



National Transportation Career Pathways Initiative

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STEVE ALBERT, WEST / NTCPI – SAFETY

NOVEMBER 8-9, 2017

AGENDA

- Introduction to FHWA Center for Transportation Workforce and National Network for the Transportation Workforce (NNTW)
- Overview of NNTW and National Transportation Career Pathways Initiative (NTCPI)
- Case study...examples from the 5 Regional Centers and Discipline working groups

Center for Transportation Workforce Development

- Virginia Tsu, Director
- Provides national leadership, coordination, and assistance to develop, enhance, and expand the nation's transportation workforce
 - K-12 education
 - Post-secondary education
 - Professional/practitioner development
- Training and Education Programs
 - Garrett A. Morgan Transportation Technology Education
 - Eisenhower Fellowship Program
- On-the-job Training/Supportive Services
 - STIPDG
 - National Summer Transportation Institutes
 - OJT/SS
- Regional Transportation Workforce Centers
- National Transportation Career Pathway Initiative
- Highway Construction Workforce Development Pilot





NNTW
National Network for the
Transportation Workforce



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National Transportation Career Pathways Initiative


PROJECT OVERVIEW

“A goal of the National Transportation Career Pathways Initiative is to document a series of career pathways (a sequence of educational courses and training programs that align to an occupational career ladder) that engage and prepare students for key transportation occupations.”



National Transportation Career Pathway Initiative

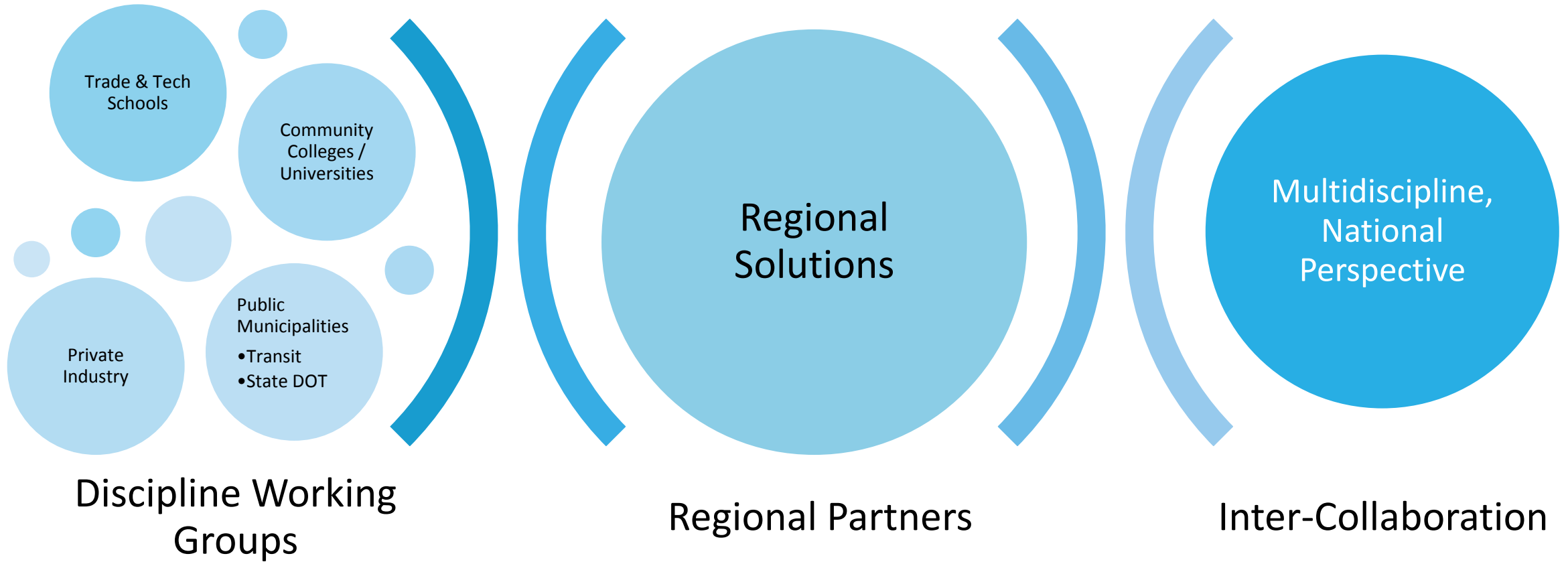
PROJECT OVERVIEW



*Inspire and prepare greater numbers of **students** to pursue transportation career pathways*

