

International Conference on Weigh-in-Motion (ICWIM6)

Fairmont Dallas, TX, June 4-7, 2012

General Program

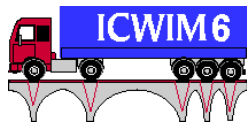
Session 1: WIM Algorithms, Technology and Testing

Mon. June 4, 10:00-12:00 (1A) + 13:30-15:30 (1B)

Chair: Anne-Marie McDonnell (ConnDOT, United States)

Co-chair: Jesus Leal (CEDEX, Spain)

Ravneet BAJWA, Christopher FLORES, Ram RAJAGOPAL, Pravin VARAIYA, Ben WILD	An experimental wireless accelerometer-based sensor system for applications to WIM and vehicle classification
Robert ABERCROMBIE, Erik FERRAGUT, Shane BOONE	Hidden Markov modeling for Weigh-In-Motion estimation
Piotr BURNOS	Automatic vehicle classification for WIM systems
Franziska SCHMIDT, Bernard JACOB	Experimentation of a bridge WIM system in France and applications to bridge monitoring and overload screening
Sio-song IENG, Abderraouf ZERMANE, Franziska SCHMIDT, Bernard JACOB	Analysis of B-WIM signals by statistical tools
Eiki YAMAGUCHI	Bridge Weigh-In-Motion by strain measurement of transverse stiffeners
Hua ZHAO, Nasim UDDIN, Eugene OBRIEN	Field verification of a filtered measured moment strain approach to the bridge weigh-in-Motion algorithm
Eugene OBRIEN, Donya HAJIALIZADEH, Nasim UDDIN, Des ROBINSON, Rigobert OPITZ	Strategies for axle detection in bridge Weigh-in-Motion systems
Ales ZNIDARIC, Igor LAVRIC, Jan KALIN, Maja KRESLIN	Using strips to mitigate the multiple-presence problem of BWIM systems
Jason DOWLING, Arturo GONZALEZ, Eugene OBRIEN, Bernard JACOB	Experimental testing of a multiple-sensor bridge Weigh-In-Motion algorithm in an integral bridge



Session 2: WIM for Enforcement

Mon. June 4, 16:00-17:30

Chair: Chia-Pei Chou (NTU, Taiwan)

Co-chair: Victor Dolcemasclo (Ministry of Transport, France)

Raul DIAZ	WIM systems in Chile, a successful experience
Leszek RAFALSKI, Michal KARKOWSKI, Cezary DOLEGA, Janusz WROBEL	ANPR-MMR and WIM for detection of overloaded vehicles
Ivan KRIZ	One year experience with use of certified HS-WIM systems intended for direct enforcement in the Czech Republic
Dan MIDDLETON, Tom KEARNEY, Richard HARSHMAN	Integration of WIM technology into National Institute of Standards and Technology's Handbook 44, 2012 edition

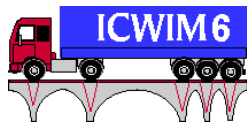
Session 3: WIM Standard, Calibration, Data Quality and Management

Tue. June 5, 10:30-12:30 (3A) + 14:45-15:30 (3B) + 16:00-17:30 (3C)

Chair: Ralph Gillmann (FHWA, United States)

Co-chair: Marcio Paiva (UFSC, Brazil)

Bernard JACOB, Hans VAN LOO	Standardization of Weigh-In-Motion in Europe
David CORNU, Christian WUETHRICH	Testing and certification of WIM systems
Christiaan SCHILDHAUER, Rob SIK	Modern calibration & verification techniques of WIM data
Piotr BURNOS	Enhanced autocalibration of WIM systems
Gerhard DE WET	Data-based WIM calibration and data quality assessment in South Africa
Jesus LEAL	Evaluation of several piezoelectric WIM systems
Eric KLEIN, Daniel STANCZYK, Sio-song IENG	Improvement of weigh-in-motion accuracy by taking into account vehicle lateral position
Deborah WALKER, Olga SELEZNEVA, Dean WOLF	Findings from LTPP SPS WIM systems validation study
Jose RODRIGUEZ-RUIZ, Rafiqul Alam TAREFDER	Weigh-in-Motion data: quality control, axle load spectra, and influence on pavement design
Derong MAI, Rod TUROCHY, David TIMM	Quality control of Alabama weigh-in-Motion data from data user perspective and development of MPEDG traffic inputs
Deborah WALKER, David CEBON	The metamorphosis of LTPP traffic data



Session 4: WIM Implementation, ITS, Traffic Monitoring, Safety and Environment

Wed. June 6, 8:30-10:00 (4A) + 10:30-11:15 (4B)

Chair: Chris Koniditsiotis (NTCA, Australia)

Co-chair: Lily Poulikakos (EMPA, Switzerland)

