

McCormick



Northwestern Engineering

Northwestern University Transportation Center

Our Transportation Center: Reaching Out, Making an Impact

Hani S. Mahmassani

Presentation to the BAC April 19, 2012

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: 2011- 2012 (I)

BAC Membership

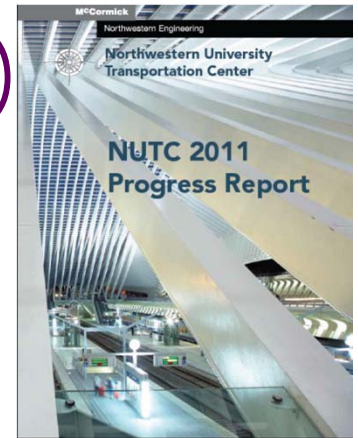
- **15** new companies, **15** new members

Funded Research Activity

- Active: **22** projects **\$3.11 M**, **14** faculty
- Submitted: **19** proposals **\$5.71 M**, **10** faculty

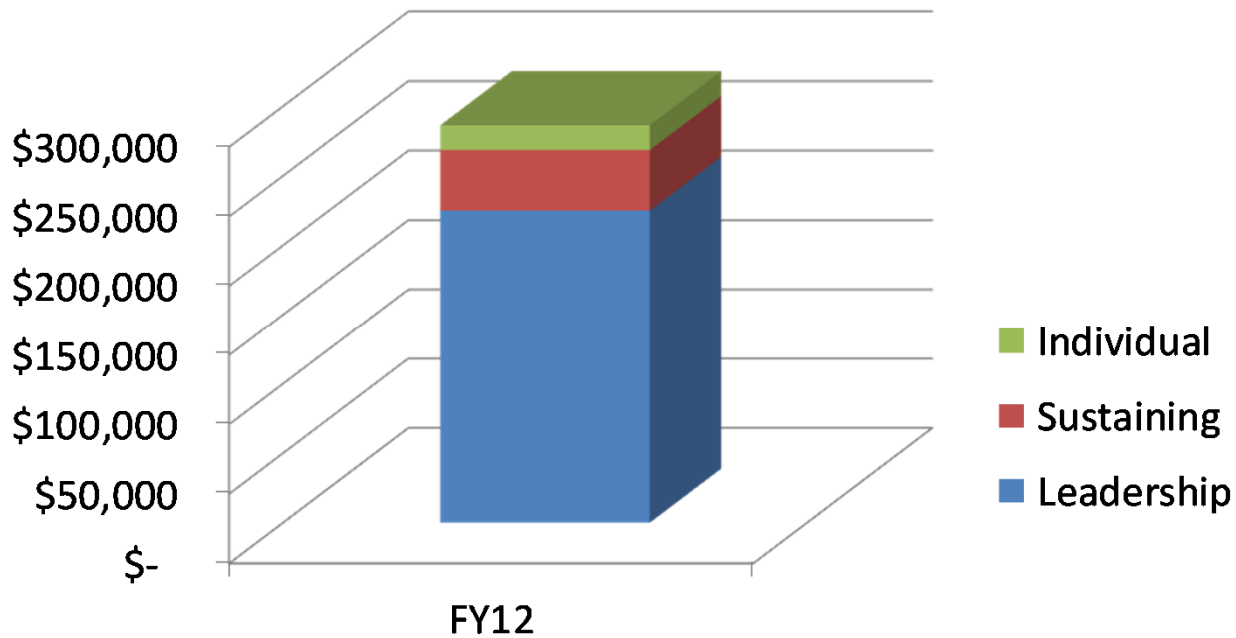
Graduate Students

- **27** supported via research projects
- **3** supported via dissertation year fellowships
- **\$522k** in support (travel, tuition, stipend, fellows)





BAC Contributions: FY12



	GOAL	BY APRIL	ACTUAL
FY 11	\$350,000	\$257,000	\$440,000
FY 12	\$400,000	\$286,000	?



Faculty: Selected Awards (I)



David Dunand

2012 Class of Fellows by The Minerals, Metals & Materials Society



Hani Mahmassani

First Greenshields Award for Best Paper in Traffic Flow Theory and Characteristics, Transportation Research Board of the National Academies (with Jiwon Kim)



Mark Ratner

2012 Willard Gibbs Medalist by the American Chemical Society



Faculty: Selected Awards (II)



Roberto Sarmiento

Fellow of the Special Libraries Association



Joseph Schofer

- Transportation Research Board's 2011 Roy W. Crum Distinguished Service Award
- National Associate by the National Research Council of the National Academies



Karen Smilowitz

McCormick Advisor of the Year

Students: Our Core Mission (I)

