International Benefits, Evaluation and Costs (IBEC) Working Group

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ITS in Networking Operations, PIARC
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Agenda

- What are benefits, evaluation and costs?
- Why is evaluation important at the project level?
- What is evaluation important at the national level?
- Evaluation in the US
- Evaluation in Europe
- IBEC
  - IBEC Organization and Events
  - IBEC Activities
  - IBEC Future Plans
- Why join IBEC?
What are benefits, evaluation and costs?

- **Focus on system impacts**
  - Not technical performance

- **Measure how well project goals are being achieved**

- **Frequently used goal areas & example measures:**
  - Safety: # of crashes, severity of crashes
  - Mobility: travel time, delay, travel time reliability
  - Productivity: cost savings
  - Capacity: # of vehicles facility can accommodate
  - Energy/Environment: emissions reduction, fuel savings
  - Customer satisfaction: results of customer surveys
Why is evaluation important at the project level?

- Evaluation provides an opportunity to learn from those who have come before.

- Evaluation provides evidence of benefits to justify further investments in ITS.

- Evaluation enables deployers to modify system operation for continuous improvement.
Why is evaluation important at the national level?

- Evaluation helps countries make better use of limited resources.
- Evaluation makes it easier to choose between competing proposals.
  - Easier to choose the most cost-effective option
- Evaluation helps concentrate national efforts on those projects that offer the better return on investment.
Current Status of ITS in the US

- Over 20 years of ITS research and development
- New research continues apace
- Many applications are now ‘mature’
  - ITS has become mainstreamed
- Investment decisions are primarily made at the State, local and industry level
- The Federal Government is coordinating these efforts and encouraging standardization
Future Direction for ITS: Federal (USA)

- Federal Government has reduced funding for deployment and is focusing on nine areas of research:
  - Cooperative Intersection Collision Avoidance Systems
  - Electronic Freight Management
  - Emergency Transportation Operations
  - Integrated Corridor Management Systems
  - Integrated Vehicle Based Safety Systems
  - Mobility Services for All Americans
  - Nationwide Surface Transportation Weather Observing and Forecasting System – Clarus
  - Next Generation 9-1-1
  - Vehicle Infrastructure Integration (VII)
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Electronic Freight Manifest

- Focused on truck-air-truck shipments between China and the US
- Testing the benefits of moving from paper based supply chains to electronic supply chains

Prototype will:
- Exchange information electronically in a standardized format;
- Provide an open architecture in which all shippers, across all modes can access needed information
Emergency Transportation Operations

- Focused on use of technology to improve evacuations
  - Improved monitoring and coordination
  - Support for reversed lanes
Integrated Corridor Management

Freeway Management

Arterial Management

Incident Management
Integrated Vehicle Based Safety Systems

**Forward** Collision Warning System

**Rear Impact** Collision Warning System

**Commercial Side** Object Detection System
Future Direction for ITS: State and Local (USA)

- Dedicated Federal funding for ITS deployment eliminated
- ITS must now sink or swim on its own
- State and local officials
  - Economic development solutions
    - Especially for growing traffic congestion
  - Recognize benefits of ITS
    - Difficult to demonstrate / convey benefits to the public
  - Even greater need for evaluation
Success Stories (USA)

- Significant deployment on metropolitan freeways
  - 80% of toll facilities have electronic collection capabilities
  - Nearly all major cities have freeway traffic management centers
- Significant adoption of ITS by transit agencies
  - 69% of agencies have automated technologies
- Traveler information services are growing
  - Available in 24 of the 50 states
    - Accessible to 50% of the nation’s population by 2006
Room for Improvement (USA)

- Development of in-vehicle systems has been slow
- Relatively few inter-urban applications
- Limited surveillance on arterial streets
- Integration challenges remain
Current Status of ITS in Europe

- 10-15 years in ITS research and development
- Some applications are now ‘mature’
- Each nation state has its own ITS applications
- The EU is encouraging standardisation, especially in the delivery of services
Major Areas of ITS Investment in Europe

- Urban on-road applications
- Inter-urban on-road applications
- Monitoring and enforcement applications
- Trip planning systems
- Driver information
- Freight and fleet management
- Automated vehicle applications
- Vulnerable road user applications
Future Direction for ITS: In Europe

- Major investment in Galileo
- Increasing emphasis placed on eSAFETY systems
- Underpinned by Information and Communication Technologies (ICT)

