Our Transportation Center: Celebrating 60 Years

Hani S. Mahmassani

Presentation to the BAC
April 21, 2015
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: 2014-2015 (I)

BAC Membership (since last meeting)
- 7 new companies (9 new members)

Funded Research Activity
- Active: 9 projects $1.7 M, 4 faculty
- Submitted (to date): 10 proposals $3.3 M, 5 faculty

Students
- 15 new TR graduate students
- 12 current T&L minor students
- 13 graduate students supported via research projects
  - 4 supported via dissertation year fellowships
- $355k (to date) in support (travel, tuition, stipend, DYF’s)
NUTC 60th Anniversary Alumni Reception

NUTC 60th Anniversary Alumni Reunion and Reception

Thursday, October 16, 2014
5:30 p.m. to 8:30 p.m.
Longworth House Office Building
Washington, D.C.
NUTC 60th Transportation Summit (I)

• Supply Chain
  – **Sunil Chopra**, Northwestern
  – Doug Waggoner, Echo Global Logistics
  – Ken Heller, DSC Logistics
  – David Hedlund, AbbVie

• Sustainability & Logistics
  – **Chris Lofgren**, Schneider
  – Angela Foster-Rice, United Airlines
  – Kimberly Gray, Northwestern
  – Craig Phillip, Ingram Barge Company
NUTC 60th Transportation Summit (II)

• Financing Future Transportation
  – Mortimer Downey, Parsons Brinckerhoff
  – L. Price Blackford, Scott-Macon, Ltd.
  – Robert Martínez, Norfolk Southern Co.
  – Martin Wachs, Univ. California, Berkeley

• Technology & Innovation
  – Allen Adler, The Boeing Company
  – Hideki Hada, Toyota
  – Martin O'Neill, GE Transportation
  – Jeff Silver, Coyote Logistics
NUTC 60th Transportation Symposium

- Travel Demand and Behavior
- Logistics and Supply Chain Management—Resiliency and Robustness
- Economics, Regional Science and Policy
- Networks and Operations
Gwynne Shotwell, President and COO, SPACE X

60th Anniversary Gala Dinner Speaker
BAC: Update on Membership

- A strong year in terms of recruitment, retention of companies, events, and engagement
- Active research investigations with several BAC companies
- Actively seeking more opportunities to engage individual companies and/or consortia in research support and collaboration
- Active membership committee, several new prospects
BAC: New Leadership Member

The Port of Los Angeles
BAC: New Sustaining Companies

Accufleet International
Eyefreight TMS
Headhaul Capital Partners
Load Delivered Logistics
OmniTRAX
Progress Rail Services
BAC Members: Awards / Honors (I)

Ann Drake
International Women's Forum Award
BAC Contributions: FY13, FY14, FY15

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<th>Year</th>
<th>Goal</th>
<th>Raised</th>
<th>To Date</th>
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<td>FY14</td>
<td>$575,000</td>
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New Faculty Affiliates

David Morton
Professor
Industrial Engineering and Management Sciences

Amanda Stathopoulos
Assistant Professor
Civil and Environmental Engineering

Gunnar Stefansson
Professor, University of Iceland,
Department of Industrial Engineering, Mechanical Engineering and Computer Science
Faculty Awards / Honors (I)

Irina Dolinskaya
2014 Cole-Higgins Award for Excellence in Advising
from the Northwestern University

Aaron Gellman
2015 Wilbur S. Smith Award for Service
from the Eno Foundation
Faculty Awards / Honors (II)

Hani Mahmassani
2014 Ryuichi Kitamura Paper Award
from the Section on Travel Analysis Methods of the Transportation Research Board
with Jiwon Kim

Ian Savage
2015 Herbert O. Whitten Service Award
from the Transportation Research Forum
Students: Our Core Mission (I)

• 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.
Students: Our Core Mission (II)
Direct Student Funding Through NUTC

- Travel
- Fellowships
- Tuition/Stipend

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<th>Year</th>
<th>Travel</th>
<th>Fellowships</th>
<th>Tuition/Stipend</th>
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Students: Dissertation Year Fellows

**Madison Fitzpatrick** - Civil & Environmental Engineering
*Dynamic Attitudes and Social Networks in Travel Behavior Modeling*

**Mehrnaz Ghamami** - Civil & Environmental Engineering
*Planning Infrastructure for Electric Vehicles*

**Alireza Talebpour** - Civil & Environmental Engineering
*Modeling Driver Behavior in a Connected Environment*

**Ali Zockaie** - Civil & Environmental Engineering
*Path Finding and Traffic Equilibrium in Stochastic Networks Considering Link Travel Time Correlations*
Research Activities (I)

**Industry Research**
- Boeing
- BNSF
- U.S. Bank

**Industry Teaming**
- Booz Allen Hamilton
- SAIC, Inc.
- Sejel Technologies (KSA)
- Various small businesses
Research Activities (II)

Public Agencies / Federal Research

- The Illinois Tollway
- Argonne National Laboratory
Selected Outreach Activities (I)

Sandhouse Gang (Rail)

9/2014 – 5/2015

- American Railroads: Decline & Renaissance in the Twentieth Century
- The Race Is One! Service, Capacity, Capex, and the Railroad Renaissance
- Metra and Create: Making a Difference in Chicago
- Potholes or Tolls? Perspectives on Transportation Finance
- Civil War Railroad
Selected Outreach Activities (II)

