A Roadmap to Career Pathways in Logistics and Transportation

Polk State College
Corporate College
Supply Chain Management Institute
3515 Aviation Drive
Lakeland, Florida 33811
Polk State College Mission
Polk State College, a quality driven institution, transforms lives through the power of education by providing access to affordable associate and baccalaureate degrees, career certificates and workforce employment programs, delivered by diverse, qualified faculty and staff.

Polk State College Vision
Promote excellence and student success through innovation, value and engagement.

Polk State College Core Values

Service  Integrity  Knowledge  Diversity  Leadership

Workforce Development
Our mission in the Workforce Development Division at Polk State College is a very simple one to state. The mission of the Workforce Development Division is to prepare students for employment and advanced education.

SCMI offers courses in Transportation/Logistics and Warehousing/Distribution; these components of supply chain management comprise a significant percentage of Polk County’s economy.
The Career Pathways Roadmap model represented in this manual was developed by a unified education system: Polk State College, Supply Chain Management Institute (SCMI); State Workforce Agencies; Economic Development; Secondary and Postsecondary Public Education System; Florida Department of Education; Logistics and Transportation Business and Industry Leaders; and Nonprofit Organizations in the state of Florida.

We appreciate the vision and guidance provided by the committed individuals that gave time and expertise to see the plan implemented throughout the state. The success is attributed to building relationships with state agencies, industry employers, educational institutions, grant funders, and students.

Wayne Kline, GLA  
Director, Supply Chain Management Institute  
Polk State College - Supply Chain Management Institute (SCMI)

Elaine Puri, CTL  
Director, Workforce Development  
American Society of Transportation and Logistics (ASTL)
contents

Polk State College’s Mission and Values ................................................................. ii
Acknowledgements .............................................................................................. iii
Introduction ............................................................................................................ 1
A Roadmap to Career Pathways ........................................................................... 3
Key steps for building success ............................................................................ 4
  Establish industry need ...................................................................................... 5
  Industry, education, state and community support ........................................... 6
  Establish a shared vision, mission and goals ..................................................... 7
  Identify key stakeholders and partners ............................................................. 8
  Roles and responsibilities ............................................................................... 9
  Engaging business and industry .................................................................. 10
Gap analysis and needs assessments .................................................................. 12
Employment facts ............................................................................................... 13
Career pathways in certification and education systems .................................... 14
Designing education programs ......................................................................... 15
Grant funds to support career pathways program development ..................... 16
Employer validation of competencies and pathways ........................................ 17
Sustaining the career pathways program and expand business partnerships .... 18
Conclusion .......................................................................................................... 19
Logistics and Transportation has gone through rapid change in the past decade. Manufacturers must introduce new products quicker and planning cycles are shrinking as competitive pressures increase. Customer expectations continually on the rise, have forced operations to move from mass production to mass customization of goods and services. Future growth opportunities are hard to quantify and visualize. In a growing number of regions around the world, leaders are working more closely to coordinate publicly funded education, from primary through postsecondary levels, with social services, workforce development and economic development programs to produce a better-trained workforce and promote economic growth. Several states are actively supporting the efforts of these regional partnerships.

“Career pathways” is our term for a series of connected logistics and transportation education and training programs that enable individuals to secure employment and to advance to successively higher levels of education and employment in logistics and transportation. Each movement forward on a career pathway is designed to prepare for the next level of employment and education. Logistics and transportation career paths to high paying jobs are important to local economies. Their purpose is to create both opportunities for advancement for current workers, job seekers and future labor market candidates and a pipeline to workforce talent. Career paths assist in strengthening the “people supply chain” that produce and keep up-to-date a region’s trained workforce.