Move is towards:
- Intelligent ICT-based transportation (Co-operative vehicle highways, eCALL systems etc)
- Improved traffic and travel information
- Improved traffic management and road safety

EC’s aims for the transport sector are:
- More competitive alternatives (to the private vehicle)
- Integrated, greener, smarter, and safer transport systems
- 7th EC Framework to start in 2007 and last until 2013
IBEC Organization

Mission
- To provide an international forum for information exchange on ITS evaluation methods and results

Membership
- **FREE** and open to all interested persons
- Over 300 members in over 30 countries
- To join, send e-mail to membership@ibec-its.org
IBEC Organization

- **Chair**
  - Jane Lappin, Volpe Center (U.S.)

- **Vice Chair**
  - Steve Morello, Egis Group (France)

- **Secretariat**
  - FaberMaunsell, U.K.

- **Website**
  - www.its-ibec.org
IBEC at ITS World Congresses

- **Toronto, Canada, November 1999**
  - Seminar prior to World Congress

- **Turin, Italy, November 2000**
  - Workshop on final day of World Congress

- **Sydney, Australia, October 2001**
  - Workshop as four Special Sessions

- **Chicago, U.S., October 2002**
  - Workshop as four Special Sessions
  - Training course on ITS evaluation
  - Official launch of IBEC Working Group at evening reception
IBEC at ITS World Congresses

- Madrid, Spain, November 2003
  - All-day workshop as four Special Sessions
  - Training course on ITS Evaluation
  - Breakfast business meeting
  - Evening reception

- Nagoya, Japan, October 2004
  - Workshop as four Special Sessions
  - Evening reception
  - Lunchtime business meeting

- San Francisco, US, November 2005
  - Workshop as four Special Sessions
  - One-day international “tour” on ITS Evaluation prior to World Congress
  - Breakfast business meeting
  - Evening reception
IBEC at ITS World Congresses

- **London, U.K., October 2006**
  - Workshop as four Special Sessions
    - Update on the Impacts of Road Pricing: Beyond the Technology
    - The “Big Shift”: From Building Roads to Operating Transportation Networks
    - The Economy, Security, and Efficiency Benefits of Emerging Freight Technologies
    - ITS Case Studies from Economies in Transition and Developing Countries
  - One-day international “tour” on ITS Evaluation
  - Business meeting
  - Evening reception

- **Beijing, China, 2007**

- **New York City, US, 2008**

- **Stockholm, Sweden, 2009**

www.ibec-its.org
IBEC at Regional ITS Forums

- **I2tern - Euro Regional Projects - Conferences**
  - Dusseldorf, Germany, 2003
  - Vienna, Austria, 2004
  - Dublin, Ireland, 2005
  - Barcelona, Spain, 2006

- **ITS in Europe Conferences**
  - Budapest, Hungary, 2004
  - Hannover, Germany, 2005
IBEC at Regional ITS Forums

Other venues at which to promote IBEC

- World Bank In-House Training on Transportation, Washington, D.C., April 2006
- ITS Canada Annual Meeting, Whistler, Canada, June 2006
- World Bank Seminar on International Experience in ITS, Beijing, China, June, 2006
- ITS Asia Pacific Forum, Hong Kong SAR, July 2006
- PIARC Committee C.14 on Management of Network Operations Seminar, Kuala Lumpur, Malaysia, August 2006
- Pan American ITS Congress, Santiago, Chile, November 2006
- ITS South Africa Annual Meeting, Pretoria, South Africa, March 2006
IBEC Future Plans

- Monthly e-mail communication to members

- International compilation of best practices on selected topics
  - Under consideration: “ITS and Special Events”, “ITS for Civil Protection”

- Increase participation from under-represented regions
  - Africa, South America, Asia-Pacific, Middle East, Eastern Europe
Why join IBEC?

- To tap into a worldwide pool of expertise on ITS benefits, evaluations, and costs
  - Thought-provoking and informative sessions at ITS World Congresses
  - E-mail discussion group where members can post questions and get answers
  - Networking opportunities at regional ITS meetings, e.g.:
    - ITS America, ITS in Europe, ITS Japan
  - International compilation of best practices on selected topics
    - Topics under consideration: “ITS for Special Events”, “ITS for Civil Protection”

- How to join
  - Send e-mail to membership@ibec-its.org
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Visit our stand 16 at the exhibit hall of this conference!