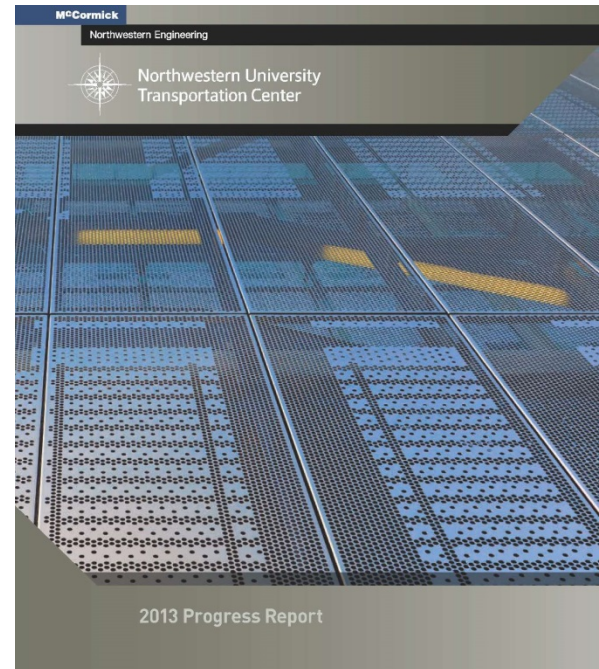


# Our Transportation Center: Taking Stock, Charting Options

Hani S. Mahmassani

Presentation to the BAC  
October 30, 2013



# 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: 2013 →

### BAC Membership (since last meeting)

- **3** new companies (**4** new members)

### Funded Research Activity (Current)

- Active:           **19** projects     **\$2.67 M**,     **5** faculty
- Submitted:       **6** proposals   **\$9.55 M**,   **20** faculty
- Dissertation Year Fellowships **4**

### Graduate Students (2012-2013)

- **22** supported via research projects
- **4** supported via dissertation year fellowships
- **\$627k** in support (travel, tuition, stipend, fellows, etc.)

# Selected Outreach Activities (I)

Kuhmo NECTAR Conference and Summer School  
on Transportation Economics

2013 ANNUAL CONFERENCE OF  
THE INTERNATIONAL TRANSPORTATION  
ECONOMICS ASSOCIATION

Chair: ***Prof. Ian Savage***

Keynote Speaker:

***Charles Manski***, Board  
of Trustees Professor of  
Economics at NU

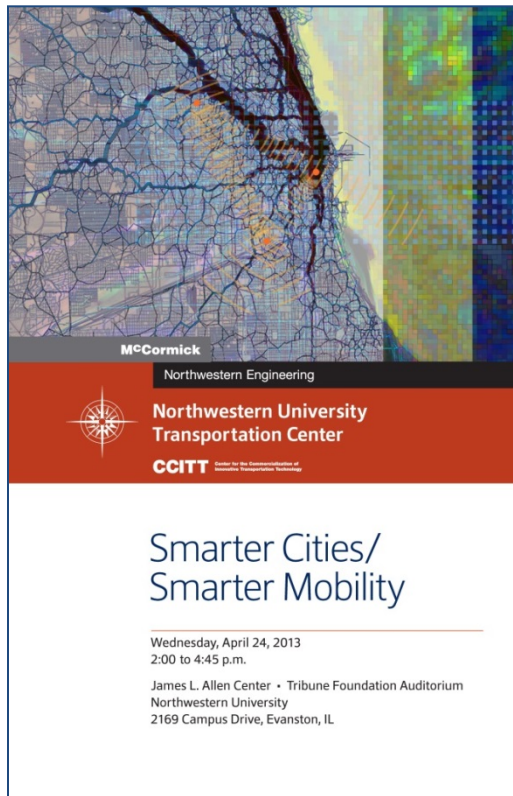
Summer School:

Monday-Wednesday,  
**July 8-10, 2013**

Conference:

Wednesday-Friday,  
**July 10-12, 2013**

# Selected Outreach Activities (II)



The poster features a top section with a blue and green abstract pattern resembling a network or map. Below this is a red banner with the McCormick Northwestern Engineering logo and the Northwestern University Transportation Center logo. The main title is "Smarter Cities/Smarter Mobility".

