Southeast Michigan Council of Governments, presiding

This is a highly technical session on using geographic technologies that will inspire you to evaluate the use of geographic tools to enhance traffic data collection and reporting. Geographic technologies have become more and more powerful over the years and provide a visual interpretation of traffic data that allows professionals to make more informed and precise decisions. So come see how you can transform your data to take advantage of geographic technologies.

Traffic Data in HPMS 8.0
Steven Jessberger, Federal Highway Administration
A GIS Based Collision Analysis Methodology to Indentify Black Spots on Icy Road Surfaces
Wendy Pan, City of Calgary, Canada
Geo-Spatial Alignment of Wisconsin Department of Transportation Planning and Operations Traffic Data
Steven Parker, University of Wisconsin, Madison
Referencing Traffic Data on a Linear Referencing System
Kent Taylor, North Carolina Department of Transportation

Tuesday, June 5, 2012, 4:00 p.m.-5:30 p.m., Far East

Using Data to Improve Transportation Operations
Eileen Singleton, Baltimore Metropolitan Council, presiding

As the emphasis on transportation operations becomes a reality the support of transportation traffic data becomes more relevant. The use and reporting of traffic data to support transportation operations is a recipe for success in your agency. Stay ahead of the curve and become a leader in using traffic data to support operations.

Design of a Fault-Tolerant Real-Time Traffic Statistics Reporting System
Charles Lattimer, Atkins North America
Measuring Recurring and Non-Recurring Congestion on Freeways and Arterials within the Phoenix Metropolitan Region
Jody Short, LEE Engineering and Minh Le, Texas Transportation Institute
Show Operational Data on High Occupancy Vehicles (HOV) Facilities to the General Public
Francisco Javier Torres, North Central Texas Council of Governments

Tuesday, June 5, 2012, 6:30 p.m.-8:30 p.m., Offsite Restaurant (Advanced Tickets Only)
ICWIM6 Conference Dinner

ICWIM6 Conference Dinner is scheduled from 6:30 to 8:30pm Tuesday, June 5 at the Avanti Fountain Place, 1445 Ross Avenue at Field Street, Dallas Texas. This is one block south of the Fairmont Hotel. Seating is limited, and must have been reserved in advance as a purchase option on the ICWIM web page.

Wednesday, June 6

Wednesday, June 6, 2012, 7:15am – 8:15am, Continental
TRB ADUS Joint Subcommittee ABJ35 (1)
Kristin A. Tufte, Portland State University, presiding

Wednesday, June 6, 2012, 7:30a.m.-8:30a.m., Regency Ballroom Foyer
Breakfast

Wednesday, June 6, 2012, 8:30 a.m.-10:00 a.m., Oak
ICWIM6 Session 4A: WIM Implementation, ITS, Traffic Monitoring, Safety and Environment
Chris Koniditsiotis, TCA, Australia and Lily Poulikakos, EMPA, Switzerland, presiding

High Speed Weigh-in-Motion in the UK
Andy Lees, TDC Systems Ltd, United Kingdom
Trends in HGV Performance in the Main Greek Road Network: Lessons to Learn
George Mintsis, Aristotle University of Thessaloniki, Greece
Environmental Impact of Heavy Vehicles Based on Noise, Axle Load and Gaseous Emissions
Lily Poulikakos, Empa, Switzerland

Wednesday, June 6, 2012, 8:30 a.m.-10:00 a.m., Gold Room
Learning from Our Peers - Country Reports
Tianjia Tang, Federal Highway Administration, presiding

Issues in data collection, management, and use are not unique to the United States. In this session, the experiences of traffic data professionals from around the world will be shared. Come to this interactive session, learn from international experience, and share your thoughts.
Heavy Vehicle Weight and Dimension Data Collection and Applications in the European Union
Bernard Jacob, IFSTTAR

Present and Future of Weight-in- Motion in Brazil
Helio Goltsman, Fundação de Amparo a Pesquisa e Extensão Universitaria - FAPEU/UFSC

