

STRIDE

Southeastern Transportation Research,
Innovation, Development and Education Center

Technology Transfer Final Report

STRIDE Project C4

Framework for the Development of a Diverse Transportation Workforce in the Southeast Region

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THE STRIDE CENTER

The STRIDE Center is the 2016 USDOT Region 4 (Southeast) University Transportation Center (UTC) housed at the University of Florida Transportation Institute (UFTI). Our mission is to develop novel strategies for Reducing Congestion. The Center has nine partners, representing seven states in the Southeastern U.S. The UFTI and its partners in the STRIDE Center are recognized leaders at state, regional, national, and international levels. The STRIDE Center is focused on assembling and integrating research projects throughout the region in a way that maximizes contributions to solving current and future transportation problems as well as strengthening expertise and developing new technologies. For more information see <https://stride.ce.ufl.edu/>.

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1. Project Overview

This project developed a framework for training and education to support the diverse workforce development needs of the transportation sector in the Southeast region with an emphasis on the role of secondary academic institutions. The project identified current and future needs and defined the roles of the UTCs, universities, and community colleges in the region in the training and education activities. This project developed a set of recommendations to better address workforce challenges pertaining to recruitment, academic preparation, continuing education/training, retention, business processes, and collaboration/coordination. The project accomplished these goals through a comprehensive literature and state of practice review, and a mixed methods approach to data collection, relying on the synthesis of information from an introductory stakeholder meeting, a survey sent to transportation professionals, and a series of interviews with identified industry experts.

2. Research Goals

The intention of this project is to establish a baseline understanding of how workforce development is defined, the challenges that it aims to address, and the current state of workforce development practice. This understanding helps to identify current and anticipate future gaps in the state of workforce development practice in the Southeastern transportation industry and suggest strategies to successfully meet identified challenges. In summary, this project has five succinct goals: 1) to establish a working definition of workforce development; 2) to identify the prevailing challenges in the transportation workforce; 3) to summarize the state of workforce development practice; 4) to identify the role UTCs might play as a partner in responding to workforce development challenges; and 5) to propose actionable suggestions for the improvement of transportation workforce development in the Southeastern region.

3. Findings

This study found that the transportation industry continues to face clear and present threats to the strength of its workforce. Demographic changes, labor market forces, emerging technologies, and the growing need for interdisciplinary skillsets are all well-documented challenges facing the industry now and will continue into the future. This study has found, in a reinforcement of previous findings, that there is an uncoordinated understanding of the purpose and application of transportation workforce development within the Southeast. While this study has shown that the region is generally strong in technical and professional skill development for existing employees, there is little progress on recruitment and retainment strategies, including K-12 education, labor practices, and workplace diversity. The largest barrier to the resolution of workforce challenges facing the Southeastern transportation industry is the general lack of coordination among stakeholders within the region. The prevailing issues and potential solutions have been documented in previous literature, though the application of this research as part of a coordinated effort to address these challenges has yet to be fully realized.

4. Performance Metrics

Metric	# Completed
OUTPUTS	
Product(s): Number of new or improved tools, technologies, products, methods, practices, and processes created or improved	3
Technical Report: Number of client-based technical reports published	STRIDE Final Report
OUTCOMES	
Body of Knowledge: Number of trainings for transportation professionals	1 (Webinar)
Professionals Trained: Number of professionals participating in trainings	17
IMPACTS	
Stakeholders: Number of stakeholders you met with to encourage adoption or implementation of product(s)	26 (Stakeholder Meeting Attendees and Interviewees)
Adoption/Implementation: Number of incidences outputs of research have been implemented or adopted	

5. Products

All products were developed to better understand the current and future states of workforce development in the Southeast region. These tools will help researchers and practitioners better understand the workforce development needs of the Southeast region. The tools could be used by researchers, policymakers, or practitioners within the region to better understand the landscape of workforce development efforts or to provide a starting point for the implementation of strategies to address workforce development needs.

1) Workforce Development Practitioner Survey Methodology and Results

The project includes the results of a survey addressing workforce development existing conditions, priorities, and mediums; future conditions, priorities, and mediums; educational pipelines; retainment/recruitment challenges; emerging technologies; demographic change; and equity, diversity, and inclusion strategies. This is the only survey available in the Southeast detailing practitioner experience of workforce development issues and is a valuable source of information for future researchers. It establishes a baseline understanding of the state of workforce development in the region.

2) Workforce Development Practitioner Interview Methodology and Transcripts

The project includes the results of focused interviews addressing the same topics as the survey (see above). Similar to the survey, this information is a useful addition to the limited body of knowledge addressing the state of the Southeastern transportation workforce and can be used by researchers, practitioners, or policymakers to better coordinate the implementation of workforce development strategies.

3) Set of Recommendations for Workforce Development Strategies to Meet the Needs of the Southeastern Region

This project includes a list of potential strategies/actions that can be taken to better address the workforce development needs of the Southeastern transportation industry. This information can be used by researchers, practitioners, or policymakers as a reference for the creation of policies or implementation of strategies.

6. Who benefits/will benefit from your products?

- Transportation practitioners across all modes and sectors within the Southeast
- Researchers in transportation planning, transportation engineering, transportation policy, workforce development, business processes, and other related fields.
- Departments of Transportation within the Southeastern Region.
- The network of stakeholders identified in the project, including but not limited to LTAP Centers, University Transportation Centers, Federal Administrations, Regional Research Non-Profits, Public Sector Professional Organizations, and Private Transportation Firms.