McCormick  
Northwestern Engineering

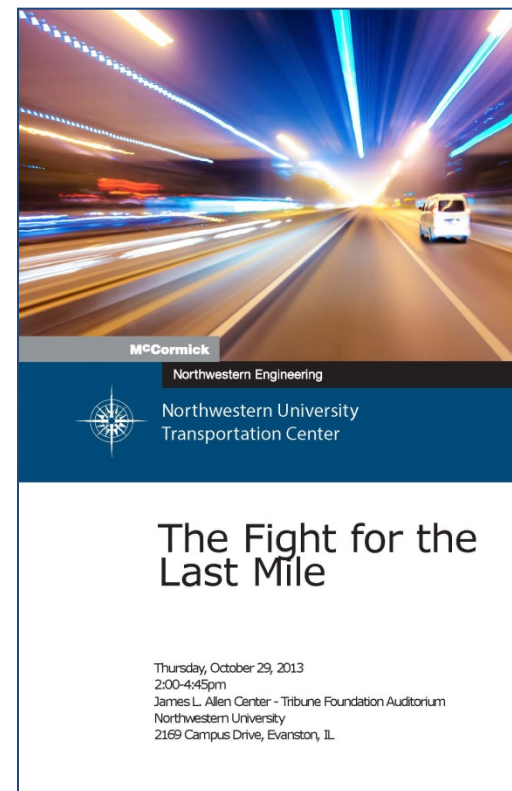
Northwestern University  
Transportation Center  
CCITT Center for the Transportation Institute of  
Northwestern University

**Smarter Cities/  
Smarter Mobility**

Wednesday, April 24, 2013  
2:00 to 4:45 p.m.

James L. Allen Center • Tribune Foundation Auditorium  
Northwestern University  
2169 Campus Drive, Evanston, IL

Spring 2013



The poster features a top section with a long-exposure photograph of a highway at night, showing light trails from cars and streetlights. Below this is a blue banner with the McCormick Northwestern Engineering logo and the Northwestern University Transportation Center logo. The main title is "The Fight for the Last Mile".

McCormick  
Northwestern Engineering

Northwestern University  
Transportation Center

**The Fight for the  
Last Mile**

Thursday, October 29, 2013  
2:00-4:45pm  
James L. Allen Center - Tribune Foundation Auditorium  
Northwestern University  
2169 Campus Drive, Evanston, IL

Fall 2013

# Selected Outreach Activities (III)

## Industry Research

- Echo Global Logistics
- US Bank
- Sears
- Nokia



## International Outreach

- New National Transportation Center for Ministry of Transport, KSA: Strategic plan and design completed
- Crowd dynamics and mobility studies, Umm-Al-Qura University, KSA
- New Energy R&D City in KSA: Strategic planning exercise
- Active collaboration with TU-Delft (NL), EPFL (Lausanne, CH) and KTH-Stockholm (SW) in various areas.
- Rajawali Corporation – Jakarta, Indonesia
  - Executive Education Program successfully completed in August 2013
  - Additional opportunities to be determined

## Executive Education (I)



### Freight Transportation and Logistics: Delivering Results in a Volatile Environment

*September 9-11, 2013*

- Well attended by a diverse group of carriers and shippers involving multiple modes of transportation– 23 students, most high level;
- ***A real winner for the Center!***



## Executive Education (II)

### Transportation Policy Development, Planning and Management



For: Indonesia  
Ministry of Home  
Affairs

Funded by: Rajawali  
Foundation

*August 25-31, 2013*

Jakarta, Indonesia

## Executive Education (III)

- Partner with Chalmers University, Supply Chain & Management program
  - Open to **5** BAC members
  - **November 11-14, 2013**



## Good News: Faculty Recognition



### **Irina Dolinskaya**

Northwestern Associated Student Government  
Faculty Honor Roll (undergraduate teaching award,  
nominated by students), 2012



### ***Ian Savage***

Victor Olivera Educator Award for outstanding effort  
to help promote railroad safety,  
DuPage Railroad Safety Council, October 2012



## Good News: Faculty Recognition



### ***Aaron Gellman***

Recipient of the 2014 Francis X. McKelvey Award  
by the Transportation Research Board's  
Aviation Group Executive Board



### **Joseph Schofer**

Recipient of the 2014 Thomas B. Deen Distinguished  
Lectureship award - will deliver the Deen  
Distinguished Lecture at the TRB 93rd Annual  
Meeting, Washington, D.C., January 13, 2014.