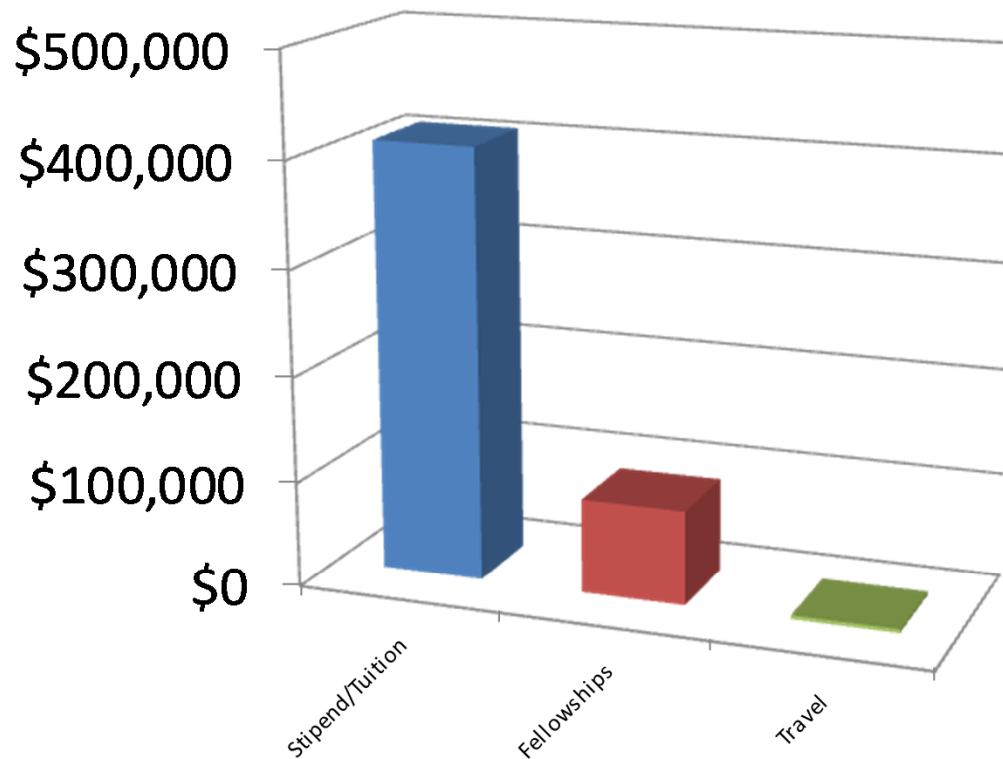
- TC adds *value to student experience* through industry exposure, seminars by authorities in the field, travel funds for conferences, fellowship stipends— essential differentiator for recruiting top talent
- Many opportunities for *undergraduates* interested in transportation; increasing engagement 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)

- **10** *New graduate students* in 2011-12
- **3** *Dissertation Year Fellows* (2011-12)
- **3** *Transportation & Logistics* graduating seniors

Students: 2011 – 2012 Direct Student Funding Through NUTC





Students: Dissertation Year Fellows

Laurence Audenaerd (Civil & Env. Eng.)

Bringing Short-Haul Air Down to Earth: Exploring the Trade-Space of Mode Substitution for Regional Air Passenger Transport Markets

Guy Arie (Kellogg)

Multi-Market Contacts in the Airline Industry: Theory and Evidence

Yang Liu (Civil & Environmental Engineering)

Welfare Effects of Congestion Pricing on Travelers with Different Value of Time: Strategies to Enable Transportation

Students: External Awards

- **Yikai Chen**, Civil Engineering PhD candidate
 - International Road Foundation Road Scholar
- **Jiwon Kim**, Civil Engineering PhD candidate
 - First Greenshields Award for Best Paper in Traffic Flow Theory and Characteristics, Transportation Research Board of the National Academies (with Hani Mahmassani)
- **Madison Fitzpatrick**, Civil Engineering PhD candidate
 - The Eno Leadership Development Scholarship
 - Eisenhower Fellowship
- **Luis de la Torre**, Civil Engineering PhD candidate
 - CCITT Student of the Year Award

Outreach Activities (I)

Events & Public Policy

- **Fifth Annual William O. Lipinski Symposium on Transportation Policy** – *High Speed Rail: Perspectives and Prospects (2011)*
- Hosting **2nd International Conference on Evacuation Modeling & Management (ICEM' 12)** – August 2012
- Workshop: **The Electrification of Transportation: A Look at the Road Ahead** (Co-sponsor: Initiative for Sustainability & Energy at Northwestern (ISEN))
- Hosted **White House Round Table** featuring The Honorable David L. Strickland, Administrator of the National Highway Traffic Safety Administration (NHTSA)
 - “Safety Without Borders: Raising the Bar on Traffic Safety Across the Globe Through Data, Research, and Collaboration”
- **Transportation Deregulation and Safety: A Retrospective and Reflection after 25 Years** (May 3, 2012)

Outreach Activities (II)

Research Activities – Public Sector



▪ **Chicago Transit Authority**

- Area of network design and service planning, focusing on the development and application of advanced analytics in connection with extensive system data to improve operations and the user experience. (CTA funded)
- Software application for optimizing urban transit and transportation systems (CCITT funded)

Research Activities - Industry



▪ **Echo Global Logistics**

- Use of archived transactional data in conjunction with real time predictive analytics for truckload pricing and carrier load matching (first phase completed)

▪ **Boeing Corporation**



- investigate transportation and logistics sector applications for high accuracy, high integrity, and high availability satellite positioning and navigation technologies.

