



RESEARCH *THAT MOVES YOU*

Northwestern University Transportation Center

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**Northwestern University
Transportation Center**

Northwestern |  TRANSPORTATION CENTER

BAC
2018
FALL

**Business Advisory Council
FALL MEETING**

THURSDAY, NOV. 8, 2018 [8:00 AM]

**NORTHWESTERN UNIVERSITY TRANSPORTATION CENTER
600 FOSTER STREET, EVANSTON, ILLINOIS 60208**

The Transportation
Center:
Making an Impact

Hani S. Mahmassani

Presentation to the BAC
November 8, 2018

WHAT IS NUTC?

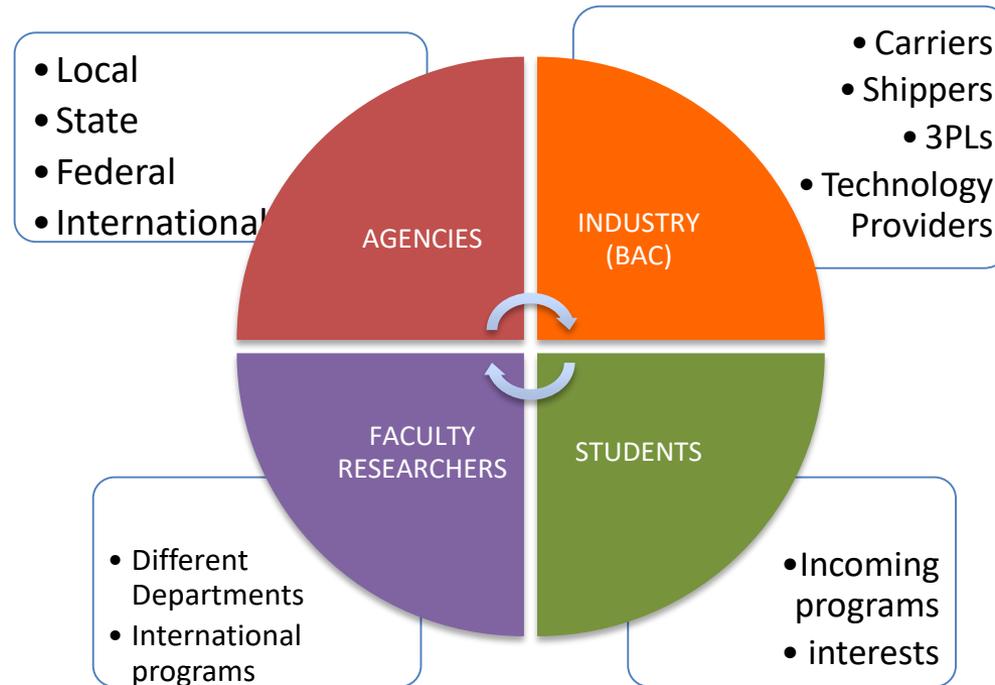
PLATFORM

COLLABORATION

KNOWLEDGE CREATION

TRANSFORMATION

NUTC AS COLLABORATION PLATFORM



SERVICE/
ADVICE

LEADERS/
HUMAN
CAPITAL

KNOWLEDGE

DISSEMINATION/
OUTREACH
ACTIVITIES

APPLICATIONS/
TRANSFORMATION

NUTC IMPACT?

Industry Study: *Trucking Firm*

50K



\$1.35M annual, recurring, cost reduction (10% of addressable cost)

through *analytics* and *optimization*.

NUTC IMPACT?

Selected Faculty Recognition



Karen Smilowitz

INFORMS Business Analytics Prize for
SAFE (Situational Awareness for Events) tool
for the Chicago Marathon



Hani Mahmassani

2018 Best Paper Award *Transportation Research Part C*
Advisory Board to *Prince of Monaco* on Smart Cities
Advisory Board to *Panama Canal Authority*

NUTC IMPACT?