- *Identify Top 10-20 Occupations within each focus area in Transportation, Next 5-15 Yrs*
- *Identify Knowledge, Skills, Abilities (KSA's) Required by These Top Occupations*
- *Identify Gaps in Post-K12 Training/Education Delivery, Currently & Over Next 5-15 Yrs*
- *Identify Innovative Approaches to Delivering KSA's into Student/Worker Prep Pipeline*
- *Describe a Series of Career Pathways that Lead to Top Occupations, Next 5-15 Yrs*
- *Identify Scope of Pathway Implementation to Address Workforce Needs, Next 5-15 Yrs*
- *Identify Barriers; Propose Recommendations*

National Transportation Career Pathways Initiative



National Transportation Career Pathway Initiative

Unifying theme of disruptive technologies



WHAT IS TRANSPORTATION PLANNING?

COLLABORATION

“The planner's role is to provide the big picture and to relate the project to various goals and guidelines...”

LEGISLATIVE KNOWLEDGE

“Planners are responsible for knowing state and federal legislation and court rulings relating to the project, plans, or guidelines.”

RESEARCH & DATA ANALYSIS

“Planners conduct research and gather data... then test assumptions about the meaning and importance of the data.”

REPORTS AND PRESENTATIONS

“Planners frequently present to city councils, business groups, neighborhood groups...”

PROJECT MANAGEMENT

“Planners manage a variety of projects and oversee grant programs.”

PUBLIC PARTICIPATION

“Planners engage in lengthy processes of public participation, calling upon their skills as facilitators...”

THE PLANNING COMMISSION

“Public sector planners provide reports to the commission and support to the public meeting.”

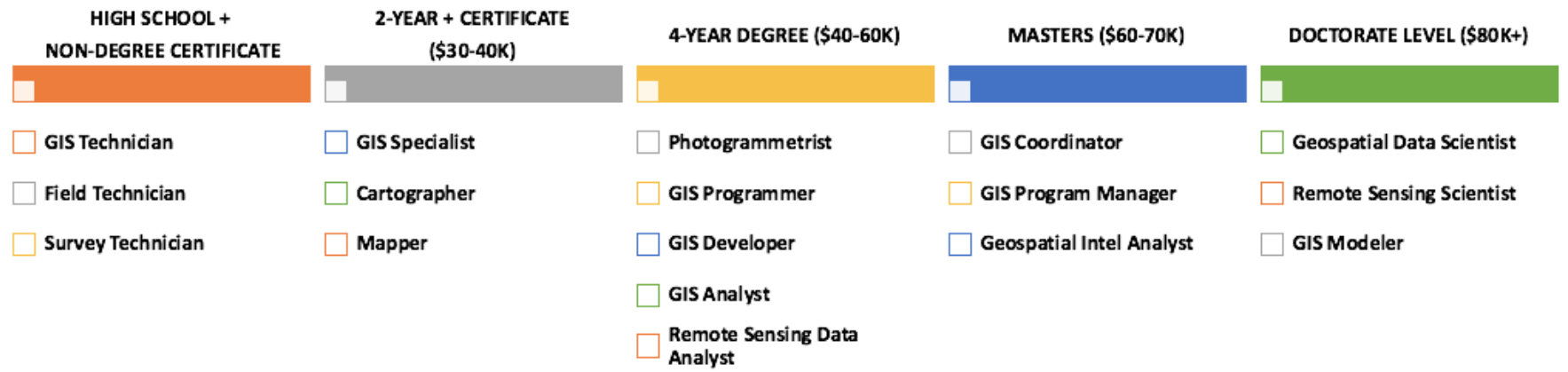
Focus: GIS Transportation Planning Career Pathways


Challenge:

Creating a structured educational pathway for GIS transportation planning professionals that links certificate, two-year, four-year, and graduate programs.