Educational programs and curriculum for career pathways cannot be a “purchased off the shelf” method. The program content of a career pathway depends on the logistics and transportation business and the requirements of employment and advancement in the targeted jobs for the region served. Building a career pathway is a process of adapting existing programs and services — and adding new ones that enable individuals to advance to successively higher levels of education and employment in the field of supply chain management. Career pathways are more effective when the process helps to align educational programs with
introduction

Business leaders view the supply chain as the central nervous system of the world economy.

industry’s employment and social service needs. The process strengthens cooperation between these entities in ways that improve their individual and collective capacities to respond to the needs of local markets and employers.

Community colleges play an important role in career pathways. The career pathways approach helps community colleges better align their programs with various areas of workforce development, academic credentialing and transfer preparation, and remediation. In 2006 Polk State College and leaders from Central Florida’s supply chain management businesses began working together to address the industry significant workforce issues through a series of highly attended industry forums.

The idea to create a community college-based Supply Chain Management Institute offering multilevel education and training opportunities was conceived and by May of 2007 Polk State College, faculty, and industry leaders were working together to develop the career pathways program. This concept was supported statewide by Florida’s state workforce and economic development agencies, industry representatives, educators and state legislators.

In 2007 grant funds were committed for a five-year plan to develop a pipeline of talent from high school career academies to master’s level degree programs – from diplomas and certificates to nationally recognized credentials. The American Society of Transportation and Logistics joined the consortium and opened the door to professional and stackable certifications recognized by the industry.

The effort to form a consortium in logistics and transportation to develop a career pathway of education and national credentials became a reality.
This book represents our Roadmap to Career Pathways in Logistics and Transportation. Now more than ever, companies need innovative professionals with the vision and skills to manage the entire life cycle of goods and services. Business leaders view the supply chain as the central nervous system of the world economy. Companies are seeking professionals who have the specialized knowledge to hit the ground running and solidify the company’s long-term competitive advantage. Entry level opportunities are available for individuals at all levels of education – high school diploma and postsecondary education, including: certifications, associate degrees, bachelor degrees, and graduate degrees.

Career pathways has gained tremendous momentum across the country from the east to west coasts. Since the early 1990s, public educational institutions and workforce development agencies have been working closely to develop programs and cross-system efforts to educate students so that when they complete their programs they are ready for the workforce. Having participated with the policymakers and practitioners for experimentation and innovation in the logistics and transportation field, we developed this Roadmap as a resource that will assist schools in shortening the learning curve for beginning their career pathways work in this industry.

Our goal is to share our knowledge of the “how and why” of logistics and transportation career pathways education – program development aligned that includes industry input, educational standards, and national credentials.

Over the last two decades the trend has been to do more with less and to figure out how to better align our education system to a pipeline of talent in supply chain management – move more people through education and training in order to meet workforce demands of the 21st century.
There are successful key steps that help guide local and state teams through developing the logistics and transportation career pathway. The Roadmap provides an overview of these steps and the framework needed to build a sustainable system. Included in this overview are examples of best practices that help contextualize the key steps implemented in the Roadmap model.

**Key steps for building success:**

- Establish industry need
- Industry, education, state and community support
- Establish a shared vision, mission, set of goals, and implementation plan
- Identify key stakeholders and partners
- Define the roles and responsibilities of all partners
- Engaging business and industry
- Gap analysis and needs assessments
- Career pathways in certification and education systems
- Design education programs
- Employer validation of competencies and pathways
- Sustaining the career pathways program and expand business partnerships

Career pathways must be industry-driven. This means that it must have employer involvement from inception of the program through implementation. Employers remain involved even after the education program is in place, often as advisory committee members and volunteers, helping to evaluate the program and participating in activities and direction to support continuous improvement.
A primary role employers are engaged in is validating labor market research for job growth and confirming the worker skills and national credentials required for logistics and transportation. Employers also play an important role in program design, curriculum and instruction. Industry businesses also provide occupational training, internships and apprenticeships, and jobs as part of the unified education system.

Engaging industry employers helps ensure the career pathways system is aligned with the growing industry. The following key steps help guide the team of industry experts.

