



National Transportation Career Pathways Initiative

CLARK MARTIN, PROGRAM MANAGER, CENTER FOR TRANSPORTATION WORKFORCE DEVELOPMENT, FHWA

STEPHANIE IVEY, DIRECTOR, SOUTHEAST TRANSPORTATION WORKFORCE CENTER

GLENN McRAE, DIRECTOR, NORTHEAST TRANSPORTATION WORKFORCE CENTER

PEGGY O'NEILL-VIVANCO, NORTHEAST TRANSPORTATION WORKFORCE CENTER

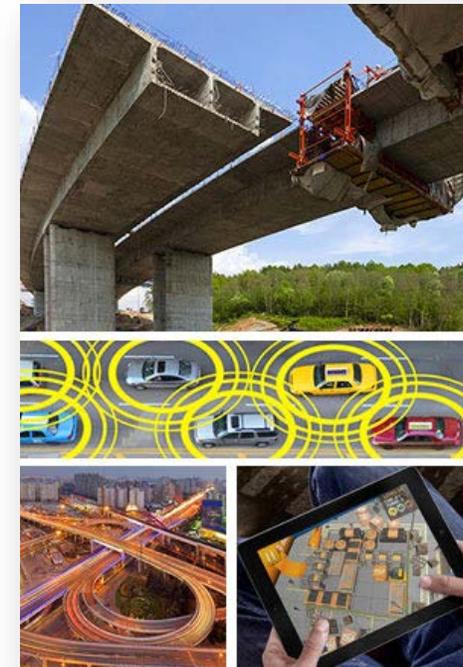
SEPTEMBER 20, 2017

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...example...

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



WEST

Steve Albert

Montana State University

stevea@coe.montana.edu

(406) 994-6114

wrtwc.org



SOUTHWEST

Tom O'Brien

California State University, Long Beach

Thomas.O'Brien@csulb.edu

(562) 985-2875

ccpe.csulb.edu/SWTWC

MIDWEST

Teresa M. Adams

University of Wisconsin–Madison

adams@engr.wisc.edu

(608) 263-3175

mtwc.org

NORTHEAST

Glenn McRae

University of Vermont

glenn.mcrae@uvm.edu

(802) 656-1317

uvm.edu/trc/ntwc

SOUTHEAST

Stephanie S. Ivey

The University of Memphis

ssalyers@memphis.edu

(901) 678-3286

memphis.edu/setwc

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





National Transportation Career Pathways Initiative: Environment Discipline Working Group

Disruptive Technologies and the growth of a
workforce supporting Smart Communities through
ITS and Shared Mobility

<http://netwc.net/>



U.S. Department
of Transportation

**Federal Highway
Administration**

Peggy O'Neill-Vivanco
Workforce Outreach Coordinator

poneillv@uvm.edu

Glenn McRae, PhD
Director, NETWC

Glenn.mcrae@uvm.edu



Transformative Technologies in the Environmental Disciplines

Three areas of workforce growth and focus that address critical environmental problems in the transportation sector.