Traffic Data and the State of the Practice in Canada
Jeanette Montufar and Jonathan Regehr, University of Manitoba Transport Information Group

Urban Traffic Data Status in Chinese Cities
Jifu Guo, Beijing Transportation Research Center

Wednesday, June 6, 2012, 10:00a.m.-10:30a.m., Regency Ballroom
Morning Break

Wednesday, June 6, 2012, 10:30 a.m.-11:15 a.m., Oak
ICWIM6 Session 4B: WIM Implementation, ITS, Traffic Monitoring, Safety and Environment
Chris Koniditsiotis, TCA, Australia and Lily Poulikakos, EMPA, Switzerland, presiding

Bringing Heavy Vehicle On-Board Mass Monitoring to Market
Chris Koniditsiotis, Transport Certification Australia Ltd

Application of the Center of Gravity Measurement Based on the Dynamic Wheel Loads Measurements of Vehicles
Kimio Someya, Kyowa Electronic Instruments Co., Ltd., Japan

Sensors Test at their Possible Failure in the Array and its Reduced Topologies for the Accurate WIM Methods
Anna Cerovska, Betamont Ltd, Slovakia

Wednesday, June 6, 2012, 11:15 a.m.-12:00 a.m., Oak
ICWIM6 Panel Discussion 1: Enforcement Using WIM
Bernard Jacob, IFSTTAR, France and Tom Kearney, FHWA, United States, presiding
Panelists: Joe Crabtree (USA), Chris Koniditsiotis (Australia), Hans Van Loo (Netherlands)

Around the world, the challenge that commercial motor vehicle safety program enforcement officials increasingly face, is the ability to maintain current levels of enforcement capable of delivering an effective level of truck weight enforcement. The introduction of advanced technologies at the roadside has been identified in many countries as an important opportunity to increase the effectiveness of truck enforcement activities without increasing manpower. This session will present examples of how WIM can be and is being used as an automated enforcement tool. The benefits that can be generated through the inclusion of WIM technology in automated enforcement frameworks will also be presented.
Wednesday, June 6, 2012, 10:00 a.m.-2:00 p.m., Regency Ballroom

**NATMEC Poster Session**

*Authors will be in attendance during breaks and lunch*

Public vs. Private: The Future of Data Collection for the San Francisco Bay Area 511 System
Janet Banner, Metropolitan Transportation Commission

Using Video Detection for Traffic Field Data Collection
John Cukjati, Kansas Department of Transportation

Weigh-In-Motion A Practical Usage
Douglas Deckert, Washington State Department of Transportation

Deploying Intelligent Transportation Systems to Reduce GHG Emissions
Randy Hanson, International Road Dynamics, Inc., Canada

Length-Based Vehicle Classification
Erik Minge, SRF Consulting Group, Inc.

A Framework for Multimodal Arterial Data Archiving
Christopher M. Monsere, Portland State University

Generalizing FHWA’s Ramp Counting Procedure for Arbitrary Network Topologies: Some Examples of How to Count More with Less
Manwo Ng, Old Dominion University

Validating the Consistent Count Accuracy of Wireless Magnetometers for Data Collection
Ricky Parker, Sensys Networks, Inc.

Comparison Testing of Video, Surface Mounted Magnetic Sensors, and Tube Data Collectors
Art Penn and Bruce Strake, Gewalt Hamilton Associates, Inc.

Integrating Open Source TMC Software with an Archive Data Management System
Karl Petty, Iteris, Inc., and Michael Darter, Iteris, Inc.

Anonymous Wireless Address Matching (AWAM) for Travel Time Data Collection
Darryl Puckett, Texas Transportation Institute

Evaluating Oregon’s (ODOT) Innovative ITS Grant Program”
Shaun Quayle, Kittelson & Associates, Inc.

