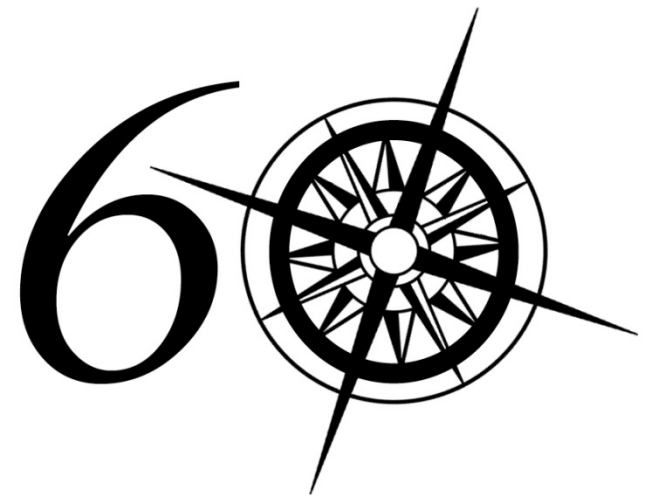




Our Transportation Center: *Celebrating 60 Years*

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 Celebration



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



McCormick
Northwestern Engineering

60 Northwestern University
Transportation Center

**NUTC 60th Anniversary
Technical Symposium**

Thursday, November 13, 2014
9:00 a.m. to 5:00 p.m.

Chambers Hall | Northwestern University
Evanston, Illinois

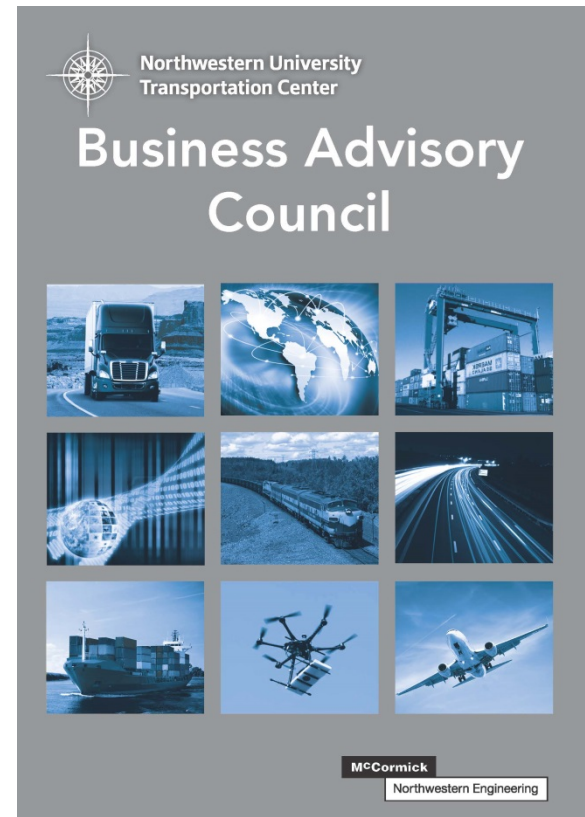


Gwynne Shotwell, President and COO, SPACE X

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



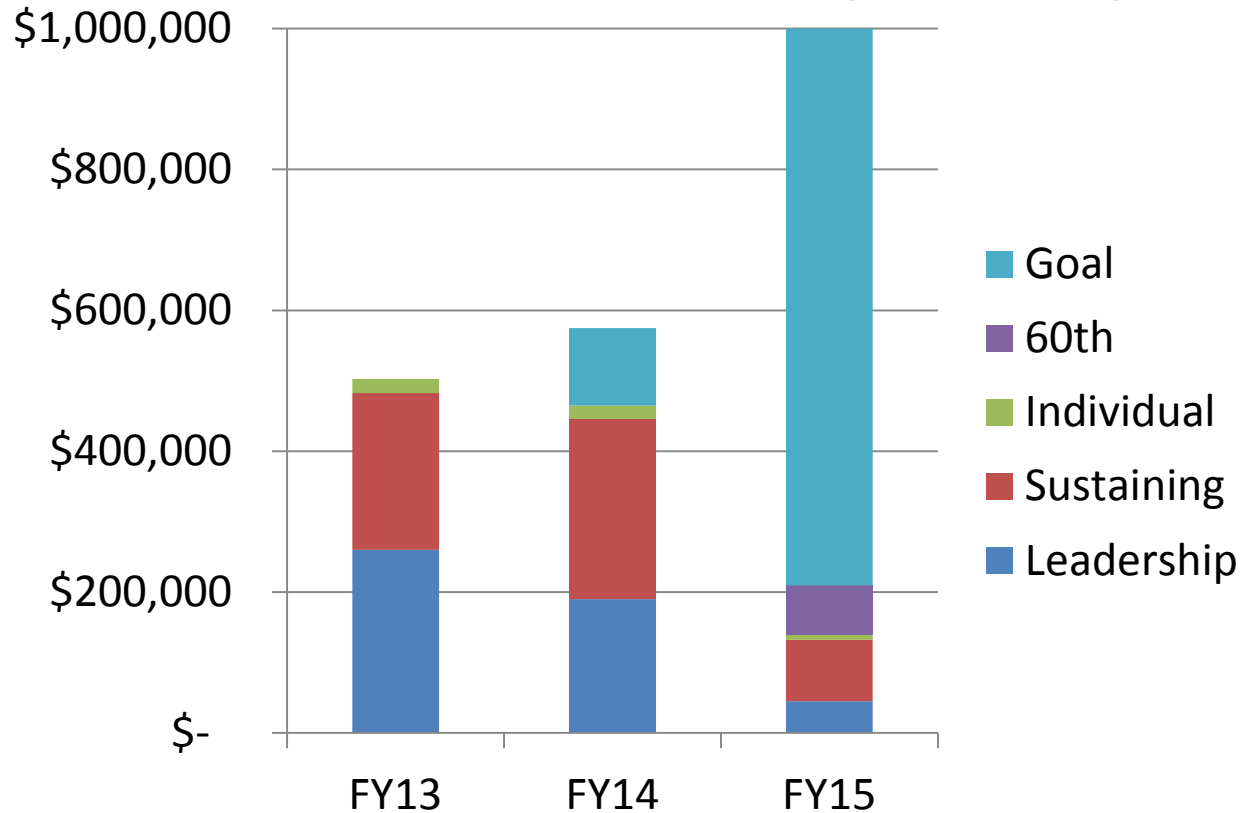
BAC Members: Awards / Honors (I)



Ann Drake

International Women's Forum Award

BAC Contributions: FY13, FY14, FY15



Year	Goal	Raised	To Date
FY14	\$575,000	\$565,000	
FY15	\$1,000,000		\$185,500

New Faculty Affiliates



David Morton

Professor
Industrial Engineering and
Management Sciences



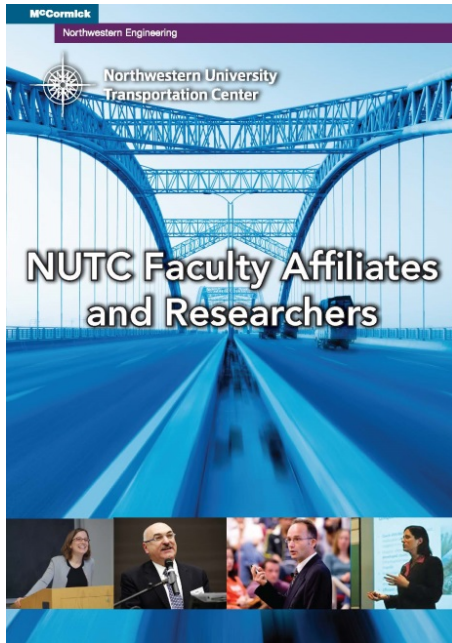
Amanda Stathopoulos

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

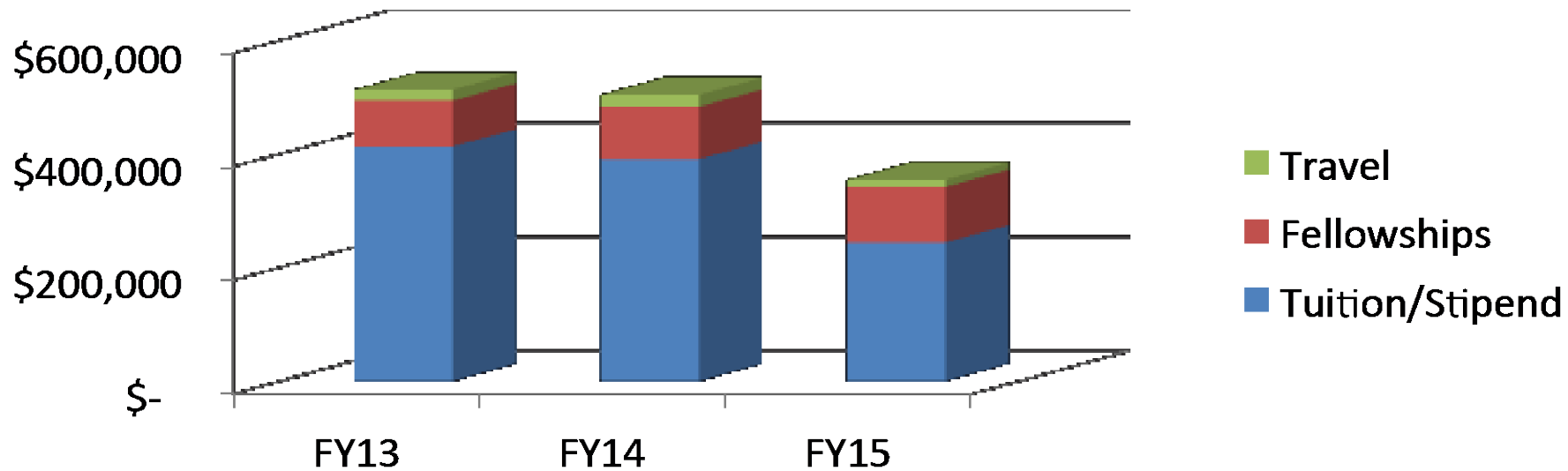
from the Transportation Research Forum

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



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)

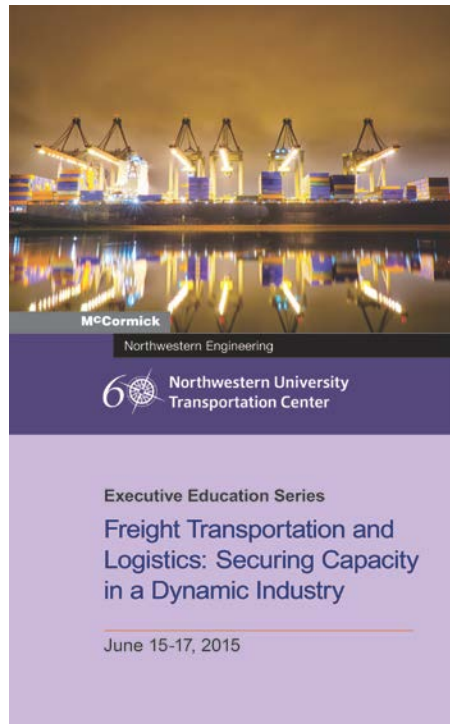
Sandhouse Gang (Rail)

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

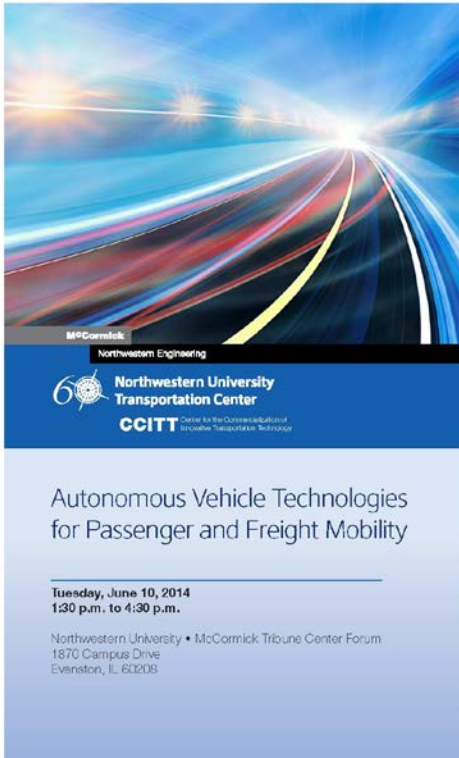
- 1 participant from UPS via NUTC

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)



The poster features a top section with a blue and white abstract image of light trails on a road. Below this is a dark blue banner with the McCormick Northwestern Engineering logo and the 60th anniversary logo for the Northwestern University Transportation Center and CCITT. The main title is 'Autonomous Vehicle Technologies for Passenger and Freight Mobility'. The event date is 'Tuesday, June 10, 2014 1:30 p.m. to 4:30 p.m.' and the location is 'Northwestern University • McCormick Tribune Center Forum 1870 Campus Drive Evanston, IL 60208'.

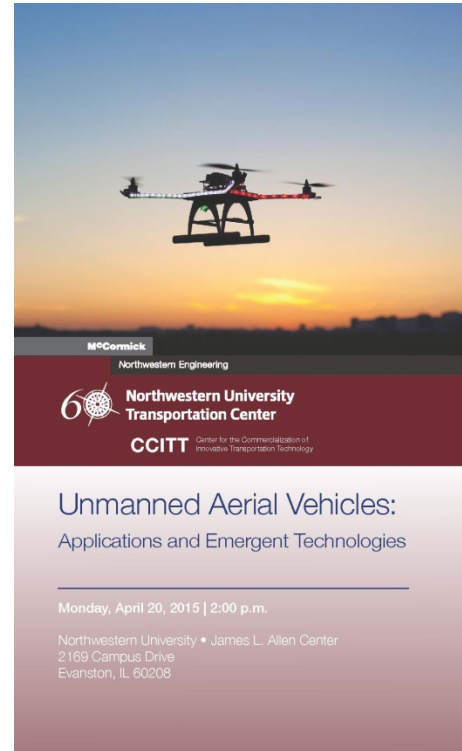
McCormick Northwestern Engineering
60th Anniversary Northwestern University Transportation Center
CCITT Center for the Commercialization of Innovative Transportation Technology

Autonomous Vehicle Technologies for Passenger and Freight Mobility

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

Northwestern University • McCormick Tribune Center Forum
1870 Campus Drive
Evanston, IL 60208

Spring 2014



The poster features a top section with a photograph of a drone flying against a sunset sky. Below this is a dark red banner with the McCormick Northwestern Engineering logo and the 60th anniversary logo for the Northwestern University Transportation Center and CCITT. The main title is 'Unmanned Aerial Vehicles: Applications and Emergent Technologies'. The event date is 'Monday, April 20, 2015 | 2:00 p.m.' and the location is 'Northwestern University • James L. Allen Center 2189 Campus Drive Evanston, IL 60208'.

McCormick Northwestern Engineering
60th Anniversary Northwestern University Transportation Center
CCITT Center for the Commercialization of Innovative Transportation Technology

Unmanned Aerial Vehicles: Applications and Emergent Technologies

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

Northwestern University • James L. Allen Center
2189 Campus Drive
Evanston, IL 60208

Spring 2015

Selected Outreach Activities (IV)

WOL Symposium on Transportation Policy & Strategy

THE NORTHWESTERN UNIVERSITY TRANSPORTATION CENTER
PRESENTS

2015 WILLIAM O. LIPINSKI
SYMPOSIUM ON
TRANSPORTATION POLICY AND STRATEGY



JUNE 22, 2015 | JAMES L. ALLEN CENTER | NORTHWESTERN UNIVERSITY

- ✓ Peter DeFazio
- ✓ Dan Lipinski
- ✓ Ray LaHood
- ✓ Bill Matheson
- ✓ Matt Rose

**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

- *Leading Breakout Session: “Freight Markets – Practices and Prospects for Trading Capacity in Truck Brokerage and Rail Auction Markets”*



- 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

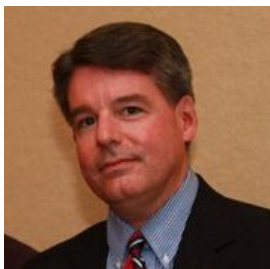
- NUTC brings value: to students, to faculty, to NU, and to our industry partners.
- NUTC focused on the future
 - Pushing the limits on logistics and supply chain operations
 - Automated and connected vehicles, trucks
 - UAV workshop
 - SpaceX 60th Anniversary Dinner Gala Talk
- ***BAC engagement and 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



CenterPoint Properties



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