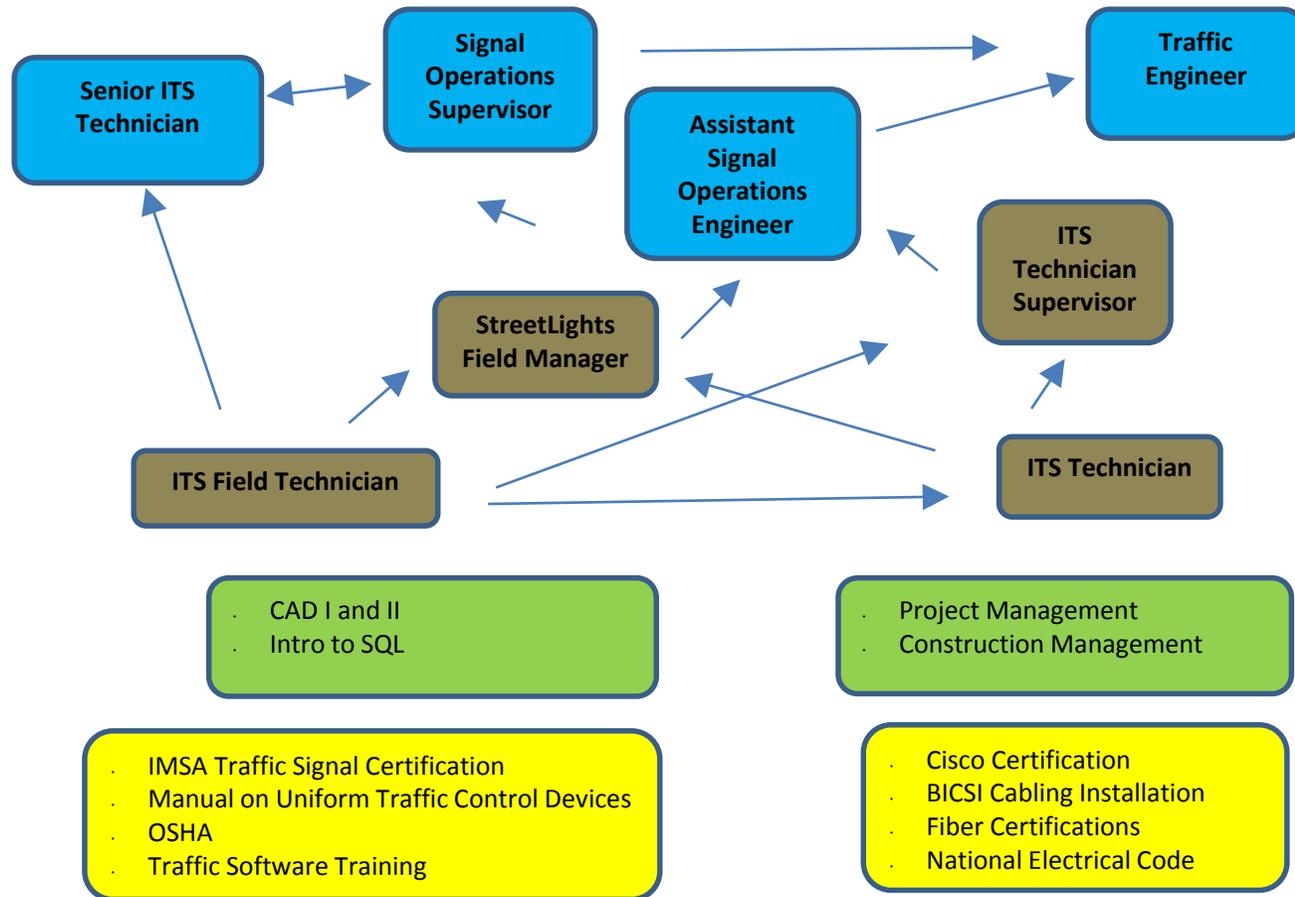
Smart Communities: ITS is a critical technological opportunity to address pollution and move people and commerce more efficiently.

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 employment opportunities.

Climate Adaptation: Adaptive strategies at state and local levels to reduce vulnerability of transportation infrastructure due to climate change impacts.



Smart Communities: ITS Career Tracks



LEGEND

- Training
- Certification

Additional Course work

- Associates Degree
- Work Experience

- Bachelor's Degree
- Work Experience



Smart Communities: ITS

Foundational Competencies

- Excellent Communication Skills
 - Writing
 - Active Listening
 - Reading
 - Speaking
- Complex Problem Solving
- Analytical Ability
- Troubleshooting
- Operation and Control
- Judgement and Decision Making
- Service Orientation
- Life-long Learner