**Key steps are:**

- Conduct a labor market analysis
- Ensure the logistics and transportation industry is a high-demand and growing sector in your area
- Identify industry businesses and garner support
- Clarify the role of employers in the development of program curriculum and implementation
- Sustain and expand on-going partnerships with business and industry

A unified education system is one that includes resources to provide a trained/skilled workforce for the sustainment and expansion of the logistics and transportation industry. A unified system focuses on advancing logistics and transportation workforce skills to an increased level of productivity and contributes to expansion of diversity in the logistics and transportation industries. It develops partnerships around local and state agencies, between public and private educational institutions, and forms the foundation of the educational Roadmap.

---

*“Strong economic growth is contingent on good relations between education, economic development, and key stakeholders working in partnership with industry.”*

Elaine Puri, CTL Director, Workforce Development American Society of Transportation and Logistics
“Industry has a vested interest in the success of career pathways. They help provide the workforce of the future and the sustainability of our most important asset, our people.”

Matt Kane, CSCP
Manager, Integrated Business Planning & Change Management
The Mosaic Company

industry, education, state and community support

Working with community colleges and universities, national logistics and transportation associations, state and local workforce boards, logistics and transportation businesses, will lay the foundation for success.

The success comprises of a wide spectrum of activities spanning industry-driven academic and training in logistics and transportation curriculum development and delivery efforts, to taking the beginning steps for establishing a unified workforce preparation system that creates the training and educational programs, curriculum, educational articulation pathways, and certifications needed to deliver necessary logistics and transportation workplace competencies.

Employer organizations such as chambers, trade and industry associations, and economic development corporations play an important role in ensuring that industry needs and concerns are at the forefront of a career pathway program. By harnessing the collective power of employer organizations, multiple business leaders may be represented without needing to meet with each individually.
Once the career pathways leadership team is established it is time to create a shared vision and mission of common goals. The vision provides a focus for the mission and a framework for the team’s area of expertise and responsibility by recounting the future position of the community in a way that inspires the team to move forward.

A mission statement should guide the actions of the team’s purpose, spell out its overall goal, provide a path, and guide decision-making on what to work together on. Defining these steps will allow the team to establish a set of goals and develop an implementation plan to guide their collaborative work.

Developing an implementation plan for the career pathway and getting stakeholders to identify objectives and collaborate together towards the common goals of developing an industry-driven program can be challenging. Key stakeholders from businesses, educational institutions, workforce development and economic development entities, government agencies, community organizations and others have different areas of focus, funding priorities, schedules and other interests.

“As the Supply Chain industry moves into the future, more sophisticated technical and logistical demands become realities that speed and strengthen the critical services required and performed. Formal education is the vehicle and provides the critical framework to learn both the present and future realities.”

John Zapata
SVP/Distribution
Rooms-to-Go, Inc.
The first step in developing a team of experts involves looking at local chambers of commerce and/or economic development agencies that can assist the team in identifying key employers from the logistics and transportation industry sector. Employers will have perspectives that are useful for designing the career pathway, bringing together a group of employers from several key businesses ensures the pathway developed is reflective of industry need. One useful approach for involving multiple employers is to create an employer or industry advisory committee.

The Advisory Committee receives multiple benefits by participating in the career pathway vision. Once key employers are identified, the team determines how to best engage these key stakeholders. The team can provide values and benefits of participating as active partners in the career pathways program.

Committee members, by sharing their expertise and knowledge, support the relevancy and integrity of our mission. Training and educational programs must be developed in collaboration with professionals in business and industry who can provide insight into the skills and knowledge required by the workforce entering the field.

