Our Transportation Center: Building a Foundation for Collaboration

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Strategic Vision: A Refresher

• Pre-eminent think-tank and laboratory in the world for *cutting-edge research that matters* on a global scale.
• Provide the *premier educational program* in transportation systems.
• Essential academic partner for *novel, high-impact collaborative research*.
• Advance state of practice industry applications through a mix of engaged *application-driven research* and *fundamental advances*. 
Progress Highlights: 2009-2010 (I)

BAC Membership
- 2 new companies, 6 new members

Sponsored Research Activity
- Active: $4 M (22 research projects) in FY 2010
- Submitted: 22 proposals, $10.2 M, 16 faculty

International Technical Assistance
- Strategic Priorities Workshop, Umm-Al-Qura Univ, Saudi Arabia
- New National Transportation Center for Ministry of Transport, KSA
- Expanded advisory and exchange activities around the world

Outreach, Events, Public Policy
- Beyond Transportation: The Economic Impact of Rail in Illinois
- Symposium on Pedestrian Safety at Rail Crossings
- Symposium on Transportation Network Design and Economics

Students
- Continuing improvement in quality and diversity, back in the top 3
Progress Highlights: 2009-2010 (II)

• Building and strengthening the organization’s ability to deliver—recruited 3 new staff members:

  – Associate Director for Strategic Relations
    Bret Johnson

  – Marketing Communications Specialist
    Rachel Miller

  – Financial Administrator/Business Manager
    Hillary Bean
Progress Highlights: 2009-2010 (III)

Goal: $300,000 Raised: $324,000
New BAC Member Companies

Boyle Transportation

Norbridge
BAC: New Members (I)

Andrew Boyle
Vice President & CFO

Lee Clair
Partner

Brian Clancy
Managing Director
BAC: New Members (II)

Howard Hayes
Vice President, Traffic

Mike Malik
Chief Commercial Officer

Gene Seroka
President, Americas
BAC: New Members (III)
Additional Leadership Members

Edward Jenkins
Assistant Vice President

Paul Nowicki
Assistant Vice President
54 NUTC Faculty Affiliates—Highly Interdisciplinary

New Faculty Affiliates 2009-2010 (I)

Dirk Brockmann
Associate Professor, Engineering Sciences and Applied Mathematics
Human mobility networks, complex systems

Irina Dolinskaya
Assistant Professor, IEMS
Optimal path finding, dynamic programming, marine applications
54 NUTC Faculty Affiliates—Highly Interdisciplinary

New Faculty Affiliates 2009-2010 (II)

Steve Franconeri
Assistant Professor, Cognitive Psychology
visual processing, memory, attention
(navigation, safety)

Maciek Nowak
Assistant Professor, Loyola Graduate School of Business
Vehicle routing & tracking, supply chain management, operations management, logistics, data analysis
Executive Program Classes

Progressively and selectively building new executive program offerings—

• Targeting timely, business-relevant and high-specialization topics where NUTC faculty has unique expertise to offer.

• Successful introduction of Pricing Transportation Infrastructure in 2009.

• Consideration of both visibility/reputation/positioning impact as well as revenue generation potential.

Coping With Carbon: Sustainable Strategies for the Transportation and Logistics Enterprise
September 14 – 16

Freight Transportation: Strategies for a Changing Landscape
October 12 - 14

Pricing Transportation Infrastructure
October 18 - 20
Research Connections in Our Region

• Argonne Transportation Analysis group
  – Workshop under new ISEN initiative
  – Researcher seminars and visits
• Illinois Center for Transportation (UIUC)
  – Partnering in projects with IDOT
  – Closer strategic coordination
• Local and State Government
  – Governor of Illinois’ Office
  – CREATE/IDOT
  – CMAP, RTA, CTA
  – Tollway Authority
Increasing Research Engagement with BAC

- Knowledge exchange ("Technology Days")
- Research engagements via TC
- Leveraging opportunities for seed and matching funds through CCITT
Research Core Areas

• Logistics and Supply Chain Management and Modeling
• Transportation Network Modeling, Systems Planning and Design
• Transportation Demand, Economics and Forecasting
• Transportation Asset Management
• Transportation Policy
• Human Performance in Transportation Safety
Research: Emerging Areas

• Re-inventing the user experience in transportation
• Transportation energy and sustainability: technology, economics, markets, and behavior
• Humanitarian logistics
• System intelligence in transportation
• Designing interventions in transportation: behavior change
• Coping with disruptions and extreme events
• Freight mobility and intermodalism for global competitiveness
• Telecommunications and mobility: the evolving connection
• Urban and inter-regional mobility
Research: Strategic Focus Areas

• Re-inventing the User Experience in Transportation
  – Freight and passenger
  – Business intelligence in support of marketing, operational efficiency
  – New focus on Design

• Transportation Energy and Sustainability

• Humanitarian Logistics and Disaster Relief
Students: Our Core Mission

• 10 new graduate students in Fall 2010; top schools, excellent diversity, highly recruited
• Dissertation Year Fellowships (FIVE for 2010-11)
• TC adds value to student experience through industry exposure, seminars by authorities in the field, travel funds for conferences, fellowship stipends—essential differentiator for recruiting top talent
• Many opportunities for undergraduates interested in transportation; increasing engagement in research, internship placement with BAC companies
• Industry support is critical to our mission and to making a Northwestern Education in Transportation the unique experience it is.
Closing Thoughts

- Growing recognition at major universities of Transport as critical field of interdisciplinary research and education
  - TRANSPORTATION @ MIT
    - “A 2008 survey of 1,300 MIT faculty and senior researchers revealed that 338, or 26% of those surveyed, are doing work related to or applicable to transportation.”
  - TRANSPORT PLATFORM
    - A cross-disciplinary, cross-university initiative at the Swedish Royal Institute of Technology: rethinking how to organize programs

- AT NORTHWESTERN
  - Transportation Center founded in 1954– recognizing Transportation as cross-disciplinary scholarly domain with considerable importance to society
  - We need to keep up the momentum, and refocus institutional attention to leverage strong tradition and dynamism of our transportation programs