# BAC: Update on Membership

- A really good year in terms of recruitment, retention of companies, events, and engagement
- Active membership committee, several new prospects
- Success Indication: more instances of NUTC being approached by companies/individuals asking to join
- Actively seeking opportunities to engage individual companies and/or consortia in research support and collaboration



# BAC: New Leadership Companies

Ford



GE Transportation

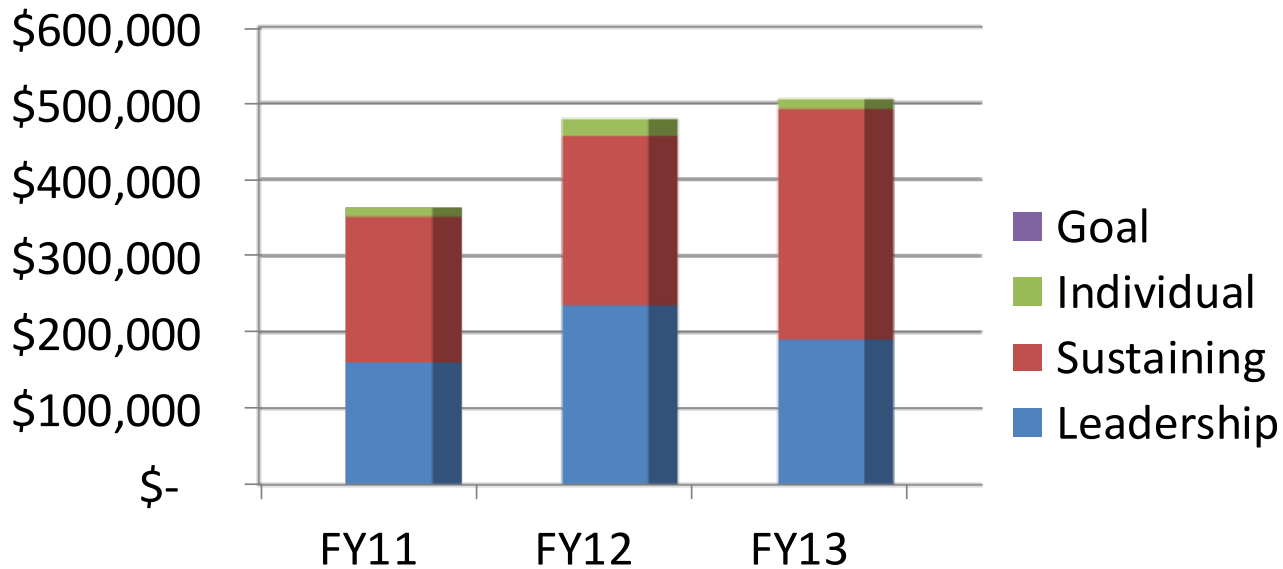


GE  
Transportation

Navistar



# BAC Contributions: FY11, FY12, FY13



**GOAL**

**BY APRIL**

**ACTUAL**

<b>FY 11</b>	\$350,000	\$260,000	\$363,000
<b>FY 12</b>	\$400,000	\$257,000	\$464,500
<b>FY 13</b>	\$500,000	\$335,500	\$505,000
<b>FY 14</b>	<b>\$575,000</b>		



# Research Update: Strategic Focus Areas

1. Re-inventing the user experience in transportation
  - Freight and passenger
  - Business Intelligence in support marketing / operations
  - New focus on design: urban design, facility design
2. Smart Cities, Driverless Vehicles, Connected Systems
3. Freight Logistics and Economic Competitiveness
4. Leveraging Big Data for Transportation
5. Transportation energy and sustainability
6. Mixed Traffic Flow
7. Humanitarian logistics and disaster relief



# Research Award

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



- **Consortium Members:** Broward College (Lead), Columbus State Community College, Essex County College, Florida State College at Jacksonville, Georgia Institute of Technology, Harper College, Long Beach City College, Rutgers University, San Jacinto Community College, St. Petersburg College, Union County College, NUTC
- **Partner:** Council for Supply Chain Management Professionals
- **Goal:** Develop eight 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 & Customer Service



# Program Transition: **CCITT** Center for the Commercialization of Innovative Transportation Technology

*Center for the Commercialization of Innovative Transportation Technology*

- Projects Funded: 18
- Faculty PIs: 17
- Students Supported: 31
- Private / public sector engagement
- Strategic Vision
  - Innovation, Implementation Best-Practices Speaker Series
  - Enable / support industry research
  - Part of entrepreneurship ecosystem at NU



Redondo Optics, Inc.