Selected Faculty Recognition



Gianluca Cusatis

Elected Fellow of
ASCE Engineering Mechanics Institute (EMI)

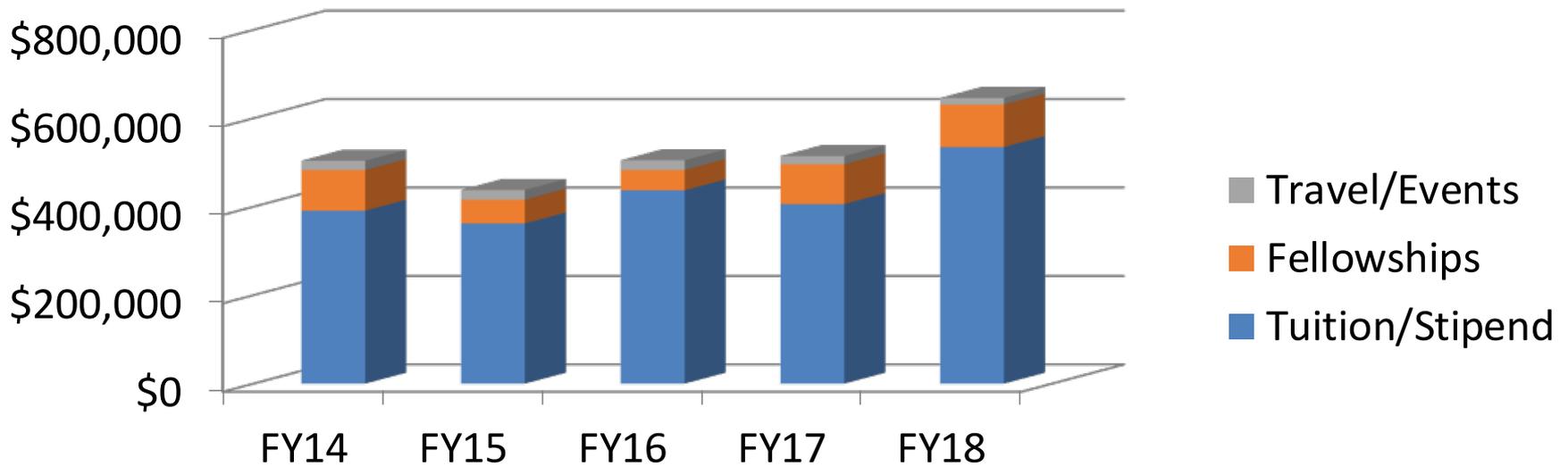


Joel Horowitz

Elected Fellow of
International Association for Applied Econometrics

NUTC IMPACT?

Direct Student Funding Through NUTC



NUTC IMPACT?

WE PRODUCE LEADERS



Michael Hyland

US DOT Eisenhower Fellow and
NUTC Dissertation Year Fellow

Completed PhD Dissertation

*Real-time Operation of Shared-use Autonomous Vehicle
Fleets: Modeling, Optimization, Simulation, and Analysis*

Started Tenure-track Faculty Position at
University of California-Irvine

NUTC IMPACT?

WE ATTRACT THE BEST

Over 85 applicants annually for Transportation Systems (TRN) graduate programs

6 of 7 PhD offers accepted Fall 2018

6 new MS and 6 new PhD students in CEE Transportation Systems (TRN) graduate program

5 PhD students supported via NUTC Dissertation Year Fellowships

19 T&L minor students last year (6 graduated in 2018)

NUTC IMPACT?

Recent Rankings

Kellogg School of Management

– MBA Program ranked #2 by *Economist* magazine (2018)

Industrial Engineering & Management Science

– ranked #4 by *U.S. News* (2018)

Civil and Environmental Engineering

– ranked #11 by *U.S. News* (2018)

NUTC IMPACT?