Clustering of Vehicle Classification Data to Support Regional Implementation of the Mechanistic-Empirical Pavement Design Guide
Jonathan D. Regehr, University of Manitoba, Canada

Detection Using In-vehicle GPS Sensors
Steve Herskovitz, SQLstream

Using GPS Data to Estimate Pavement Damage and Fuel Consumption
Jose Antonio Romero, Universidad Autonoma de Queretaro, Mexico

Methodology for Calculating VMT Using the SEMCOG’s Regional Traffic Count Database in Conjunction with the Travel-Demand Forecast Model
Chade Saghir, Southeast Michigan Council of Governments

Using WIM Data and Reports to Increase the Effectiveness of Weight Enforcement at a Fracture Critical Bridge
Benjamin Timerson, Minnesota Department of Transportation

Wavetrionx in Minnesota
Chu Wei, MNDOT

Adapting Technology for Gains in Efficiency
Lawrence Whiteside, Michigan Department of Transportation
Wednesday, June 6, 2012, 10:30 a.m.-noon, Gold Room
Data Driven Decisions and Establishing Bicycle and Pedestrian Policies and Procedures – An Interactive Discussion
Betsy Jacobsen, Colorado Department of Transportation, presiding

Organizational funding typically follows an agency’s established policies. Agencies with established bicycle and pedestrian data programs are in a better position to make informed decisions related to non-motorized facility design, maintenance, operations, and safety. Participants in this session will learn how data is helping to drive agency policies, which in turn can effect funding, design, implementation and allocation of resources for bicycle and pedestrian data programs.

Wednesday, June 6, 2012, 10:30 a.m.-noon, Parisian
Diagnosing Detector Conditions for Data Quality Assurance
Andrea Bahoric, Pennsylvania Department of Transportation, presiding

Data quality is an issue that plagues all traffic data programs. In response, significant work has been done in this area by both the agencies charged with data collection responsibility and supporting universities. This session examines data quality issues specifically with point detectors and is sure to provide information that will aid participants in ensuring quality in their own data programs.

Detector Data Quality Control TxDOT Austin District
Brian Burk, Texas Department of Transportation
Detection and Correction of Loop Detector Sensitivity Level Errors
Jonathan Corey, University of Washington
Extending a Detector Diagnostic Program to Detector Type
Karl Petty, Iteris, Inc., and Jane Berner, California Department of Transportation
Data Quality Visualization Tools on Archived Historical Freeway Traffic Data
Jothan Samuelson, Maricopa Association of Governments

Wednesday, June 6, 2012, 10:30 a.m.-noon, Far East
Traffic Data Visualization - A Tool for Evaluation and Communication
Steve Piotrowski, North Carolina Department of Transportation, presiding

Traffic-related data, by its very nature, has an underlying visual aspect to it - flow data refers to a point or segment of roadway. Crash data also has associated location information. Tools that allow users to "see" data and illustrate the relationships between data elements can be very powerful, particularly in communicating information to others. Several examples of how data visualizations can enhance the value of data will be shared.

Truck Activity Visualizations in the "Cloud"
Catherine Theresa Lawson, State University of New York, Albany
AVID System: How Traffic Data can be Analyzed, Visualized, Integrated, and Disseminated
Wednesday, June 6, 2012, 12:00 p.m.-1:30 p.m., Regency Ballroom Foyer
Lunch

Wednesday, June 6, 2012, 1:30 p.m.-3:30 p.m., Oak
ICWIM6 Session 5A: Application of WIM to Bridges
Ales Znidaric, Slovenian National Building and Civil Engineering Institute, ZAG, Slovenia
and Andrew Nichols, Marshall University, United States, presiding

A Dual Purpose Bridge Health Monitoring and Weigh-In-Motion System for a Steel Girder Bridge
Richard Christenson, University of Connecticut

WIM-Based Simulation Model of Site Specific Live Load Effect on the Bridges
Przemyslaw Rakoczy, University of Nebraska, USA

Modeling Traffic Loads on Bridges - A Simplified Approach Using Bridge-WIM Measurements
Ales Znidaric, Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia

Use of Weigh-In-Motion (WIM) Data for Site-Specific LRFR Bridge Rating
Nasim Uddin, University of Alabama Birmingham, USA

Wednesday, June 6, 2012, 2:00 p.m.-3:30 p.m., Parisian
Methods for Collecting and Using Bicycle and Pedestrian Data
Elizabeth Stolz, Chaparral Systems Corporation, presiding

Many agencies are adopting a multimodal approach to addressing the ever increasing demands on the transportation network. This approach requires data on modes that have not been part of traditional traffic monitoring programs. Bicycle and pedestrian data are difficult to collect but necessary to adequately assess and address the needs of these system users. Several efforts to collect bicycle and pedestrian data will be discuss in this session.

Alternative Data Record Options for Continuous Pedestrian and Bicycle Counts
Barbara Katherine Ostrom, AMEC E&I, Inc.
Understanding Pedestrian Flows and Their Characteristics
Weigh in Motion Data - Improving Collection and Use
David L. Jones, Federal Highway Administration, presiding

Weigh-in-motion data has become a critical element in agency efforts to design and maintain thousands of miles of roadway. Collecting this data in an efficient and effective way is the focus of this session.

Development of a Weigh-Pad Based Portable WIM System at MnDOT
Taek M Kwon, University of Minnesota, Duluth
Integration of Weigh-in-Motion Technology into NIST’s Handbook 44
Dan Middleton, Texas Transportation Institute
Utilizing Image Data to Enhance Traffic Data Collection Systems
Roy Czinku, International Road Dynamics, Inc., Canada
Traffic Data Quality Verification and Sensor Calibration for Weight-In-Motion Systems
Chen-Fu Liao, University of Minnesota, Twin Cities

Non-Traditional Data Collection Methods
Daniel Jenkins, Federal Highway Administration, presiding

Traditionally, traffic data programs were built almost exclusively on imbedded loop detectors. Over time, more and more collection technologies have been developed and deployed to address shortcomings in their predecessors. This session will highlight several newer methods of data collection and the advantages that they provide.

Floating Car Data for Transportation Planning
Nicholas D. Cohn, TomTom International, Netherlands
The Trials and Tribulations of Video Data Collection in the City of Calgary
Lindsay O'Reilly and Carie Lynn Frederick, City of Calgary, Canada
Using Video for Economically Collecting 24/48 Hour Volume and Classification Counts on High AADT Routes
Rob E Robinson, Illinois Department of Transportation
Wednesday, June 6, 2012, 3:30 p.m.-4:00 p.m., Regency Ballroom Foyer
Afternoon Break

Wednesday, June 6, 2012, 4:00 p.m.-4:45 p.m., Oak
ICWIM6 Session 5B: Application of WIM to Bridges
Ales Znidaric, Slovenian National Building and Civil Engineering Institute, ZAG, Slovenia and Andrew Nichols, Marshall University, United States, presiding

WIM data used for bridge load assessment and for the development of bridge loading standards, has made possible ‘long run’ simulation of traffic loading on bridges where lifetimes of traffic loading are simulated on computer. Use of WIM data on bridges allows ‘what if’ questions to be answered such as ‘what would be the implications for bridges if the allowable legal weight limit were increased’. This session will cover the topic of the use of specific WIM applications on bridges.

A Combined Weigh-in-Motion and Structural Health Monitoring System on a Wisconsin-Michigan Border Bridge
David E. Kosnik, Northwestern University, USA

Weigh in Motion on the Köhlbrand Bridge in the Port of Hamburg
Thomas Spindler, ESG Workstation, Germany

Assessing Confidence Intervals on the Extreme Traffic Loads
Franziska Schmidt, IFSTTAR, Paris

Portable Bridge WIM Data Collection Strategy for Secondary Roads
Cathal Leahy, UCD, Dublin, Ireland