Opportunities:

Enhancing GIS Story Map and Data Collection software and related curriculum developed by SWTWC.



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 YOU can reach HERE.

Cabrillo High School
Academy of Global
Logistics



LBCC/LATTC
AA
Geography/GIS/MA
PS



CSULB-CCPE/CLA :
B.A. Liberal Arts



CSULB MS GIS



USC GIS PhD





Workforce growth is following the emergence of new technologies and investments that address critical environmental problems in the transportation sector.

Smart Communities: ITS is a critical technological opportunity to address pollution and move people and commerce more efficiently.

Shared Mobility: An emerging approach that holistically address urban and rural transportation needs, equity, safety, congestion, and sustainability. Due to a diversity of transportation options, there is a wide variety of growing employment opportunities.

National Transportation Career Pathways Initiative: Environment Discipline Disruptive Technologies and the growth of a workforce supporting Smart Communities through ITS and Shared Mobility

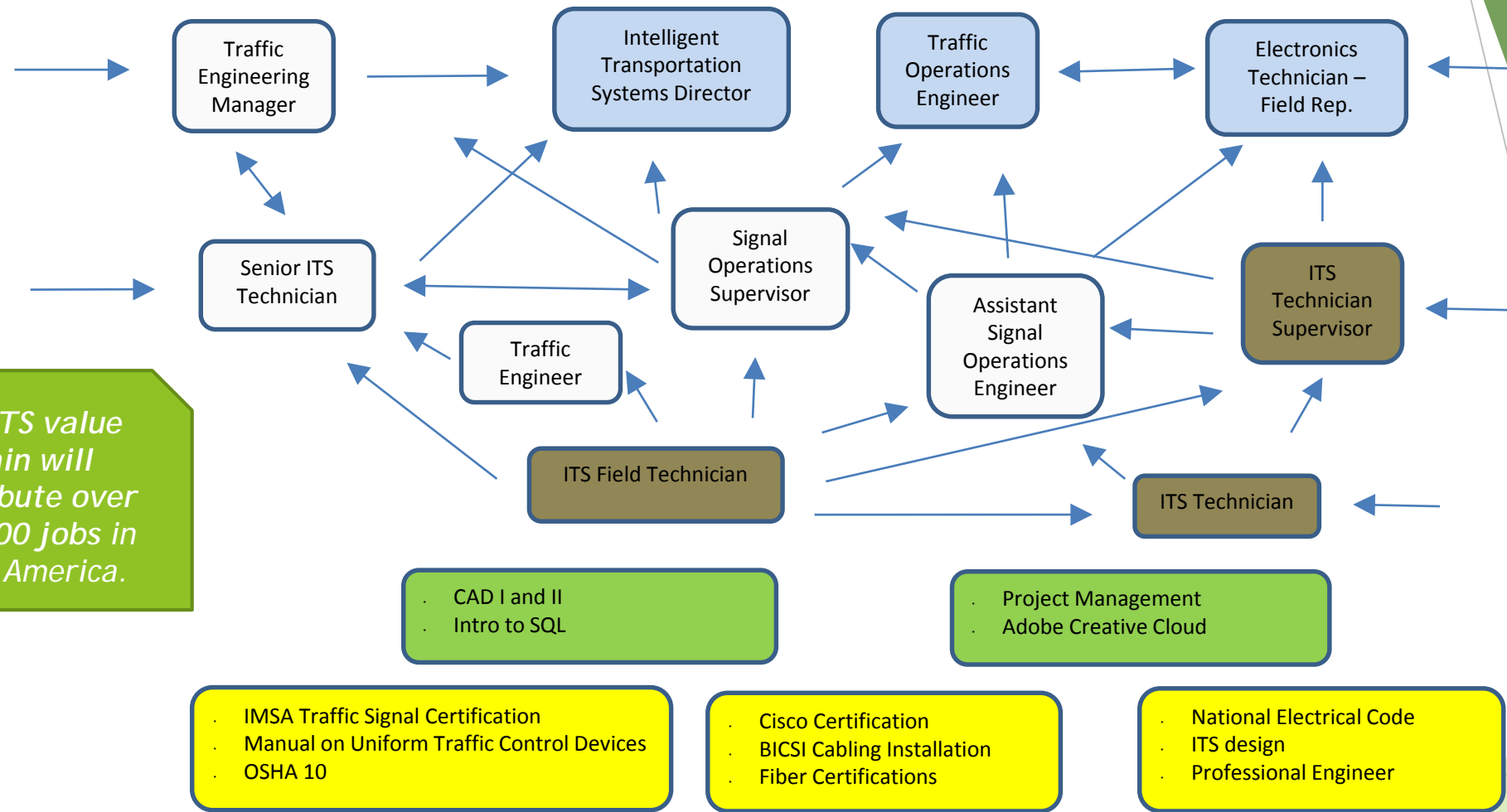
<http://netwc.net/>

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Smart City: ITS Career Pathways



The ITS value chain will contribute over 564,000 jobs in North America.

LEGEND

- Training Certification
- Additional Course work
- Associates Degree Work Experience
- Bachelor's Degree Work Experience



Engineering the State of Good Repair

The project focuses on defining and demonstrating career pathways and core competencies for priority occupations for maintaining the **State of Good Repair** of transportation infrastructure.

Our Strategies:

Agencies can “grow-their-own” workforce by providing opportunities for maintenance workers to become engineering technicians.

The knowledge, skills, and abilities that workers will need to maintain a **sustainable, automated, and connected transportation system.**

Competency model, curriculum and experiential learning opportunities for **infrastructure asset management.**

NATIONAL TRANSPORTATION CAREER PATHWAYS INITIATIVE: OPERATIONS DISCIPLINE

Skillset and competency requirements for transportation operations occupations are *rapidly evolving* with continual advances in technology.

The project focuses on defining and demonstrating career pathways and core competencies for priority occupations in *traffic, transit, and freight operations* through industry-academia collaborations.

The goal is to provide *greater transparency of operations career opportunities and experiential learning* for post-secondary students.

For more information:

memphis.edu/setwc

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* National Transportation Career Pathways Initiative: Operations Discipline