National Conference

Implementing a Freight Fluidity Performance Measurement System, Sept. 5-6, 2018

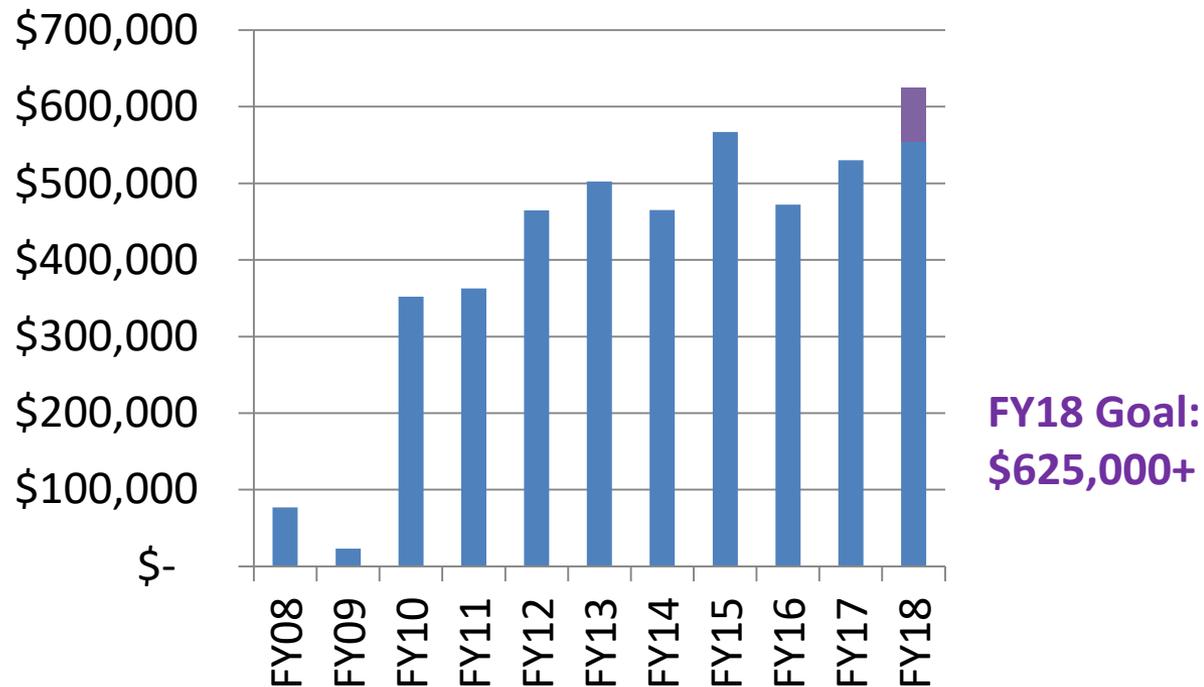
Prof. **Joseph Schofer**, organizing committee chair

- Transportation Research Board
- Featured BAC member **John Larkin**
 - Panel Five: Science Fiction to Engineering Facts – A Visionary Panel
 - Addressed future changes in manufacturing, purchasing, distribution, and freight performance needs and management.

NUTC IMPACT?