## 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)

- 4** *Dissertation Year Fellows* (2013-14)
  - 13** *New graduate students* in Fall 2013
  - 4** *Transportation & Logistics* graduating seniors
- 17 T&L students in all classes

# Students: Dissertation Year Fellows



**Luis de la Torre** (Industrial Eng. & Mgt Science)  
*Models and algorithms for Coordination of Humanitarian Logistics*



**Charlotte Frei** (Civil & Environmental Eng.)  
*Travel, Communication and Activity Behavior: Improving the Customer Experience and Serve Allocation*



**Joseph Warfel** (Industrial Eng. & Mgt Science)  
*Operations Management of Retail Donation Programs*



**Weizeng Zhang** (Civil & Environmental Eng.)  
*Segmentation Modeling: Applications for Finite Mixture Regression Models to Management of Transportation Infrastructure*

# Visiting Scholars in Residence



**Dr. Conrado Borraz-Sanchez** – Post-Doctoral Research Fellow, Center for Sustainable Energy Analytics



**Dr. Hongcheng Gan** – Visiting Scholar, Transportation Center (Center for Supernetworks Research at University of Shanghai for Science and Technology)



**Dr. Jonathan Hall** – Don Searle Post-Doctoral Research Fellow in Economics



# NUTC 60<sup>th</sup> Anniversary Celebration: 1954-2014.



# NUTC 60<sup>th</sup> Anniversary Celebration: 1954-2014.



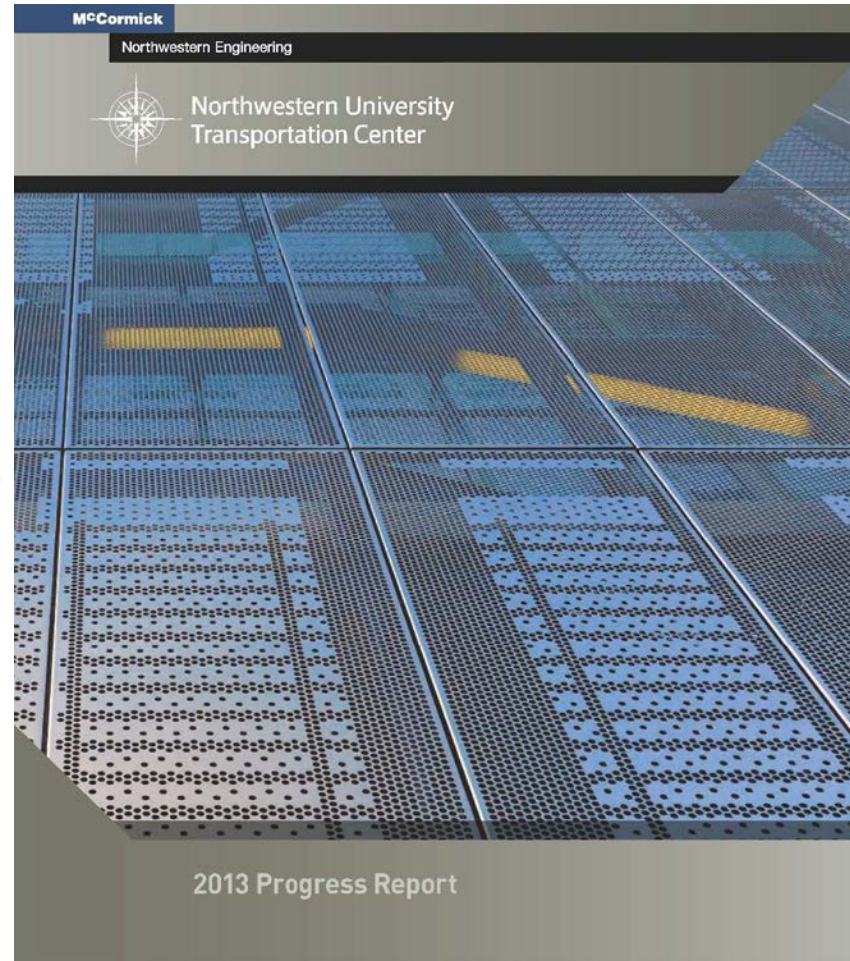
- ON-CAMPUS SYMPOSIUM: ALUMNI, FACULTY and BAC:
  - ½ day transportation issues
  - ½ day alumni and faculty reminiscences
  - Gala dinner/festive event
- Alumni events in different cities around the country: DC, NYC, SFO, LA
- FACULTY steering committee
- ALUMNI/BAC 60<sup>th</sup> Committee
- **Fundraising Opportunity for Long-Term Excellence Fund/Endowment**







**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



Thank you!

# BAC: New Leadership Members Here Today



Regis Luther  
*Vice President*



Pam Stec  
*Director, Materials Planning  
& Logistics, North America*



Russell Stokes  
*President & CEO*



GE  
Transportation

# BAC: New Members with Continuing Companies Here Today



Dan Avramovich  
*Chairman and CEO*



Paul Fisher  
*President and CEO*



David Hoppes  
*Senior Vice President*





## BAC: Target Sectors for New Members

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