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Transportation
Tuesday:
Spotlight on
Careers!



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TRANSPORTATION SPOTLIGHT
PROFESSIONAL: ROQUITA COLEMAN

NAME: Roquita Coleman
COMPANY: CN Railroad
TITLE: Solutions Manager, CN Supply Chain Solutions

COLLEGE: University of Memphis
DEGREE: Business Administration and Organizational Management

Q: What's the most interesting thing you have been able to do in your professional career?
A: The most interesting thing I have done in my career has been coaching/mentoring sales professionals who had a passion for sales and were chronic underperformers, encouraging them in a way that re-ignited their energy and desire for achievement. It is always a pleasure in working with the sales folks who are self-motivated performers. The real achievement, for me, has been in working with people more who would have considered a lost cause. Making that person show up to work with renewed purpose, define goals and an enthusiasm others thought impossible, that's truly rewarding.

Q: What makes you get up each morning excited about your profession?
A: My children love their role model, their first example of what it means to be happy in the work you do. To earn an income while pursuing your passion. I don't want them to choose between earning an income OR being happy. They can do both, and as long as I'm demonstrating that, being that example, I have a great cause to wake up every morning doing the job I do.

Q: What advice would you share with K-12 students that are considering your profession?
A: Take some time to get to know people who do the jobs in various parts of the business you are interested in. Over summer breaks, ask your parents if you can spend a little time meeting people in their companies who are performing the jobs you are interested in. Ask them questions about what they do, what makes up their goals and tasks for the day, what education was required to get to that point, and what advice they can give you. The quality of the people you are already in it so that you can make a more deliberate decision around your education.

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TRANSPORTATION SPOTLIGHT
PROFESSIONAL: GREG DOTSON

NAME: Greg Dotson
COMPANY: Neel-Schaffer, Inc.
TITLE: Engineer Manager

COLLEGE: University of Memphis
DEGREE: B.S. in Civil Engineering

Q: How do you select your certification or college major?
A: I chose Civil Engineering because I liked high school trigonometry teacher and how things were put together.

Q: What's the most interesting thing you have been able to do in your professional career?
A: To be able to reach back and encourage other young people so that they too can be successful at what they put their minds to do.