You Make it Possible

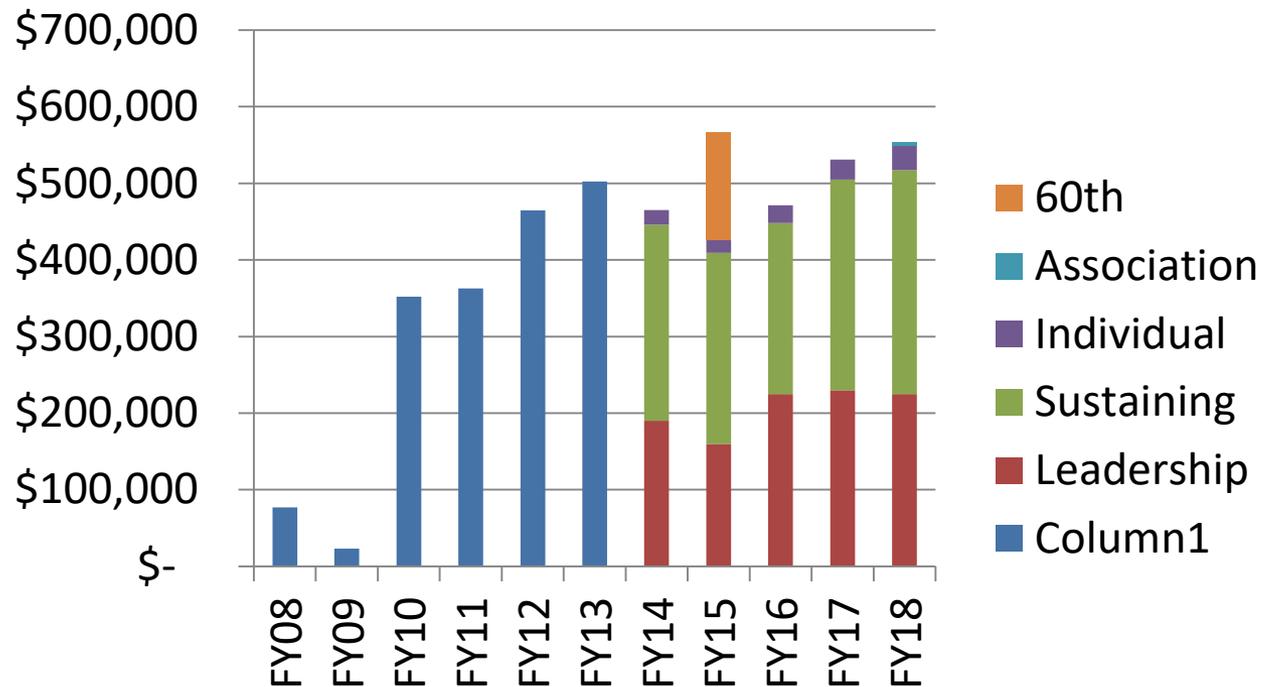
BAC Contributions: FY08 – FY18



NUTC IMPACT?

You Make it Possible

BAC Contributions: FY08 – FY18



NUTC IMPACT?

You Make it Possible

Undergraduate Transportation Research Fellowship

GREENBRIAR
EQUITY GROUP LLC

- Funded through \$100,000 gift from Greenbriar
- Funds Undergraduate Fellowships during summer
- Launched in Summer 2018
 - Robert Belson: *Inflight Wi-Fi Characterization Tool* (Computer Science – Fabian Bustamante)
 - Othman Muhammad: *Using Operations Research for School Bus Transportation* (IEMS – Karen Smilowitz)
 - Dipayan Banerjee: *Model Generalization for Vehicle Routing Problems* (IEMS – Karen Smilowitz)

NUTC IMPACT?

You Make it Possible

NUTC 60th Fundraising

- Schneider Family Graduate Endowed Fellowship Program
 - 2 projects funded
- Ruan Family Transportation Fund
- Diana Marek Student Experience Fund
 - 1st 2 contributions of \$25k each scheduled for 2018, and early 2019

SCHNEIDER

RUAN



BAC: New Membership

5 new companies (net 1 company in total)

Leadership

Allstate



Bluegrace Logistics



Cummins Inc.