**Some key benefits include:**

- The workforce development system in the region/state will be able to meet your human resources specific needs.
- This program creates a pipeline of skilled job candidates who possess the specific skills, certificates, and national credentials required for the current and future labor market.
- Incumbent workers will have access to training and education that will upgrade worker skills.
- National credentials and certifications provide future employees with skills and standards set within the industry.
- Members will be active in creating a more globally competitive community.
Stakeholders and team members are important factors in the success of career pathway programs. The partners are instrumental in greatly reducing or even eliminating problems encountered in areas such as program planning, implementation and assisting candidates to make decisions in new and existing careers. Advisory committees can also have a direct, positive impact upon a community’s economic climate. Representatives from business, industry, labor organizations, professions, and technical trades are afforded opportunities to work more closely with educators to identify needs and necessary solutions.

Without clearly defined roles and responsibilities, the process can be very confusing, and some responsibilities may be overlooked.

A prerequisite for defining the roles and responsibilities of each of the partners within the career pathway is shared knowledge of the services each agency provides, the populations it serves, and the service models on which its programs are based.

It will help to develop an operational and strategic plan by members who are assigned functional roles and/or individual task responsibilities. It may also be helpful to formalize these relationships with a written agreement or within a memorandum of understanding (MOU) in order to support sustaining relationships over time.

The single most important motivator to an industry partner volunteer is a sense of accomplishing meaningful work, and how educators structure and recognize that work is key.
Engaging employers to support career pathway programs can benefit all stakeholders involved – employers, educators, and learners. Employers can help ensure programs are responsive to the needs of local industry, while providing students with relevant workplace framework and foundational skills they need to succeed in their career.

Engaged employers will:

- Participate in needs assessments
- Help to set standards and assist with program and curriculum design
- Provide internships and other work-based learning experiences
- Support national credentials
- Serve as instructors and guest speakers bringing real-world experience to learners
- Leverage connections to suppliers and other businesses

Each employer may serve in one or more roles. Depending on the role of the employer, responsibilities can be formalized in a variety of ways. For example, a MOU may be signed for meeting obligations, work plan commitments, job shadowing, internships, or mentor roles.

Although employers may have altruistic motivations, their primary goal for establishing business-education partnerships is to close the gap between the number of individuals they currently employ and the number they would employ if skilled workers were available.

Commitment is a deeper feeling and underlying belief structure that shapes the thinking of a potential volunteer.
engaging business and industry

For employers, time is of the essence to find a qualified workforce, access education and training programs that support their needs, and lower their costs for recruitment and training. In discussions with employers, educators can relate the benefits of how a new partnership can effectively address these concerns which ultimately achieves the win-win situation.

Educators should not hesitate to take the first step in engaging employers, many may never have been asked to become involved in a business-education partnership, and others may have had an interest in partnering but are unaware of which institution or organization to contact to get started.

Employers need to see the partnership’s positive effect in participating in the educational program to maintain their involvement. In general, employers will continue to contribute to the partnership if their time and effort lead to benefits for their company.

The need-gap analysis technique that businesses use to determine the necessary steps to move from its current state to its desired, future state is also referred to as “needs analysis, and needs assessment.”
The purpose of a needs assessment in developing a career pathway is to identify performance requirements and the knowledge, skills, and abilities needed by businesses in logistics and transportation to achieve the requirements. An effective assessment will help direct resources to areas of greatest demand. The assessment should address resources needed to fulfill organizational mission, improve productivity, and provide quality products and services. A needs assessment is the process of identifying the “gap” between performance required and current performance. When a difference exists, it explores the causes and reasons for the gap and methods for closing or eliminating the gap.

A complete needs assessment also considers the consequences for ignoring the gaps. Learning needs analyses are undertaken in industry and business to determine the gap between the existing skills, knowledge and abilities of staff, and those that are needed for the organization to function at the desired level. Once this gap is determined, decisions can be taken as to the type of training required and the form of delivery.