Andy LEES	High Speed Weigh-in-Motion in the UK
George MINTSIS, Christos TAXILTARIS, Socrates BASBAS, Matthew KARLAFTIS	Trends in HGV performance in the main Greek road network: lessons to learn
Lily POULIKAKOS, Kurt HEUTSCHI, Patrik SOLTIC	Environmental impact of heavy vehicles based on noise, axle load and gaseous emissions
Chris KONIDITSIOTIS, Steve COLEMAN, David CAI	Bringing heavy vehicle on-board mass monitoring to market
Kimio SOMEYA, Hiroyoshi OKUDA, Takekazu SHINDO, Yuji MOCHIZUKI, Norio SAKAI	Application of the center of gravity measurement based on the dynamic wheel loads measurements of vehicles
Anna CEROVSKA, Martin OSTRIHOò, Stanislav URGELA	Sensors test at their possible failure in the array and its reduced topologies for the accurate WIM methods

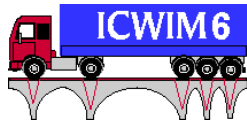
Session 5: Application of WIM to Bridges

Wed. June 6, 13:30-15:30 (5A) + 16:00-16:45 (5B)

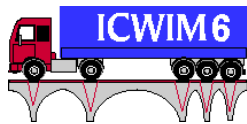
Chair: Ales Znidaric (ZAG, Slovenia)

Co-chair: Andrew Nichols (Marshall University, United States)

Richard CHRISTENSON, Anne-Marie MCDONNELL	A dual purpose bridge health monitoring and Weigh-In-Motion system for a steel girder bridge
Andrzej NOWAK, Przemyslaw RAKOCZY	WIM based simulation model of site specific live load effect on the bridges
Ales ZNIDARIC, Maja KRESLIN, Igor LAVRIC, Jan KALIN	Modeling traffic loads on bridges - A simplified approach using bridge-WIM measurements
Hua ZHAO, Nasim UDDIN	Use of Weigh-In-Motion (WIM) data for site-specific LRFR bridge rating
David KOSNIK	A Combined Weigh-in-Motion and Structural Health Monitoring System on a Wisconsin-Michigan Border Bridge
Florian WEISS, Thomas SPINDLER, Bert SCHUBERT	Weigh-in-Motion on the Köhlbrand bridge in the port of Hamburg
Xiaoyi ZHOU, Franziska SCHMIDT, Bernard JACOB	Assessing confidence intervals of extreme traffic loads for bridges
Bernard ENRIGHT, Cathal LEAHY, Eugene OBRIEN, Jennifer	Portable bridge WIM data collection strategy for secondary roads



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Session 6: Application of WIM to Pavements

Thu. June 7, 8:30-9:45

Chair: Morris de Beer (CSIR, South Africa)

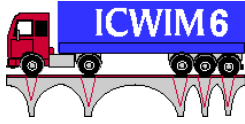
Co-chair: Deborah Walker (FHWA, United States)

Lily POULIKAKOS	Applications of weigh-in-motion in pavement engineering
Gustavo OTTO, Leto MOMM, Amir MATTAR VALENTE	Pavement damage due to dynamic load - Brazilian road deterioration test with MS-WIM
Selma YOUSIF, Roanne KELLN, Curtis BERTHELOT, Roberto SOARES, Randy HANSON	Evaluating the role of Weigh-in-Motion in mechanistic pavement analysis

Session Posters

Tue. June 5, 13:30-14:45

Martin SLAVIK, Gerhard DE WET	Checking WIM axle-spacing measurements
Piotr BURNOS, Janusz GAJDA, Ryszard SROKA, Marek STENCEL, Tadeusz ŻEGLEŃ	Traffic-1: user tailored measuring system for road traffic parameters
Antoine JAUREGUIBERRY, Benoit GEROUDET	Applications from a centralized system of WIM
Morris DE BEER, Ismail SALLIE	An appraisal of mass differences between individual tyres, axles and axle groups of a selection of heavy vehicles in South Africa
Habtamu ZELELEW, Kevin SENN, Athanassios PAPAGIANNAKIS	Assessment of Weigh-in-motion (WIM) systems: a Nationwide survey
Vincent JANES, Eric KLEIN, Sebastien ROMON, Franziska SCHMIDT, Hai PHAM DOAN	Designing WIM data aggregating systems
Otto FUCIK, Emil DOUPAL	WIM system approved for direct enforcement
Sio-song IENG, Daniel STANCZYK, Eric KLEIN	Statistical study of MS-WIM data acquired in Maulan experimental site
Nasim UDDIN, Talat SALAMA, Virginia SISIOPIKU, Jim RICHARDSON, Hua ZHAO	Early experience with a commercial BWIM system for enforcement
Herbert SOUTHGATE, David JONES	Improving vehicle classifications



Panel Discussion 1: Enforcement using WIM

Wed. June 6, 11:15-12:00

Chair: Bernard Jacob (IFSTTAR, France)

Co-chair: Tom Kearney (FHWA, United States)

Panelists: Joe Crabtree (Kentucky's University Research Center, United States), Raul Diaz (Ministry of Transport, Chile), Hans van Loo (Kalibra, Netherlands)

Panel Discussion 2: WIM for Infrastructures

Wed. June 6, 16:45-17:30

Chair: Eugene OBrien (UCD, Ireland)

Co-chair: Mike Moravec (US-DOT, United States)

Panelists: Mark Hallenbeck (Washington State University, United States), Lily Poulikakos (EMPA, Switzerland), Valter Tani (UFSC, Brazil), Eigi Yamaguchi (Kyushu Institute of Technology, Japan)