Wednesday, June 6, 2012, 4:45 p.m.-5:30 p.m., Oak
ICWIM6 Panel Discussion 2: WIM for Infrastructures
Eugene O’Brien, University College Dublin, Ireland and Mike Moravec, FHWA, United States, presiding

Panelists: Mark Hallenbeck (USA), Lily Poulikakos (Switzerland), Valter Tani (Brazil), Eiki Yamaguchi (Japan)

This session will discuss the impact of the use of WIM applications on infrastructure management. WIM has been used for many years to assess the sensitivity of pavements to different types of tire. In ICWIM5, South African research was reported that showed measured tire pressure ‘footprints’ from different tire types. This shows the potential of WIM to be used to assess the road friendliness of tires. Sophisticated approaches include the University of Nottingham’s general framework for pavement life assessment, in which they have made their model freely available for download and are encouraging other researchers to participate in a worldwide comparison of the most sophisticated approaches. WIM data, also used for bridge load assessment and for the development of bridge loading standards, has made possible ‘long run’ simulation of traffic loading on bridges where lifetimes of traffic loading are simulated on computer. Use of WIM data on bridges allows ‘what if’ questions to be answered such as ‘what would be the implications for bridges if the allowable legal weight limit were increased’.
Data Storage, Management, and Analysis: Getting the Most from our Data Investment
Kurt Brian Matias, New York State Department of Transportation, presiding

Data collection, a complicated business in its own right, is only the beginning of the story for traffic monitoring programs. To be truly valuable to an agency, data must be stored and maintained in a way that protects data integrity and provides the analysis capabilities to create actionable information. This session will describe several database systems and the tools within them that enhance agency data.

Extracting Information from 2010 Virginia Travel Time Data Using Business Intelligence Software, OLAP (On-line Analytical Processing), and Relational Databases
James Richardson, University of Virginia

Colorado DOT’s Travel Monitoring Program Data Warehouse Evaluation Project
Aaron Moss, Colorado Department of Transportation

Lesson Learned: Understanding, Processing and Using Archived Traffic Speed Data from Private Sector Providers
Wang Zhang, Maricopa Association of Governments

Phoenix’s Regional Archived Data System (RADS)
Jeffrey H. Jenq, Oz Engineering

Travel Time Data Collection and Quality Control
Shawn M. Turner, Texas Transportation Institute, presiding

Travel time data is becoming an increasingly important element for both operations and performance management in transportation agencies. The methods of collecting this data are often quite different from traditional count program techniques and as a result, data must be evaluated and managed differently. In this session three examples will be shared.

Evaluating Travel Time Data Quality from a Private Sector Data Provider: A Case Study of I-66 in Northern Virginia
Michael Daniel Fontaine, Virginia Center for Transportation Innovation and Research

Processing and Evaluation of Toll Data for Travel Time Estimation on Chinese Toll Ways
Tongbin Teresa Qu, Texas Transportation Institute

City of Chandler Automated Travel Time System (CHATTS)
Tomas Guerra, Oz Engineering

Performance Measures
William Knowles, Texas Department of Transportation, presiding
States across the country are becoming more performance based with respect to operations and maintenance investments. This focus has given rise to new systems and methods for measuring and reporting performance across functions and facility types. A few such systems will be highlighted to further the discussion.

**Performance Reporting using the PORTAL Transportation Data Archive**  
Kristin A. Tufte, Portland State University

**Improving the Performance of Performance Monitoring**  
Jane Berner, California Department of Transportation

**Estimating Arterial Free-flow Speeds from Private-Sector Speed Datasets for Inclusion in the Urban Mobility Report**  
David Lynn Schrank, Texas Transportation Institute

**Standardized Performance Reporting via the Web: TomTom Traffic Stats**  
Nicholas D. Cohn, TomTom International, Netherlands

Wednesday, June 6, 2012, 5:30 p.m.-6:30 p.m., Oak  
**ISWIM General Assembly** (open to all)

Wednesday, June 6, 2012, 7:00 p.m.-8:00 p.m., Continental  
**TAC Meeting for LTPP SPS Traffic Data Collection Pooled Fund Study**  
(members only)