Sustaining

Seabury Capital



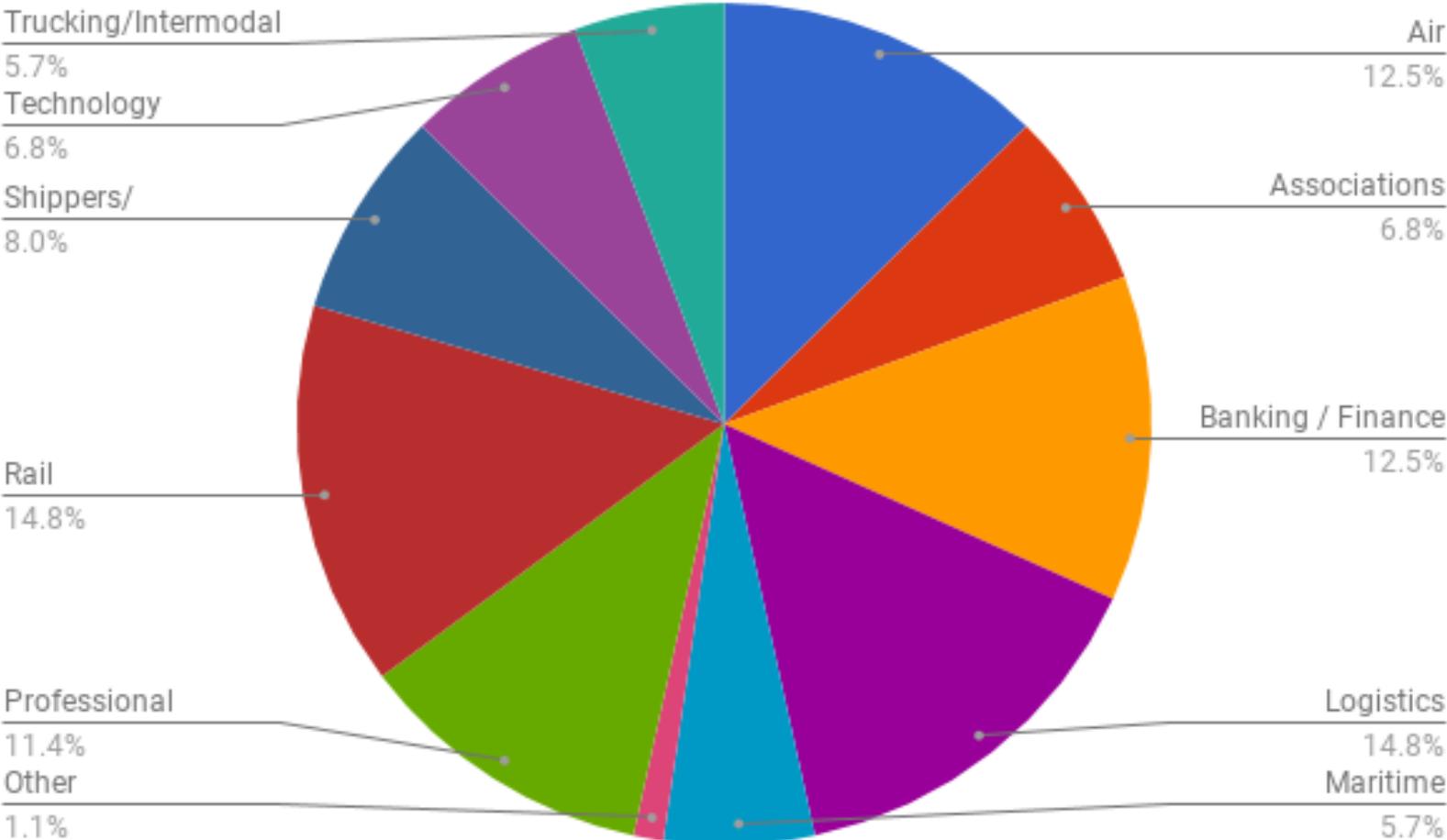
Association

Eno Center for Transportation



BAC: Membership by Category

November 2018



Executive Education

E-Fulfillment 1 Day Executive “Conference”

