

Transportation’s environmental workers today work in a wide variety of fields, bringing a high level of interdisciplinary expertise to guide transportation planning and project development to both meet community needs and desires, and consider the impacts on both the natural and human



environment. Private companies and public agencies at the local, state, and federal level employ a corps of workers in diverse fields, from archaeology and air quality monitoring to wildlife biology and watershed planners. These are critical positions and offer excellent opportunities for students to consider contributing to community resilience and sustainability, but there are limited numbers employed in transportation, and limited openings. The National Transportation Career Pathway Initiative (NTCPI) identified many new and emerging fields that are beginning to have a significant impact on environmental quality in the transportation field, and now offer significant growth in the number and breadth of opportunity for the future.

Transportation’s Environmental Growth Fields



Smart Cities, Shared-Use Mobility Systems, Intelligent Transportation Systems, and Sustainability and Resilience Sciences are all new and rapidly growing fields that will impact the future of transportation work and workers. Particularly at the municipal and some state levels, hundreds of millions of dollars of investments are currently being used to address key environmental goals. This deployment is opening up high levels of need for new skills, competencies, and fields to be incorporated into transportation planning and project development, from technicians, to data managers, to leadership.

Action Steps & Challenges

Build an adaptive framework with employers and education partners to present and develop career pathway and education tools that provide certification training enhancement to the current workforce and build a reliable path for future workers to follow into these rapidly changing and developing fields.

- A. **Pilot effort** to test a set of interventions to support the upskilling of current workers needing new skills and create a sustainable delivery system for key certifications and using this as a building block in developing new curriculum and studies for 2- and 4-year institutions.
- B. Design and promote direct **connections between existing training curriculum and educational curriculum** in programs most likely to direct students to ITS, Smart City, and Sustainability career paths.
- C. Refine and test an **interactive pathway tool**, and create a customizable package that allows it to reflect local employers, educational programs, and featured career paths and profiles of current workers.

Deploy these initiatives as an integrated approach within a targeted geography to build out the necessary infrastructure to attract, educate, and employ individuals along this emerging career path.



Sampling of new occupations

Emerging Occupation	BLS-related occupational categories
Smart City Coordinator / Transportation Engineering Bureau Chief	<i>Transportation Manager</i>
ITS Systems Director	<i>Computer and Information Systems Managers</i>
Signal Operations Supervisor	<i>Transportation Engineer</i>
Traffic Engineering Manager	<i>Transportation Engineer</i>
ITS Systems Engineer	<i>Computer Systems Engineers/ Architects</i>
Signal Operations Engineer	<i>Electrical Engineer</i>
ITS Technician	<i>Electrical Engineering Technician</i>
	<i>Electrician</i>
	<i>Civil Engineering Technician</i>
	<i>Traffic Technician</i>

Pilot Project

Assess specific employer needs in entry ITS, Smart City, Shared-Use Mobility, Sustainability fields and occupations

Establish quick response for key certifications to upskill existing workforce engaging education and training partners

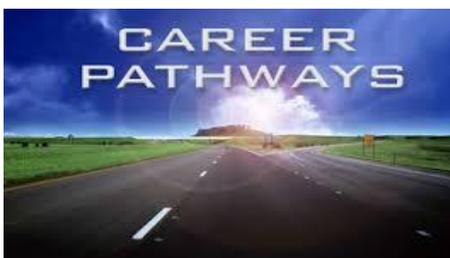
Insert Career Pathway tools into CTE-Community College-University- Employer professional development continuum to match current and future need

Draw down existing curriculum and training resources

Establish pilot proposal for partnership career pathway

Existing Curriculum Resources

- *IMSA Certifications*
- *Consortium for ITS Training and Education (CITE)*
- *USDOT ITS Professional Capacity Building Program*
- *National Highway Institute*
- *Transportation Tech's ITS Bootcamp*
- *ITE Learning Hub*
- *Emerging University and Community College programs*



"We need to make sure there are people who follow in our footsteps."

Ray LaHood
FORMER SECRETARY OF TRANSPORTATION, USDOT

Resources for Educators
<http://netwc.net/educator/>

Transportation Green Careers
Clean Air, Alternative Fuels, Smart Cities, Safety & Security, Sustainable Communities, Smart Dollars, Advanced Transit, Resilient Infrastructure, Big Data, Climate Change Mitigation & Adaptation

Career Pathways to the Future
NNTW National Network for the Transportation Workforce

<http://netwc.net>