---

**Thursday, June 7**

Thursday, June 7, 2012, 7:15a.m.-8:15a.m., Continental  
**Loop and Length-Based Classification Pooled-Fund Meeting** (members only)

Thursday, June 7, 2012, 7:30a.m.-8:30a.m., Regency Ballroom Foyer  
**Breakfast**

Thursday, June 7, 2012, 8:30 a.m.-9:45 p.m., Oak  
**ICWIM6 Session 6: Application of WIM to Pavements**  
Morris de Beer, CSIR, South Africa and Deborah Walker, FHWA, United States, *presiding*
Applications of Weigh-in-Motion in Pavement Engineering
Lily Poulikakos, Empl, Switzerland

Pavement Damage Due to Dynamic Load - Brazilian Road Deterioration Test with MS-WIM
Gustavo Otto, Federal University of Santa Catarina, Brazil

Evaluating the Role of Weigh-in-Motion in Mechanistic Pavement Analysis
Randy Hanson, IRD INC., Canada

Thursday, June 7, 2012, 8:30 a.m.-10:00 a.m., Gold Room

Traffic Data Requirements: Meeting the Needs of Multiple Users
Benjamin Timerson, Minnesota Department of Transportation, presiding

Traffic data programs are experiencing increasing demands for information to fulfill the requirements of a variety of users. This session will focus on different traffic data requirements and how agencies respond to increasing needs for traffic data beyond the reasons for original collection activities. This session will discuss several specific uses of data and how those uses impact data collection requirements.

Evaluating Current Weigh-in-Motion Sensors and Traffic Data Requirements Now and the Future
Roy Czinku, International Road Dynamics, Inc., Canada

Traffic Data and Its Uses in Air Quality Analysis
Sue Kimbrough, US EPA

Traffic Monitoring Guide (TMG) Update: Meeting Current Needs
Anita Vandervalk-Ostrander, Cambridge Systematics, Inc.

The Value of Roadway and Traffic Data for Safety; An FHWA Perspective
Bob Pollack, FHWA, Office of Safety-Analysis and Evaluation Team

Data Quality and Innovation in the North Carolina Seat Belt Survey
Larry Miller, RTI International

Thursday, June 7, 2012, 8:30 a.m.-10:00 a.m., Far East

Research and Evaluation
Catherine Wolff, Texas Department of Transportation, presiding

Research and evaluation activities can be both data sources and data customers. Research conducted in the last several years has mainstreamed data collection with mobile devices such as Bluetooth readers. Continuing research is evaluating additional uses of this data and improved processing methods. Improved operational strategies such as ICM promise significant returns on investment but little actual data exists to back up these claims. This session will highlight activities in both areas.

Case Study: Application of Bluetooth Detection Technology for an Origin-Destination Study on Crowchild TR in Calgary
Wanyong Zhong, City of Calgary, Canada

Sensing with Ubiquitous Mobile Devices: Travel Pattern Discovery
Yegor Malinovskiy, University of Washington

Assessing the Performance of Integrated Corridor Management Strategies
Matthew Wesley Burt, Battelle Memorial Institute
Intersection Operational Test to Evaluate the Performance of Vehicle Detection Technologies  
Maryam Moshiri, University of Manitoba Transport Information Group

Predicting the Future of ITS Deployment Based on Past Deployment Evidence  
James S. Pol, USDOT ITS Joint Program Office

Thursday, June 7, 2012, 8:30 a.m.-10:00 a.m., Fairmont Dallas

Thursday, June 7, 2012, 8:30 a.m.-10:00 a.m., *Parisian*

**Quality Control Software Solutions and Discussion**  
Steven Jessberger, Federal Highway Administration, presiding

This session will focus on major software providers in the US who assist States and local agencies in quality control of their traffic data. Discussion of quality control procedures and innovations will also be part of this panel discussion. Presentations for 20 minutes on each software vendor will be provided.