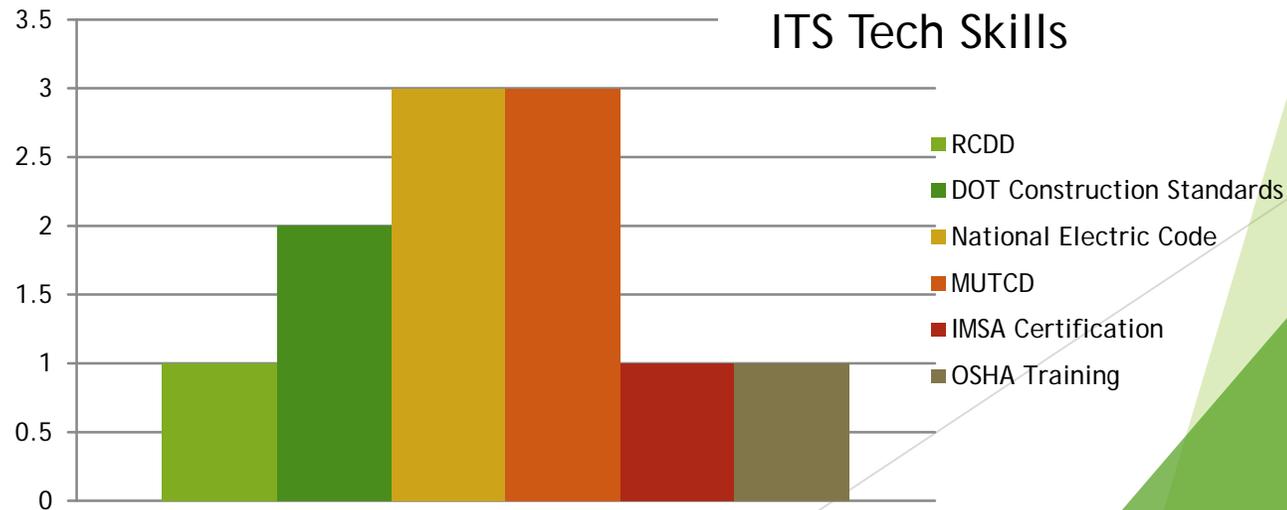
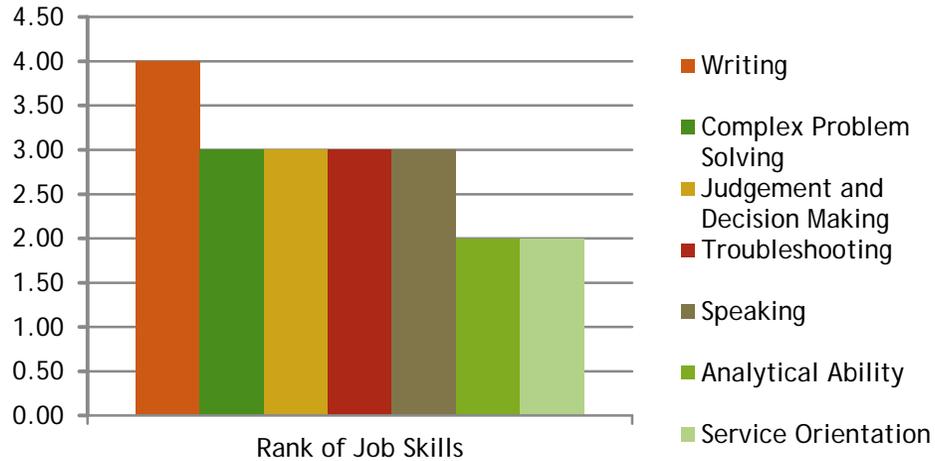
Technical Competencies

- National Electric Code
- MUTCD Requirements
- Work Safety Certification
- OSHA Training
- IMSA Traffic Signal Certification
- Comtrain Tower Climbing Certification
- AutoCAD
- CISCO Networking
- CICS I Certifications
- Controller Software
- Microsoft Office Suite
- Traffic Planning and Analysis Software
- Fiber and Wireless Certifications



Smart Communities ITS Competencies Scan

ITS Foundational Skills





Smart Communities: ITS Education Tracks

Delaware County CC

- Prep for Municipal Electrical Licensing Exam
- Electrical Certificate
- Electro-Mechanical Technologies - Cert. of Competency
- Project Management Certificate
- AAS Skilled Trades - Electrical
- AAS Technical Studies

Prince George's CC:

- CAD Certificate
- CISCO CCNA prep exam Certificate
- Electrical Certificate
- AAS Electronic Engineering Tech
- AAS Engineering Technology
- AS Engineering

New England Institute of Technology

- AS in Electrical Technology
- AS Civil Engineering Technology
- AS Network Engineering
- AS Software Engineering Technology
- BS Construction Management; Electrical Engineering Technology; Software Engineering Technology



Smart Communities: ITS

Next Step to Explore:

How NTCPI can help document needs and opportunities; identify gaps and resources; test new approaches and facilitate partnerships?