

# National

# Operations

# Center of

# Excellence



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National Operations Center of Excellence

## Our Vision & Mission

**Vision:** Provide exceptional services to the transportation systems management and operations **(TSMO)** community to save lives, reduce congestion, and enhance economic vitality

**Mission:** **Empower** the TSMO community to succeed by enhancing **knowledge, skills, and abilities**

# Genesis of the Summit

- How do we come into Transportation? Why did we come into Transportation?
  - TSMO enables us culturally, industry wide, institutionally and technologically to achieve the dreams we have of how the system should operate
- Workforce capabilities are recognized as an increasingly crucial component of realizing the potential of new ITS technology and TSMO applications
- *September 2015*: NOCoE charged with focusing on TSMO workforce development as the centerpiece of its first strategic work program and Annual summit

# Current State of the Industry

Three White Papers in advance of the Summit addressed the following areas:

- Institutional context for TSMO in transportation agencies
  - Professional Capacity Building Needs vs. Available Resources
  - Recruitment, Retention and Career Development
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- <https://transportationops.org/publications/summit-white-papers-1-2-3>

# Issues for the Summit to Address

## Competencies, Education and Training:

1. Pre-employment education aimed at producing TSMO generalists
2. Pre-employment education aimed at producing key TSMO-related technical specialists
3. Position and qualifications specifications (KSAs)
4. Employment training programs

## Recruitment, Retention and Career Development:

5. Keeping pace with emerging trends in technology/skills
6. Recruitment
7. Career development
8. Retaining top performers

# TSMO Workforce Implementation Plan

1. Develop a repository of Position Descriptions, KSA and Best Practices for TSMO workforce recruitment, retention and career development – **Currently underway**
2. Pre-employment education aimed at producing both TSMO generalists and specialists with key support capabilities – **Currently underway**
3. Post-hiring education aimed at producing TSMO professionals with key support capabilities – **Currently underway**
4. Develop a strategy to elevate TSMO as a core transportation function (Institutionalization of TSMO) – **Currently planning**



# TSMO Workforce Implementation Plan

## 1. NCHRP 20-7 Project 408 - Started

- Transportation System Management and Operations (TSMO) Workforce: Skills, Positions, Recruitment, Retention, and Career Development
- Panel selected consultant in July, work scheduled to start soon
- 15 month project, completion fall 2018
- Project Scope and deliverables
  - Existing education programs and best practices for recruiting & retention
  - Position descriptions
  - KSA development
  - Strategic Management Framework for recruitment & retention
  - TSMO Workforce Guidebook

# TSMO Workforce Implementation Plan

2. Pre-employment education aimed at producing both TSMO generalists and specialists with key support capabilities
  - Convene a forum of transportation agencies, private sector and educators
    - What are the key constraints facing educators in offering TSMO related material and successes in overcoming
    - What has been the experience of university-based entities providing technical support to DOTs?
    - Identify key opportunities for community college, undergraduate and graduate professional education to support content both for TSMO generalists (interdisciplinary) and TSM&O-related specialist disciplines
    - Identify pilot efforts that NOCoE engage in to support and promote examples of effective per-employment/hiring TSMO education and training
  - **November 8<sup>th</sup>**: VTTI, Cal Berkley/PATH, Florida International, U of M, South Florida, Washtenaw Community College, University of Memphis & Oregon State as participants



# TSMO Workforce Implementation Plan

## 3. Post-hiring education for producing TSMO Professionals

- Review current practices for TSMO training
- Define an appropriate training “program” and identify elements for all KSAs for both hard and soft skills
- Inventory and create a repository in the NOCOE EKTS for all existing training materials by topic and identify key gaps in available training for function/position function KSAs
- Develop a modular model training program that addresses any gaps
- **Develop project approach that coordinates and avoids duplication**
  - ITS JPO, FHWA, NCHRP 20-7 (408), National Network for the Transportation Workforce (NNTW), Career Pathways initiatives, Transportation Workforce Centers

<https://transportationops.org/publications/nocoe-2016-workforce-summit-proceedings-and-implementation-plan-final>

# 2018 TRB Student Competition

- Joint NOCoE & TRB competition leading up to TRB Annual Meeting
- Students submit an e-Portfolio around recent projects/examples of work in TSMO
- Portfolios should be dynamic, engaging, reflect current and future areas of TSMO work/research
- Two winning individuals will receive funding for travel to TRB Annual Meeting
- Submittal deadline: November 1<sup>st</sup>, 2017
- **RECEIVED 21 e-Portfolios!!**

# 2018 TRB Student Competition

- **5 winners!!**

- **Jin Wang** Auburn University  
<http://wangjinwebsite.wixsite.com/wangjinwebsite>
- **Gabriel Odreman** Texas A&M University  
<https://gabrielodreman.wixsite.com/eportfolio>
- **Angela Kitali** Florida International University  
<http://angelaedeskitali.org/>
- **Farinoush Sharifi** Texas A&M University  
<https://farinoushsharifi.wixsite.com/eportfolio>
- **Sogand Karbalaieali** Louisiana State University  
<http://sogandkarbalaieali.weebly.com/>



# “NOCoE/ITS-JPO Student Competition”

- Student team competition to showcase using ITS for real-world TSMO problems
- Students are asked to solve real-world problems from DOTs
- Live competition at 2018 ITE Annual Meeting (Minneapolis)
- Task force organized by ITS PCB Academic Team
  - **NOCoE**: competition information host, provide materials, coordinate judging
  - **ITE**: host live competition, assist in judging, advertisement
  - **ITS America**: Assist in judging, advertisement
  - **AASHTO**: Assist in judging, advertisement
  - **Regional/Local DOTs**: Assist in judging, provide problem statements

# Questions?

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The screenshot shows the homepage of the National Operations Center of Excellence (NOCoE). The header includes the NOCoE logo, the tagline "National Operations Center of Excellence - Your Transportation Operations Resource", and navigation links for Home, About, Contact Us, SHRP2, and social media icons for Twitter, LinkedIn, and Facebook. There are also buttons for Login, Subscribe, and Search. A secondary navigation bar lists Knowledge Center, Discussion, Calendar, TSM&O Resources, Why TSM&O?, News, and Blog. The main content area features a "WELCOME TO THE NATIONAL OPERATIONS CENTER OF EXCELLENCE" section, a "NOCoE 2016 ANNUAL REPORT" section with a colorful graphic and text, and a "HEADLINE NEWS" section with three news items. A "REGIONAL OPERATIONS FORUMS" section is also visible. On the right side, there are buttons for "Industry Developments", "Upcoming Events", "Center News", and "Most Recent Post". At the bottom of the screenshot, the website URL [www.transportationops.org](http://www.transportationops.org) is displayed.