**TRADAS Quality Control Software**  
LJ Wilkinson, Chaparral Systems Corporation

**MS2 Quality Control Software**  
Ben Chen, Midwestern Software Solutions

**Transmetric Quality Control Software**  
Stephen Cropley, Transmetric America, Inc.

Thursday, June 7, 2012, 10:00 a.m.-10:30 a.m., *Regency Ballroom Foyer*

**Morning Break**

Thursday, June 7, 2012, 10:30 a.m.-noon, *Gold Room*

**Closing Session**  
Catherine McGhee, Virginia Center for Transportation Innovation and Research, presiding

**An Elected Official's View on the Importance of Quality Traffic Information**  
Sandy Greyson, Member of NCTCOG Regional Transportation Council and Councilmember, City of Dallas

**Moving NATMEC Initiatives Forward**  
Catherine McGhee, Virginia Center for Transportation Innovation and Research

**Traffic Data Initiatives at FHWA**  
Steven Jessberger, Federal Highway Administration

**ICWIM6 Awards**  
Bernard Jacob, Anne-Marie McDonnell and Eugene O’Brien, ISWIM

**Conclusions of ICWIM6**
Eugene O'Brien, ISWIM

Thursday, June 7, 2012, 12:30p.m.-2:00p.m., Continental
NATMEC Planning Committee (members only)
Catherine McGhee, Virginia Center for Transportation Innovation and Research, presiding

Thursday, June 7, 2012, 12:30p.m.-2:00p.m., Fountain Room
ISWIM Board Meeting (members only)
SiWIM is a fully portable, very accurate and reliable bridge weigh-in-motion system that is installed on the superstructure of an existing bridge and does not damage the pavement. SiWIM results are used for preselection of overloaded vehicles, for traffic analyses, and for studies needed for efficient design and assessment of road infrastructure assets (pavements and bridges).

Chaparral Systems Corporation specializes in the development and implementation of its flagship traffic data processing system, TRADAS. With TRADAS installed in its customer base, Chaparral strives to maintain a significant lead in both software technology and traffic data processing requirements.

CountingCars.com has created products that simplify the entire traffic counting process. From video collection with the COUNTcam to the PC-TAS software for viewing videos and counting cars using the COUNTpad, you get complete control of your video and data.

As a leading supplier of traffic data recording equipment, Diamond Traffic has been designing, manufacturing, and selling equipment for the industry for more than 35 years and is committed to providing value to customers through quality products and services that are proven and reliable.

Agencies and engineering firms across the country depend on high-quality traffic data from industry leader DTS. We combine nationally recognized transportation management experts with best-of-breed technical solutions to achieve your goals and exceed your expectations. www.dtsits.com

FHWA's goal is to provide innovative, timely, customer-responsive guidance, products, and publications to inform the public and appointed and elected officials on the U.S. travel condition, travel trend, travel demand, travel behaviors, licensed drivers, registered vehicles, roadway performance and condition, highway finance, motor fuel usage, and other
related environmental, revenue, and investment need issues.

Booth 103
Intercomp
Liz Young
Medina, MN
lizy@intercompcompany.com
Phone: 763-476-2531

Intercomp is the world’s largest manufacturer of portable weighing solutions and has been serving the industry for more than 30 years. Intercomp manufactures weigh-in-motion, wheel load, and axle load scales to weigh and classify vehicles. For more information, contact Intercomp at info@intercompcompany.com, visit online at www.intercompcompany.com, call toll free at 800-328-3336, or call worldwide at 763-476-2531.

Booth 312
International Road Dynamics Inc.
Donna Bergan
Saskatoon, SK Canada
donna.bergan@irdinc.com
Phone: 306-653-6600

IRD is a highway traffic management products and systems-technology company operating in the ITS industry, offering experts in advanced technologies to detect and weigh vehicles at highway speeds, the integration of these and other complementary ITS technologies into systems designed to solve traffic problems, and supplying custom designed systems.

