

## Experiential Learning & Professional Development Opportunities

Student professional associations provide professional development and networking opportunities to students, bridging coursework to practice. Many associations provide experiential learning opportunities like design/build or other student competitions; professional conferences and other networking opportunities, as well as student scholarships and other support. In addition, many institutions either require or strongly encourage work-based learning experiences for their students through internships and/or co-ops. Industry and education institutions can work together to ensure that safety-focused experiences and application of safety skills are an important component of these student development experiences. Relevant transportation planning experiential and work-based learning is available through the following sources:

### [American Planning Association \(APA\)](#)

Attending an APA-accredited university or obtaining membership connects students to a network of professional planners and an opportunity to obtain an American Institute of Certified Planners (AICP) certification, the only national independent verification of planner qualifications.

### [Global Planners Network \(GPN\)](#)

Student APA members are able to connect with GPN's global network of planning associations, through APA regional conferences here in the United States.

### [Association of Metropolitan Planning Organizations \(AMPO\)](#)

AMPO provides student members discounted rates to join with an opportunity to attend their annual conference and periodic events.

### [Association of Pedestrian and Bicycle Professionals \(APBP\)](#)

APBP provides full time student members with a passion for bicycle and pedestrian transportation with an APBP mentor program and scholarship opportunities for professional meetings.

### [The Urban Land Institute \(ULI\)](#)

ULI offers workshop and research competition opportunities hosted across the country, which support the development of member understanding on current urban planning challenges and how to address current trends in industry.

### [State Departments of Transportation](#)

DOTs offer internships for both community college, university and graduate students. Internships or co-ops are available in a number of occupations relating to asset management: civil engineering, construction, and maintenance. Some DOTs also employ college students to assist in the completion of work related to crash system input and analysis.

### [Women's Transportation Seminar International \(WTS International\)](#)

WTS International provides professional development, encouragement, and recognition to support women in their transportation careers. WTS International provides student members with a scholarship program, mentor program, and various professional development opportunities.

### [Dwight David Eisenhower Transportation Fellowship Program \(DDETFP\)](#)

The DDETFP awards fellowships to students pursuing master's or doctoral degrees in transportation-related disciplines. As a part of the fellowship program, each year fellows participate in the Transportation Research Board (TRB) Annual Meeting.

### [Traffic Safety Scholars Program](#)

The Traffic Safety Scholars (TSS) Program provides awards of up to \$1,000 to undergraduate and graduate students to help defray the cost of attending the Lifesavers Conference on Highway Safety Priorities. This conference provides opportunities to learn about highway safety issues from leading experts and network with the largest gathering of highway safety professionals anywhere in the country.

### [National Highway Institute \(NHI\)](#)

NHI provides trainings and education for highway professionals in order to improve the conditions and safety of roads, highways, and bridges.

### [Association for Public Policy Analysis & Mgmt \(APPAM\)](#)

APPAM provides graduate student members with an opportunity to attend regional conferences and participate in a mentor-matching program.

### [Institute of Transportation Engineers \(ITE\)](#)

ITE provides transportation professionals with the knowledge, practices, and skills needed to help shape the future of transportation. Student membership is free and grants access to ITE trainings and events as well as networking opportunities.

## Innovative Strategies for Integrating Safety Competencies into Varied Programs of Study

A safety career pathway involves attaining specialized safety competencies within various traditional transportation programs of study. In addition to acquiring academic and technical preparedness within a broader field (e.g. Planning or Construction), students and incumbent workers on a safety career pathway will pursue research, experiential learning, on-the-job training and other work-based or real-world learning experiences focused on transportation safety. Examples of effective safety integration models are listed that provide curricular and co-curricular value to student safety career preparedness:

### Co-Curricular

#### **Transportation Agency/University Research Partnerships**

Research partnerships between university faculty and state DOTs are proven sources for safety workforce development when they: 1) are implemented over the long-term; and 2) actively involve faculty and both undergraduate and graduate multi-disciplinary students in the implementation of safety research and project development.

#### **On-Campus DOT Design Units**

Many campuses partner with transportation agencies to provide on-campus internship experiences to undergraduate students in roadway design or traffic operations projects. These programs provide students with hands-on design experience and exposure to state DOT standards and practices while building a pipeline into transportation engineering careers.

#### **Safety-Focused Work-Based Learning**

Particularly in construction programs, many institutions either require or strongly encourage work-based learning experiences, which can be utilized to attain safety-focused experiences and to apply safety skills in the workplace.

### Curricular

#### **Engaged Scholarship**

Most universities provide mechanisms to incorporate community projects into student coursework, either through senior design, capstone, or service learning courses. Engagement of transportation organizations with universities to provide safety-focused course-based projects can serve as a powerful student exposure and recruitment tool to safety career pathways. Some universities provide opportunities to scale up these types of engaged scholarship opportunities so that one agency partner can provide multiple projects over the course of an academic year.

#### **Safety-Focused Course-Based Learning**

Integration of safety topics and experiential learning into the classroom can be accomplished in various ways, including incorporation of safety-focused case studies and lab exercises into required coursework; and implementation of assignments that demonstrate understanding of safety principles and processes, through development of safety plans, safety data

analysis assignments, or implementation of accident investigations or safety audits. Job site visits and field trips have also been identified useful tools for promoting student interest in safety.

Students can design their own externship experience.

#### **Competency-Based Curriculum**

A curriculum that meets academic and quality standards, designed and organized by competencies required for jobs and cross-walked with industry skill standards and certifications, can be designed for safety. Job profiling and the use of "SMEs" should be considered to meet the competency needs of employers. The proliferation of industry-driven professional safety certifications can be used to facilitate this process. Programs of this kind may award credit for prior learning, allowing incumbent workers to achieve credentials by demonstrating knowledge and skills developed on-the-job.

#### **Asynchronous Learning**

Provide education and training for students and incumbent workers at times and locations convenient to students and employers, rather than instructors or institutions. This may include evenings or weekends, blended or "hybrid" delivery models, and delivery at off-campus locations.

#### **Problem-Based Learning**

Problem-based learning provides students with opportunities to solve real life problems, often in environments that replicate the workplace (e.g. design within constraints, working on multidisciplinary teams, etc.). Industry engagement with educators to provide real world problem examples and guidance on project constraints enhances student experience.

#### **Work-Based and Experiential Learning**

Incorporate opportunities for "learning-by-doing", including internships, co-op work experience, simulations, and team class projects that are assignments from local employers.