Outreach Activities (III)

Executive Education



Freight Transportation and Logistics:
Delivering Results in a Volatile
Environment
May 14-16, 2012



Pricing Highway Infrastructure
May 21-23, 2012

Outreach Activities (IV)

International Outreach

- Ongoing
 - New National Transportation Center for Ministry of Transport, KSA
 - Crowd dynamics and mobility studies, Umm-Al-Qura University, Saudi Arabia
 - Eco-routing, collaboration with TNO, NL on European Commission project
- *In Development*
 - Rajawali Corporation – Jakarta, Indonesia
 - Investigation of new 300 mile freight transportation rail line in Sumatra: infrastructure, economics, development, policy



Outreach Activities (V)

International Visiting Scholars in Residence

- **Prof. Seungjae Lee** – University of Seoul, Korea
- **Dr. Shinhae Lee** – Seoul Development Institute, Korea
- **Prof. Ibtesam Abu-Sleiman**– Umm-Al-Qura University, Makkah, KSA
- **Andreas Frei**, Pre-doctoral Fellow, ETH-Zurich, Switzerland
- **Yinyi Ma**, Visiting PhD Scholar, Erasmus University, NL
- **Fiorella Mete**, Visiting MS Scholar, University of Torino, Italy

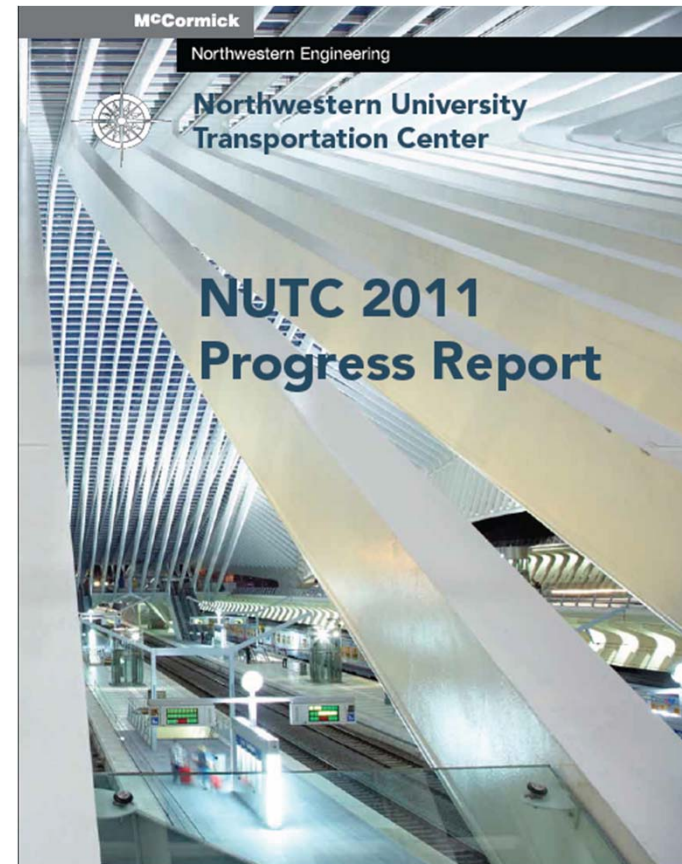
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**MORE
HERE**



Closing Thoughts

- Challenging yet exciting times in the transportation sector– industry, public sector
- **AT NORTHWESTERN**
 - Uniquely successful industry-engaged approach to transportation research and education
- What we do at the NUTC matters
 - BAC engagement and support critical to what we do, and how well we do it

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Thank you!

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BAC: New Leadership Companies

Booz Allen Hamilton

Booz | Allen | Hamilton

delivering results that endure

Coyote Logistics


COYOTE

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BAC: New Sustaining Companies

Korn / Ferry International



Patriot Rail Corp.



Scudder Law Firm



TTX Company



Watco Companies, LLC



BAC: Target Sectors for New Members

- Shippers with significant logistics operations
- International Carriers
- Trucking / Logistics companies
- Transportation Equipment / Systems Manufacturers
- Technology Providers

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BAC: New Leadership Members Here Today




Fred Messina
Vice President

Booz | Allen | Hamilton

delivering results that endure



Jeff Silver
CEO


COYOTE

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BAC: New Sustaining Members Here Today

Marc Scudder
Vice President

SCUDDER LAW FIRM
WWW.SCUDDERLAW.COM

P.C. L.L.C.

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BAC: Members with New Companies Here Today



Neil Collins
*Senior Client Partner, Global
Section Leader*



Adam Inselbuch
EVP & Chief Financial Officer



David Rohal
Vice President