April 17, 2019

Registration forthcoming

Freight Transportation and Logistics 3-Day Short Course

May 20-22, 2019

Registration forthcoming



Selected Research Initiatives

New Competition: Two US DOT National Centers

1. CONGESTION RESEARCH

Congestion Relief

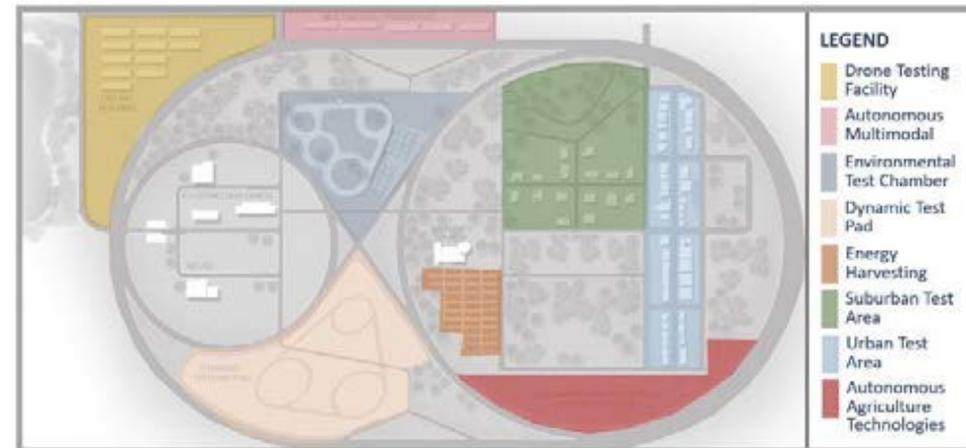
2. INFRASTRUCTURE RESEARCH

*Improving Durability and Extending Life of
Transportation Infrastructure*

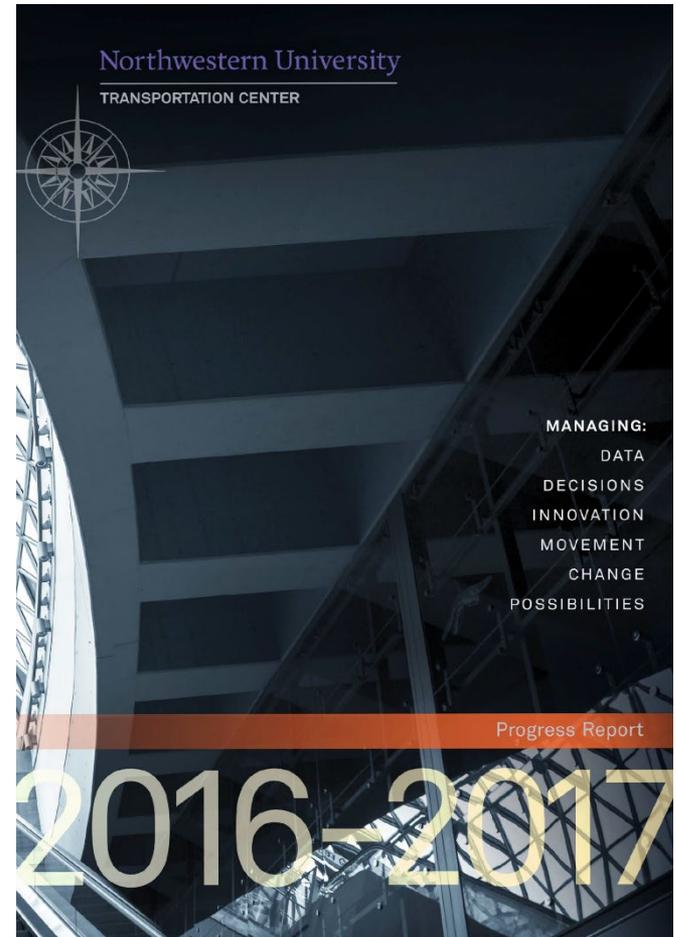


Joint Research Initiative on Autonomous Vehicles Smart Transportation Infrastructure Initiative (STII)

- Partners: NUTC, University of Illinois-Urbana Champaign (UIUC) and University of Illinois-Chicago (UIC)
- STII Industry Forum / Request for Information, June 2018
- One-on-One Meetings with Industry, September 2018
- STII Academic Meeting, July 2018
- Met with Illinois Dept. of Transportation Secretary, Oct 2018
- Illinois Executive Order opening State for testing, Oct. 2018



MORE
HERE



<http://www.transportation.northwestern.edu/documents/about/progress-reports/2016-17.pdf>

NUTC STAFF



Bret Johnson
Associate Director



Cindy Ross
Assistant Director
of Research &
Operations



Joan Pinnell
Assistant Director of
Communications &
Outreach



Hillary Bean
Financial Administrator

BAC: New Members, New Companies

Leadership

Satish Chandra

*Director – Growth Office, Corporate
Strategy, Cummins Inc.*



Bobby Harris

Founder & CEO



BAC & Speaker Guests Here Today

- **John Anderson**, Managing Director, Greenbriar Equity Group
- **Larry Gross**, President, Gross Transportation Consulting
- **Ken Heller**, Senior Vice President, Operations for DSC Logistics
- **Jason Kuehn**, Vice President, Oliver Wyman Group
- **Nick Lawson**, Director, Executive Operations, Bluegrace Logistics
- **Jim McGowan**, Director, Information Management & Situational Awareness at American Red Cross
- **Dan McLaughlin**, Assistant Vice President - Premium Marketing, Union Pacific Railroad
- **Michael Zamost**, Vice President of Intermodal, Vice President of Carrier Solutions, Echo Global Logistics



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