Executive Education

Freight Transportation and Logistics

*June 15-17, 2015*
  * Registrants*
    - 1 from UPS
    - 1 from Coca Cola
    - 1 from Toyota

Chalmers Supply Chain Class

*April 20-23, 2015*
  * 1 participant from UPS via NUTC*
Selected Outreach Activities (IV)

• Supply Chain Innovation Network of Chicago
  • University Partner

• Alliance for Regional Development
  • Member of Transportation & Logistics Working Group

• Chicagoland Metropolitan Agency for Planning
  • Members of Freight Committee & Economic Development Committee
Selected Outreach Activities (III)

Spring 2014

Autonomous Vehicle Technologies
for Passenger and Freight Mobility

Wednesday, June 10, 2014
1:30 p.m. to 4:30 p.m.

Northwestern University • McCormick Tribune Center Forum
1875 Campus Drive
Evanston, IL 60208

Spring 2015

Unmanned Aerial Vehicles:
Applications and Emergent Technologies

Monday, April 20, 2015, 2:00 p.m.

Northwestern University • James L. Allen Center
2169 Campus Drive
Evanston, IL 60208
Selected Outreach Activities (IV)

WOL Symposium on Transportation Policy & Strategy

Monday, June 22

Paths to Economic Competitiveness: Advancing Supply Chain Performance in the Chicago Hub
Selected Outreach Activities (V)

• HNTB THINK FORUM
  • Moderated The Roadway of the Future

• The Rail Summit 2015 – Making Money with Rail: Linking Railroads, Intermodals, Trucks, Barges, Port
    • Echo Global Logistics & CHS, Inc.

• The 22nd International Symposium on Transportation and Traffic Theory
  – Hosting in Chicago, 2017
Selected Outreach Activities (IV)

Training Programs

Leveraging, Integrating, Networking, Coordinating Supplies (LINCS) for Supply Chain Management (SCM)

Goal: Develop 8 standardized supply chain management training programs for entry and middle-level employment: Supply Chain Management; Demand Planning; Procurement & Supply Management; Manufacturing & Service Operations; Transportation Management; Inventory Management; Warehousing Management; Order Fulfillment & Custom

Recent Actions:

• Curricula developed for 4 of the certificate tracks (some still under program review), with 4 in process
• NUTC conducted 6 interviews with industry partners to understand preferred certificate tracks, technical and leadership skill requirements for entry level employees, in-house training programs, for example.
NUTC 60th Fundraising Campaign

**STRATEGIC RESEARCH FUND**
- Freight, Logistics & Economic Competitiveness
- Data-Driven Operations & Analytics
- Sustainable Practices
- Safety
- Urban Logistics and Smart Cities

**GIVING OPPORTUNITIES**
- Name the Transportation Center
- Dissertation Year Fellowship Program
- Naming of Space in Chambers Hall (Atrium, Seminar Room)
- Diana Marek Student Enterprise Fund
- Individual Benefactor Levels
International Outreach

- New research program in the KSA related to logistics of large events
- Continue successful long-standing partnership with Chalmers Supply Chain program
- Pursuing new potential opportunities with Indonesia partners
- NUTC Faculty active in serving on review boards (KSA, France, Netherlands), delivering invited keynote talks overseas, and visiting various campuses (Taiwan, China, France, Italy, Netherlands,
In Process...

Program Review of the Transportation Center

- Timeframe: 2014-2015 academic year
- Previous review: 1998-1999
- BAC members may be contacted by a review committee comprised of internal and external reviewers
- All academic departments, major research centers, and administrative units are reviewed once every seven to ten years through the Program Review process.

4 Phases:
- Collection and analysis of unit data and survey feedback.
- Identification of key issues and a self-study by the unit faculty and/or staff.
- Visit to and evaluation of the unit by a review team comprised of senior faculty and staff members and external reviewers from exemplary peer programs.
- Implementation of recommendations agreed upon by the unit and central administration.
Closing Thoughts

• NUTC brings value: to students, to faculty, to NU, and to our industry partners.

• NUTC focused on the future
  – Pushing the limits on logistics and supply chain operations
  – Automated and connected vehicles, trucks
  – UAV workshop
  – SpaceX 60th Anniversary Dinner Gala Talk

• **BAC engagement and support critical to what we do, and how well we do it**
Thank you!
BAC: New Sustaining Members Here Today

David Arganbright
Vice President Government Affairs

Robert Chapman
Chief Executive Officer

Jim Davis
Chief Executive Officer
Guests Here Today

- **Tony Belkin**, Director, HERE (Nokia)
- **Karen Darch**, Village Manager, Village of Barrington, Illinois
- **Ken Heller**, Senior Vice President, DSC Logistics
- **Tim Hoyand**, Partner, Oliver Wyman
- **Robert Hulick**, EVP, Chief Mechanical Officer, Trinity Rail, Inc.
- **Peeter Kivestu**, Director, Teradata
- **George Goldman**, Head of Commercial – Americas, APL Limited
Membership Committee

- Vicki Bretthauer
- Lee Clair
- Norm Carlson
- Ann Drake
- Rob Hart
- Kathleen Ross
- Justin Zubrod

- Several candidates identified, invitations made, invitations in progress
- Target Areas: Shippers, International Carriers, Trucking / Logistics companies, Transportation Equipment / Systems Manufacturers, Technology Providers