7. Body of Knowledge & Professionals Trained

- 1) STRIDE Webinar: On October 5th, 2022, Ruth Steiner, Ph.D., University of Florida, Jeremy Griffith, University of Florida, and Steven Click, Ph.D., Tennessee Technical University presented “Strategies for Developing a Diverse Workforce in the Southeast Region.” (17 Attendees, 57 YouTube views)
Recording: <https://youtu.be/HeDmHH-Mmxo>

8. Stakeholder Engagement

MEETING DETAILS		NARRATIVE DESCRIPTION
STRIDE rep.	Dr. Ruth Steiner, Dr. Steven Click, James Martin, Mehri Mohebbi, Mohammed Hadi, Virginia Sisiopiku, Dimitria Michalaka	The meeting consisted of 17 industry practitioners recruited from identification of expertise by our research team and their networks. The 17 participants were selected to obtain a sample that was representative of the Southeastern Transportation Industry, including at least one participant from each state within the region (with the exception of Alabama) and a diversity of sectors, roles, and experience. The participants were divided into 4 distinct groups based on topics of focus following the findings of the literature review, then led in moderated discussions by members of the research team. The groups were organized to discuss: 1) Equity, Diversity, and Inclusion; 2) Continuing Education/Workforce Training Needs; 3) Workforce Development Priorities and Mediums; and 4) Strategies to Respond to Demographic Change. The participants were notified of these categories and were required to self-select a group based on their subject matter expertise. The discussions were moderated by members of the research team, following a rough script addressing: 1) Current Conditions; 2) Expected Changes;
Date of Activity	1/13/21	
Type of Activity	other - please describe	
Location	Remote	
Stakeholder(s)	Leta Huntsinger, Stuart Day, Jarrod Stanley, Matthew Cate, Kyle Mote, Daniel Halsted, Brad Freeze, Martha Horseman, Gibran Hadj-Chikh, Alison Stettner, Jeremy	

	Dilmore, Alex Bond, Larry Hagen, Lee Tupper	and 3) Future Conditions. Data was collected via detailed note taking from research assistants assigned to each group and an online collaborative document open to the meeting participants. Participants were encouraged to 24 freely make notes and address each topic on the online document, allowing for additional information to be gathered independent of the notes taken from the meeting. This meeting provided the preliminary information used to develop and refine the questions included in the practitioner survey and interview series.
STRIDE rep.	Dr. Ruth Steiner, Mehri Mohebbi, Jeremy Griffith, Dr. Steven Click	A series of informal interviews were conducted with nine transportation professionals and workforce development practitioners in parallel with the survey to discuss the experience of transportation workforce development and gather a range of strategies/responses to prevailing challenges in the industry. The interviews were hosted online via Zoom. The interview participants were selected following recommendations from participants in the stakeholder meeting. The participants represented a diverse group of transportation professionals operating in the private, public, or academic sectors within the United States. Seven of the nine participants have previous experience or are located within the Southeastern Region, the remaining two participants were had previous experience in workforce development in states outside of the Southeast but were included to allow for additional comparison and contrast. The interviews were led by members of the research team, following an informal script addressing the same topics as the survey in additional depth. Through this parallel structure, the two methods intend to work in synthesis to develop additional validity and fidelity to overall data collection efforts.
Date of Activity	Varied	
Type of Activity	phone meeting	
Location	Zoom	
Stakeholder(s)	Kyle Mote, Chris Young, Leta Huntsinger, Jason Bittner, Jarrod Stanley, Stephanie Ivey, Gibran Hadj-Chikh, Victoria Beale, Lara Bouck	

9. Adoption/Implementation

1) Workforce Development Practitioner Survey Methodology and Results

The results of the survey can be used by researchers, policymakers, and industry practitioners to better understand the characteristics of workforce development practice within the region. These results are the sole source of information/data specifically related to transportation workforce in the Southeast region. It provides users the opportunity to gain insight into the practitioner’s understanding of the state of workforce development practice in the Southeast. The results of the survey were shared with the participants.

2) Workforce Development Practitioner Interview Methodology and Transcripts

Similar to the survey, the results of the interviews can be used by industry stakeholders to gain a better understanding of the characteristics of workforce development practice within the region. The interviews, like the survey, are in total, the only source of information for the state of transportation workforce development in the Southeast currently available. Additionally, these products add to the very limited body of knowledge pertaining to data collection efforts on transportation workforce development. These transcripts are included in the appendix of the final report.

3) Set of Recommendations for Workforce Development Strategies to Meet the Needs of the Southeastern Region

This product is being used as a guiding point for future research projects by STRIDE. Project D6 (A Centralized Repository on Workforce Development in the Southeast), F5 (Transportation Workforce Development Related to Traffic Signal Systems – Phase II), K6 (Promoting Transportation Equity through Curriculum Interventions), and E5 (Transportation Workforce Development for State DOTs to Address Equity, Diversity & Inclusion (Southeast Region)) are all follow on projects from the recommendations suggested in project C4. Additionally, the webinar conducted by the project team focused heavily on actionable steps to implement the suggested recommendations.

10. Broader Impacts

Overall, the products developed in this project are intended to provide a picture of the state of workforce development in the Southeastern transportation industry, an assessment of workforce development needs/gaps, and guidance for future research and implementation efforts addressing these challenges. The Survey and Interview methodologies and results provide the only source of data/information related to transportation workforce development needs within the region, and can potentially serve as the basis for future research/implementation. The recommendations developed in this project should guide avenues of future research and policy for both STRIDE, and for the industry at large.