Q: What makes you get up each morning excited about your profession?
A: The idea that I'm going to be involved in a project that one day I will be able to see and tell others about my role in designing it.

Q: If you could go back to high school and select any elective course to take, what would it be?
A: I would recommend design and programming courses. Engineers have only one required course of each and those skills are always helpful after graduation.

Q: What advice would you share with K-12 students that are considering your profession?
A: Take as many science classes as possible. Most of the engineering majors have a hard time and sometimes drop out the first two years of math, physics, and chemistry. After the basic classes are done, you can concentrate on the engineering track chosen.

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TRANSPORTATION SPOTLIGHT
PROFESSIONAL: CATALINA ECHEVERRI

Q: What makes you get up each morning excited about your profession?
A: It feels good to contribute to quality of people's lives. Traffic is something that we experience every day and we are constantly looking for ways to improve the transportation system.

Q: If you could go back to high school and select any elective course to take, what would it be?
A: I would recommend design and programming courses. Engineers have only one required course of each and those skills are always helpful after graduation.

Q: What advice would you share with K-12 students that are considering your profession?
A: Take as many science classes as possible. Most of the engineering majors have a hard time and sometimes drop out the first two years of math, physics, and chemistry. After the basic classes are done, you can concentrate on the engineering track chosen.

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TRANSPORTATION SAFETY

Advances in transportation technologies drive new hope for significant reductions in vehicle-related fatalities and injuries.

94% of serious crashes due to human error (NHTSA)



WEST REGION

Transportation
Workforce Center

WRTWC.org

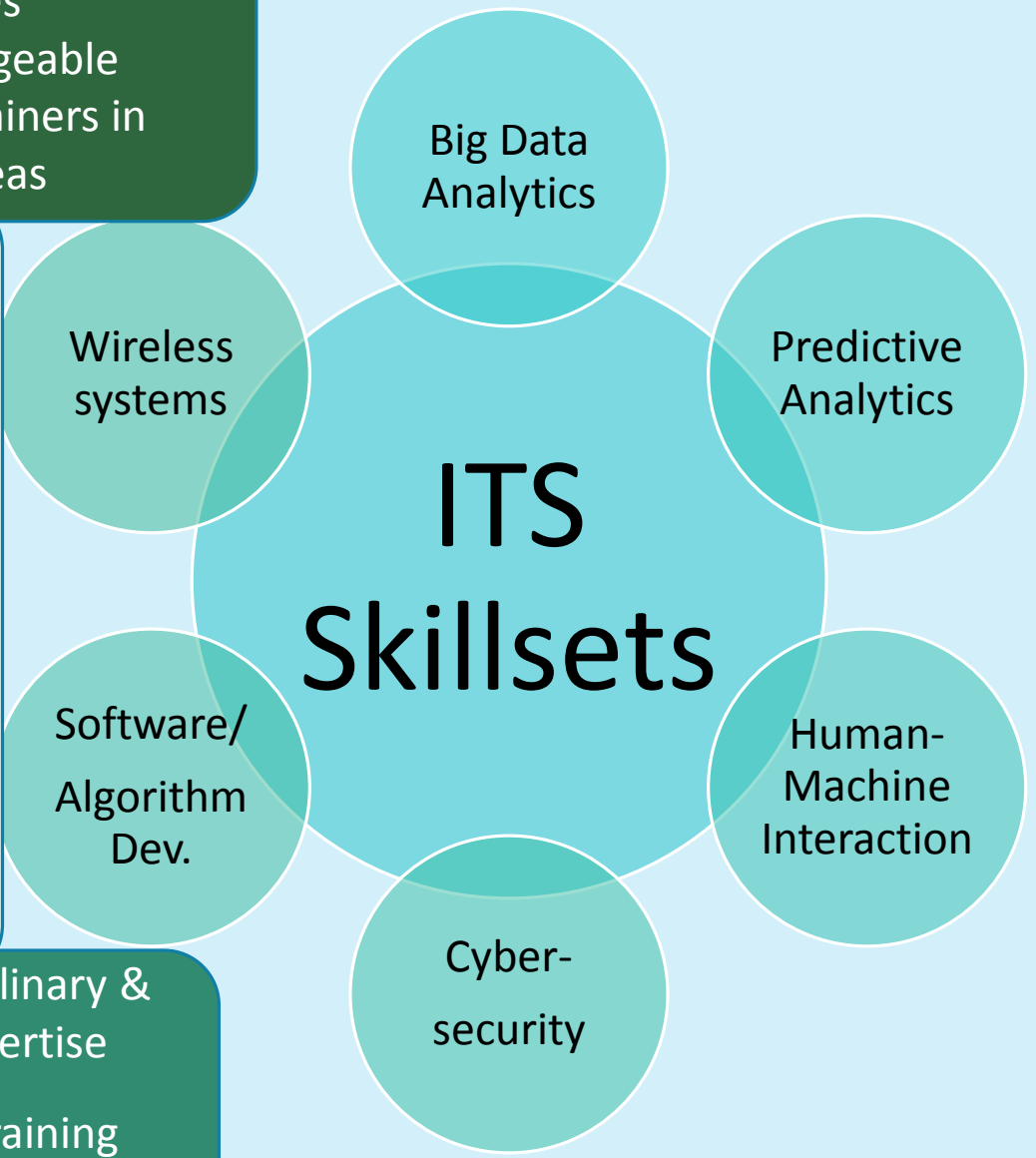
- Rapid deployment of new technologies
- Lack of knowledgeable practitioners & trainers in emerging areas