Booth 203
Kistler Instrument Corporation
Christine Portik
Amherst, NY
christine.portik@kistler.com
Phone: 716-691-5100

Kistler Instrument Corporation's core competence is the development and production of sensors for measuring pressure, force, torque, and acceleration for vehicle weigh-in motion. Kistler offers the Lineas sensor with

Quartz Technology. The sensor operates on the piezoelectric effect and provides maintenance-free operation for a variety of weigh-in-motion applications.

Booth 302
Measurement Specialties, Inc.
Jesse Hauck
Hampton, VA
jesse.hauck@meas-spec.com
Phone: 757-766-4367

Measurement Specialties, Inc, is the world leader in piezoelectric sensors for WIM, speed and red light camera triggers, and vehicle classification. The Roadtrax BL sensor is easily installed into a narrow cut in the road and returns an electrical signal that gives highly accurate information on individual vehicles.

Booth 214
MS2
Lev Wood
Ann Arbor, MI
dw@ms2soft.com
Phone: 734-995-0200

MS2 specializes in the design and hosting of web-based transportation database applications used by public-sector transportation engineers and planners.

Booth 110
Peek Traffic Corporation
Vance Williams
Palmetto, FL
vance.williams@peektraffic.com
Phone: 941-809-6670

Automated data recording devices and software. Demonstrations of new product releases, technologies, and techniques.
time, with far less disruption to traffic than traditional detection technologies. Deployed in more than 40 U.S. states and 10 countries, the Sensys Networks’ wireless vehicle detection system is the technology standard for the world’s largest traffic data systems.

**Booth 115**  
**Southern Traffic Services, Inc.**  
Jim Neidigh  
Georgetown, TX USA  
jneidigh@southerntrafficservices.com  
Phone: 512-818-3804

Traffic data collection service, installation of inductance loops, axle sensors, weigh-in-motion, turning movements, time–delay studies, and vehicle classification methods.

**Booth 212**  
**TDC Systems Ltd**  
Andy Lees  
Weston Super Mare, United Kingdom  
andy.lees@tdcsystems.co.uk  
Phone: +44(0)-1934-644299

TDC Systems specializes in the design and manufacture of a complete range of traffic monitoring systems, comprised of high-speed weigh-in-motion systems, vehicle counter classifiers with real-time monitoring applications, products for maximizing UTC systems, journey time, and OD systems using Bluetooth technologies, and air-quality monitoring equipment.

**With more than 3,000 pieces of traffic data collection equipment, The Traffic Group conducts nearly 100,000 counts annually, providing data for license plate survey/origin and destination studies; manual turning movement counts; parking lot occupancy and turnover studies; pedestrian/vehicle classification counts; portable machine counts; queueing studies; and speed, travel time, and delay studies.**

**Booth 102**  
**TimeMark Incorporated**  
Daniel Gossack  
Salem, OR USA  
danielg@timemarkinc.com  
Phone: 503-363-2012

The TimeMark NT series of portable and manual counters along with the latest software, VIAS2, will be on display.

**Booth 215**  
**Transmetric America Inc**  
Karin Lin  
Austin, TX USA  
sales@transmetric.com  
Phone: 512-977-1822

Traffic Server 6 is a comprehensive, web-based, traffic data management solution that transforms raw traffic data into decision support information. Used by transportation agencies large and small, it manages the full life cycle of traffic data—from scheduling counts to managing permanent devices to interactive end-user reports delivered via GIS.

**Booth 204**  
**The Traffic Group, Inc.**  
John Blair  
Baltimore, MD USA  
jblair@trafficgroup.com  
Phone: 410-931-6600

**Booth 305**  
**Transportation Research Board**  
Reggie Gillum  
Washington, DC USA  
rgillum@nas.edu  
Phone: 202-334-2382

TRB is a division of The National Academies, which include the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. The mission of TRB is to promote innovation and progress in transportation through research. TRB’s activities cover all transportation modes and address topics of interest to policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions.