



The Transportation Center: *Beyond 60 Years*

Hani Mahmassani

Presentation to the BAC
October 27, 2016

Northwestern University
Transportation Center

BAC
2016
FALL

WELCOME
& THANK YOU
FOR BEING HERE

**Business Advisory Council
FALL MEETING**

THURS., OCT. 27, 2016 [8:00 AM]

NORTHWESTERN UNIVERSITY TRANSPORTATION CENTER
CHAMBERS HALL 600 FOSTER ST., EVANSTON, IL 60208

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:

BAC Membership (since last meeting)

- **3** new companies (**7** new members)

Funded Research Activity

- Active: **8** projects **\$ 2.4 M**, **7** faculty
- Submitted: **12** proposals **\$61.0 M**, **25+** faculty

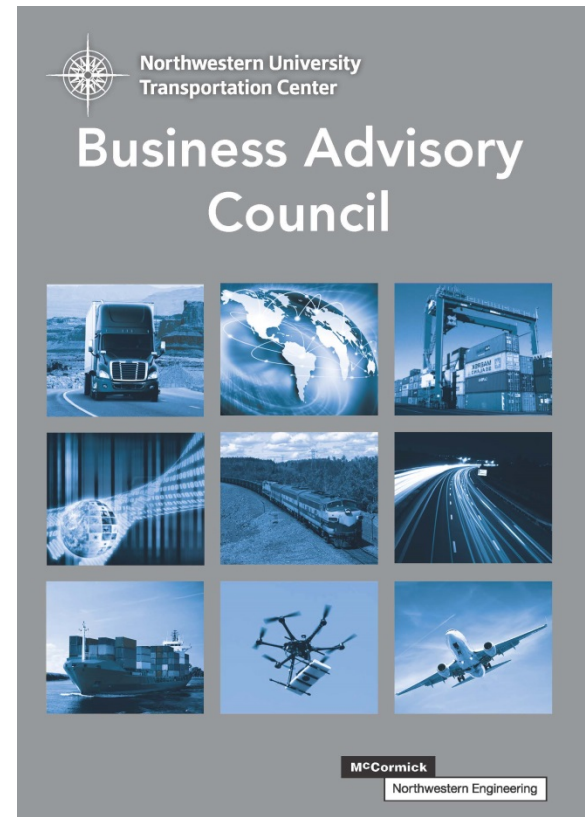
Students

- **13** incoming TR (CEE) graduate students (4 PhD track)
- **5** supported via dissertation year fellowships
- **10** Transportation & Logistics Minors
- **\$480k** (FY16) in support (travel, tuition, stipend, DYF's)



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 Member Companies

CIMC Group



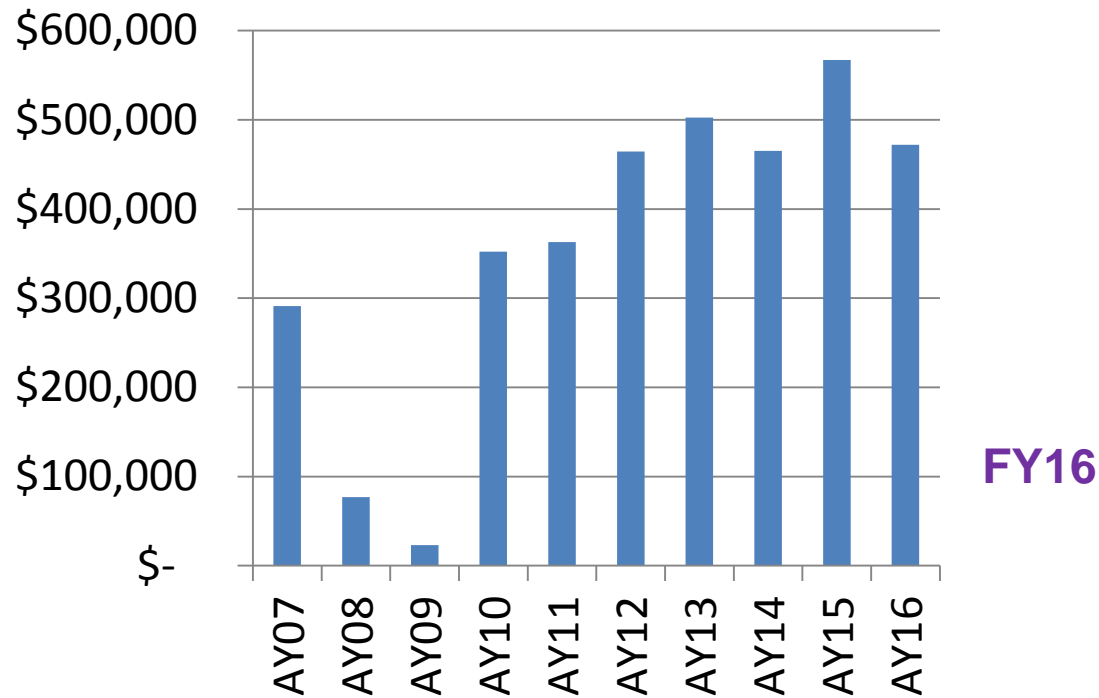
Republic Partners, LLC



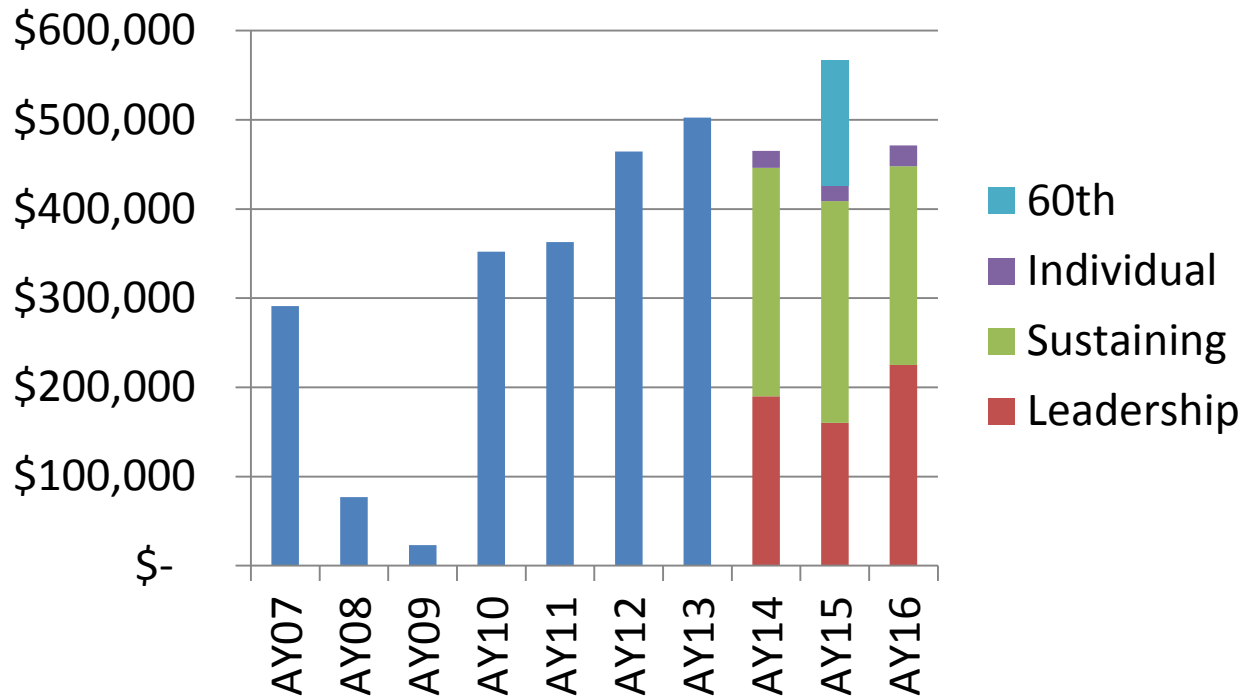
Uptake



BAC Contributions: FY07 – FY16



BAC Contributions: FY07 – FY16



BAC Members: Awards / Honors (I)



Norm Carlson

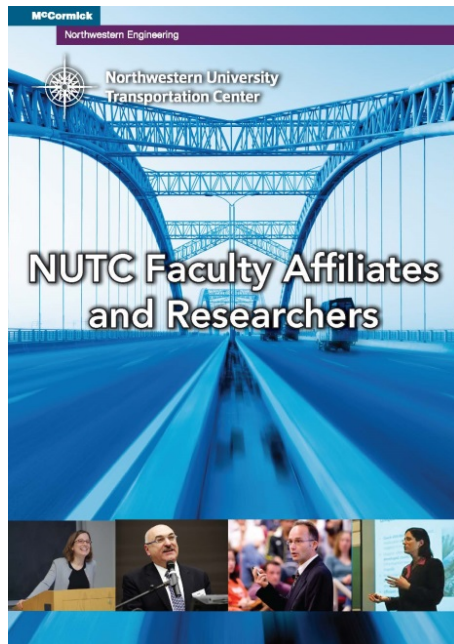
Appointed Board Chair METRA



Jeff Silver

Named Illinois Technology Association's ITA
CityLIGHTS 2016 CEO of the Year

New Faculty Affiliates



Kermit Wies

Senior Research Fellow and Adjunct Professor

The Transportation Center

Faculty Awards / Honors (I)



Hani Mahmassani

Named to 2016 Class of National Associates by National Research Council of the National Academies.



Ian Savage

Awarded Best Paper at 2017 Transportation Research Forum with undergraduate student, Caroline Miller (WCAS, 2015).



Roberto Sarmiento

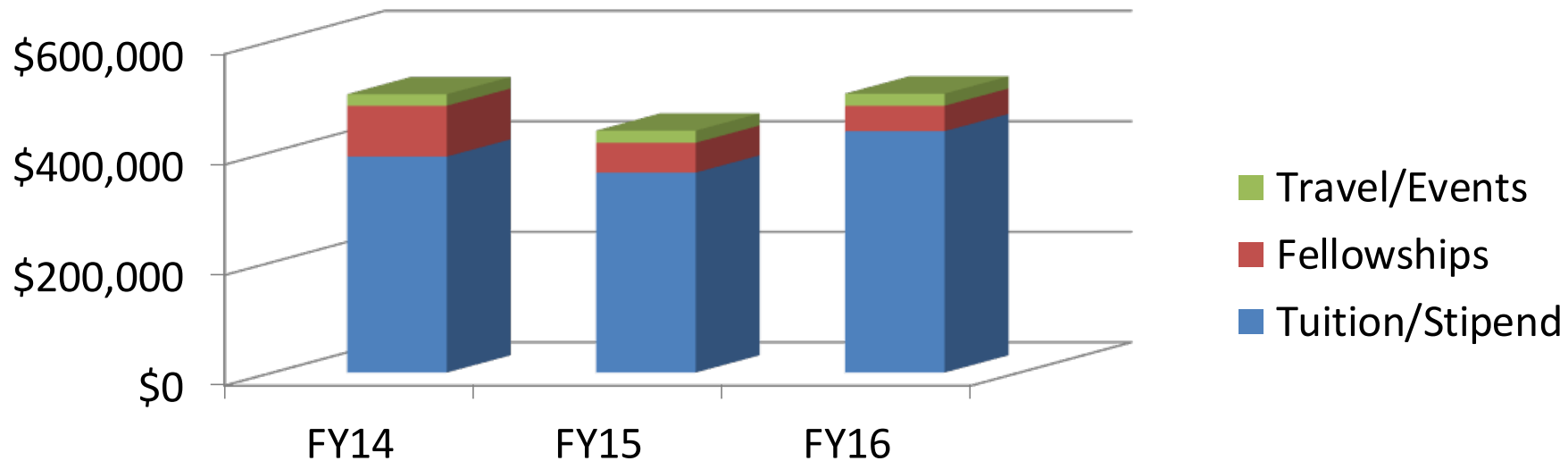
Elected 2018 president of the Special Libraries Association (SLA)

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



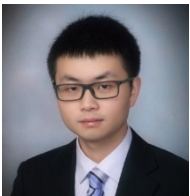
Students: Dissertation Year Fellows



Mehmet Basdere

Industrial Engineering and Management Science

Models & Approaches to Multiobjective Arc Tour Problems with an Application to Marathon course Design



Hongyu Chen

Civil and Environmental Engineering

On-Demand Personal Mobility Services in the Era of Mobile Computing: Physics, Economics & Regulatory Policies



Zihan Hong

Civil and Environmental Engineering

Traffic Systems under External Interventions: Characterization, Modeling and Active

Students: Dissertation Year Fellows



Lama Bou Mjahed

Civil and Environmental Engineering

Cohort Effects and Technology Engagement in Connected User's Sustainable Activity and Travel Behavior



Yagci Sokat

Industrial Engineering and Management Science

Transportation & Logistics in Resource Limited Settings

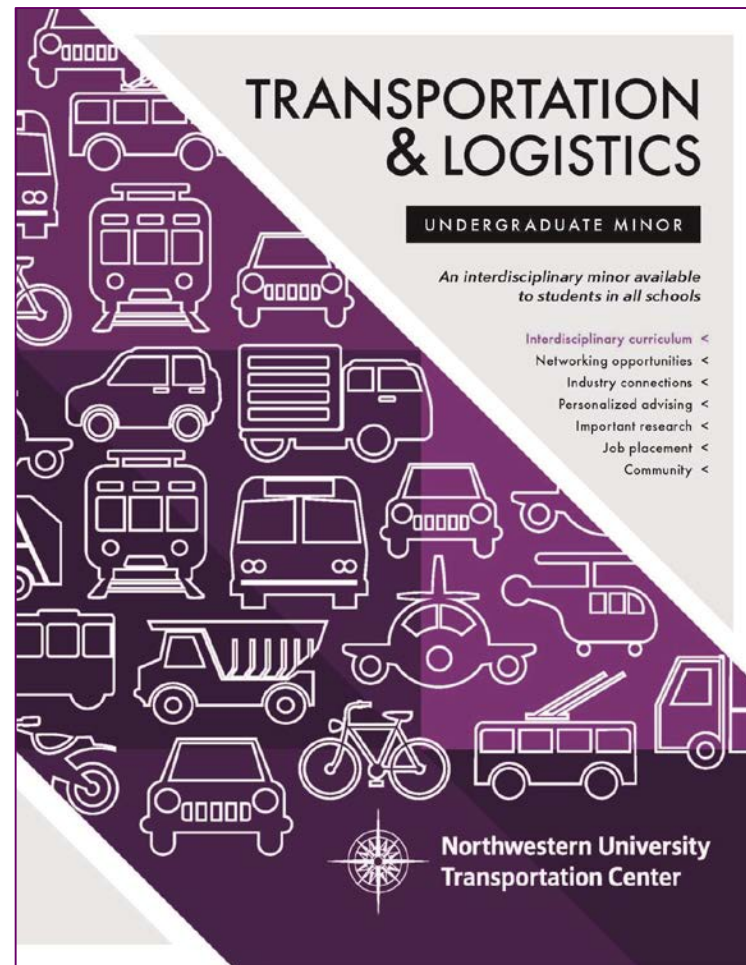
Students: Transportation & Logistics Minor

New brochure

Campus marketing
Effort

Remains unique offering
And opportunity for UG

Under leadership and
Mentorship of
Prof. Ian Savage





Proposed Center (I)



National University Transportation on Freight Mobility and Sustainability (for Resilient Communities)

Partners: NUTC (lead), Vanderbilt, UIUC, UC-Irvine, NYU
U Washington, TX Southern, Cal Poly Pomona

Mission

- 1) conduct cross-disciplinary on the mobility and fluidity of goods and related information in global and domestic supply and demand chains;
- 2) provide a networked forum where industry, academia and public agencies work together to advance knowledge;
- 3) provide and promote a unique educational experience aimed at developing the human resources necessary for a modern transportation and logistics industry.



Proposed Centers (II)



More University Transportation Center proposals

- 1) Tier 1, **lead** – *Preserving the Environment*
- 2) Tier 1, **lead** – *Reducing Congestion (Smart Cities, IoT)*
- 3) Tier 1, partner (Florida, lead) – *Improving mobility for people and freight*
- 4) Tier 1, partner (UIC, lead) - *Preserving the environment*
- 5) Tier 1, partner (U Akron, lead) – *Preserving the existing transportation system*
- 6) Regional Center, partner (UIC, lead) – *Improving mobility*

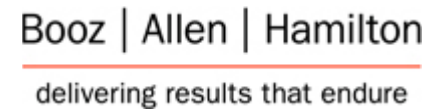
Research Activities (I)

Industry Research

- **AEM**
- **BMW Technology**
- **BNSF**
- **Hub Group**
- **Jacobus Energy**

Industry Teaming

- **Booz Allen Hamilton**
- **Leidos, Inc.**
- **Sejel Technologies (KSA)**
- **Various small businesses**



Research Activities (II)

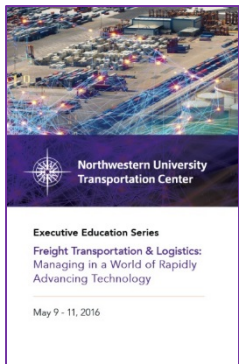
Public Agencies / Federal Research

- **Argonne National Laboratory (DOE)**
- **Chicago Department of Transportation**
- **Chicagoland Metropolitan Agency for Planning**
- **Federal Highway Administration**
- **United States Department of Labor**



Selected Outreach Activities (I)

Executive Education



Freight Transportation and Logistics

Managing in a World of Rapidly Advancing Technology

May 9 - 11, 2016

- Superb speaker list included: CSCMP, CN, eBay, Echo Global, Ruan, Schneider, and Nippon Cargo.

Freight Transportation and Logistics

Navigating the Growing Challenges from the First Mile to the Last Mile in Transportation

→ May 22-24, 2017

E-Fulfillment Course

in development for 2017

Selected Outreach Activities (II)

- **Have We Achieved Peak Driving?**

Planning for future travel in the Chicago region

Chicagoland Metropolitan Planning Agency

- *September, 2016*

ON TO 2050
BIG IDEAS FORUMS

CMAP

- **The Road Ahead: Developing Technology and Policy to Accelerate the Safe Deployment of Connected and Driverless Cars**

Roundtable led by Congressman Dan Lipinski, Member of the Transportation & Infrastructure Committee and the Science, Space, & Technology Committee of the US House of Representatives

- *September, 2016*

Selected Outreach Activities (III)

- **Mobility 2050: A Vision for Transportation Infrastructure Workshop**

Association for Equipment Manufacturers

- June, 2016



ASSOCIATION OF
EQUIPMENT MANUFACTURERS

- **The 22nd International Symposium on Transportation and Traffic Theory**

- Hosting in Chicago, 2017



Selected Outreach Activities (IV)



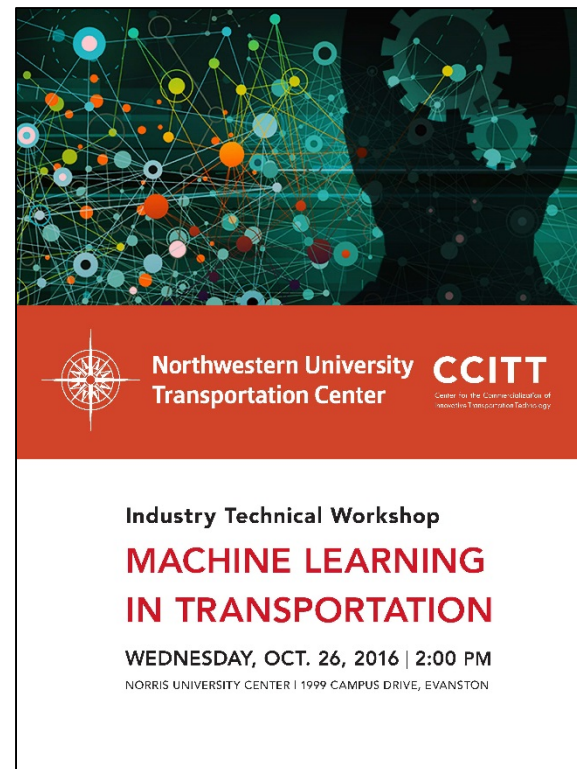
Northwestern University Transportation Center **CCITT**
Center for the Commercialization of Innovative Transportation Technology

Industry Technical Workshop
**BIOLOGISTICS
IN A CHANGING
HEALTHCARE WORLD**

April 20, 2016 | 2:00 - 4:45 PM

NORTHWESTERN UNIVERSITY - JAMES L. ALLEN CENTER
2169 CAMPUS DRIVE, EVANSTON, ILLINOIS 60208

Spring 2016



Northwestern University Transportation Center **CCITT**
Center for the Commercialization of Innovative Transportation Technology