Safety Technologies



-Civil & Transportation Engineers
 -Planners
 -Human Factors/ Behavioral Specialists
 -Computer & Mathematical Occupations
 -Technicians
 -Construction/ Maintenance Personnel

ITS Skillsets

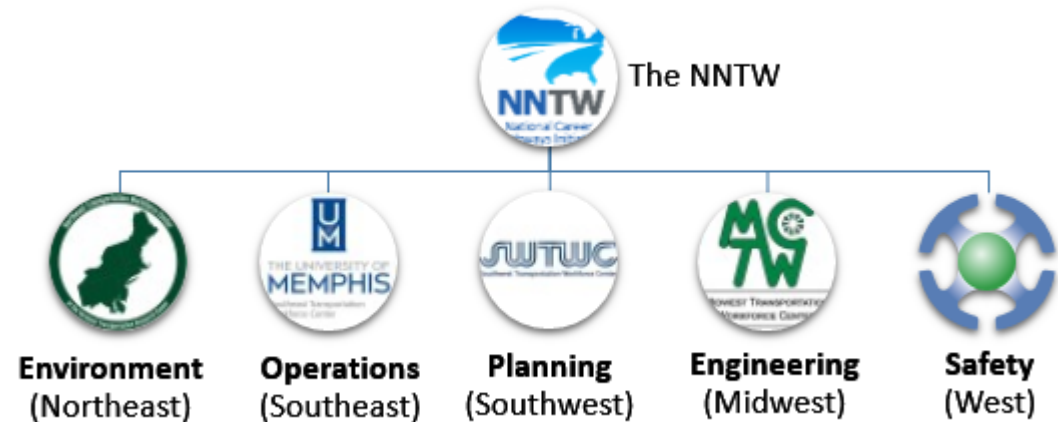


Integration of multidisciplinary & cross-occupational expertise

Innovative education/training delivery models

Connecting the NNTW to ITS PCB

How can the Centers be more engaged in advancing the ITS PCB agenda?



<http://nntw.org/career-pathways>

National Transportation Career Pathway Initiative at TRB 2018

The impact of disruptive/transformational technologies in transportation on the workplace and workforce

TRB

[Workshop 873](#): Thursday, January 11, 2018, 8:00 AM, Convention Center

Sponsored by Standing Committee on Transportation Education and Training

Setting the Context -

Eric Plosky, Chief, Transportation Planning Division at the Volpe Center.

Terry Bills, ESRI,

Eric Rensel, VP, Gannett Flemming / National Operations Center of Excellence

Response panel:

Tom O'Brien (CSULB), Stephanie Ivey (UMemphis), Steve Albert (Montana State), Teresa Adams (UWisconsin-Madison), Glenn McRae (University of Vermont)