Industry Technical Workshop
**MACHINE LEARNING
IN TRANSPORTATION**

WEDNESDAY, OCT. 26, 2016 | 2:00 PM
NORRIS UNIVERSITY CENTER | 1999 CAMPUS DRIVE, EVANSTON

Fall 2016

2017 William A. Patterson Lecture



Mr. Lance M. Fritz
Chairman, President & CEO
Union Pacific



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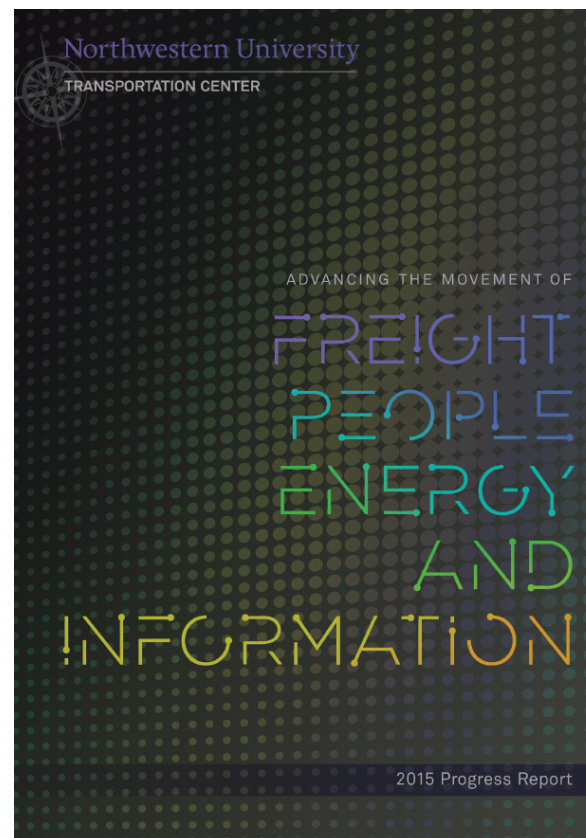
Closing Thoughts

- 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
 - Last mile supply chain logistics
 - Internet of Things and smart cities
 - Technology-enabled service delivery models
- ***BAC engagement and support critical to what we do, and how well we do it***



Thank you!

More here →



BAC: New Members, New Companies

Sustaining

Brad Keywell

*Co-Founder and CEO, Uptake
Technologies*



Jeffrey Walker

North American CEO, CIMC Capital



BAC: New Members, Legacy Companies

Leadership

Kenji Hashimoto

Senior Vice President, American Eagle, American Airlines



Joseph Picone

President, UPS Corporate Transportation, UPS



BAC: New Members from Legacy Companies

Sustaining

Tony Belkin

*Head of Traffic and Dynamic Content,
HERE*



BAC Member Guests Here Today

- **Douglas Downing**, CFO, Canal Barge Co.
- **Matthew Mullarkey****, SVP Strategic Projects and Planning, Centerpoint Properties
- **Geoff Murray**, Partner, Oliver Wyman
- **Amitava Sarker**, Executive Director, J.P. Morgan
- **Julie Spencer**, VP Operations, Vosges Haut-Chocolat

** also a speaker today

Guests & Speakers Here Today

- **Tony Cook**, Chief Engineer, Product Planning, Navistar
- **Daniel Murray**, VP Research, American Transportation Research Institute
- **Geoff Murray**, Partner, Oliver Wyman
- **Amitava Sarker**, Executive Director, J.P. Morgan
- **Steven Sheffey**, Corporate Counsel, Public Policy Development, Allstate Insurance
- **David Vernon**, VP & Senior Analyst, Sanford C. Bernstein
- **Barbara Wilson**, President, Wells Fargo Rail

Membership Committee

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

- Meeting held in September 2016, several candidates identified: AAR Corp., AtlasAir, DiCom, Newgistics, Republic Partners, Stifel Financial, Daimler/Freightliner, PLG Consulting, Wells Fargo Rail
- Target Areas: Shippers, International Carriers, Trucking / Logistics companies, Transportation Equipment / Systems Manufacturers, Technology Providers
- Next meeting: January 2017

Meeting Planning Committee

- Price Blackford
 - Mike Burton
 - Peeter Kivestu
 - Jean Regan
 - Rich Thompson
-
- Meeting held in August 2016 helped identify meeting topics
 - Next meeting: November 2016



60th Fundraising Committee

- Paul Schneider, Chair
 - Andrew Boyle
 - Vicki Bretthauer
 - Ben Mclean
 - Jeff Silver
-
- Report from Paul Schneider at the end of our meeting this morning
 - Next meeting: November 2017