**A needs assessment will help:**

- Identify what skills and knowledge is needed by industry
- Highlight competencies that need developing
- Outline and define expectations and goals
- Establish need and demand for the program
- Determine what can be achieved with available resources
- Identify any obstacles or challenges
- Increase the sense of ownership/involvement with industry
- Identify the curriculum competencies/content
- Determine what is the appropriate delivery format: classroom, online or blended and other formats
- Determine what skill sets/knowledge base is required
- Develop a budget and cost analysis
- Establish timeline to deliver the program
- Ascertain the most suitable evaluation methods
- Outline what results can be expected and if/how these can be measured
industry employment facts

- The supply chain – top 20 fastest growing career fields, by 2018 more people retiring than available workers.

- Analysts project that the industry will need another one million employees by 2030, which will intensify the labor shortage in coming years.

- Automation will drive many new logistics jobs, and warehousing will require technology skills not often covered in new employee training.

- Warehouses and distribution centers now need skilled technicians to look after these systems. Even in a time where most sectors are not hiring, many warehouses are struggling to find the workers they need.

- Retail trade logistics employment is up 12 percent, and will create more than 1.8 million new jobs.

- Transportation and warehousing is up by 20 percent, and will generate 853,000 new jobs.

- The trucking industry also experiences shortages. Estimates suggest the driver shortages could balloon to 239,000 drivers by 2022.
Despite the “uniqueness” of career paths among companies of scale and market diversity, there is evidence of a uniform call for certification. Credentials provide employers with a reliable method for hiring and maintaining a skilled workforce and give workers a clear pathway for building a sustainable career with the opportunity for advancement.

There are many industry advocates supporting a career pathways credentialing system in logistics and transportation. Industry-driven credentials that are trusted by employers and educational institutions provide students with a means to quickly acquire training with clear labor market value and build on them with access to more advanced jobs and higher wages. It also provides innovative educational programming that leads the way in designing how we train the workforce.

Career pathway programs leading to industry-validated certificates and credentials support employer recognition of an individual’s work-readiness and level of competency. For these reasons, it is important to design education and training programs that lead to career-enhancing credentials.

Secondary and postsecondary institutions should establish articulation agreements for college credit, dual-enrollment programs, and college prep opportunities will also ensure that students can move easily from high school to college-level education and career training.

For these approaches to succeed, however, students first must be interested in furthering their education and career opportunities. Employer participation is crucial to make sure education connects to the workforce. There are multiple career pathways in logistics and transportation that lead to high quality careers that involve postsecondary education: portable, stackable industry-recognized national credentials or a college degree.
Ideally, a needs assessment is conducted with industry partners before a program takes place. The consultation determines what type of program is needed and the program is developed with industry input and relative to needed workers and jobs available. In some cases it may not be possible to conduct a needs assessment as a prescribed curriculum may be in place, or funding may be secured for running a predetermined program. In such instances, educators and industry meet to determine if the program may require changing elements of the course design.

When designing the needs assessment, the goal is to:

- Assess the current situation
- Define the problem – what gaps exist
- Determine if there is a need for training/learning
- Determine what is driving this need for training/learning
- Evaluate existing training
- Assess the possible learning solutions
- Ascertain information about logistical considerations/constraints

The following methods, or a combination of these methods, can be used:

- Interviews with industry
- Committee and taskforce meetings
- Focus groups – a small group represents the interests of the industry sector and a group discussion is conducted
- Survey questionnaires
State budgets are stretched nationwide and discretionary funding is difficult to acquire. Several states have made resourceful use of federal dollars to support their career pathways work. The Workforce Investment Act (WIA) and Temporary Aid for Needy Families (TANF) funds have been used to support career pathway pilot programs. States can provide seed funds to encourage development of logistics and transportation career pathways that are part of the state’s vision. The pilot program can also serve to develop and test the program as well as the implementation plan and lessons learned or best practices.

EXAMPLE: In May 2010, Workforce Florida, Inc., issued a request for proposals (RFP) for a grant in the International Trade and Logistics career pathway. The term of the grant was 12 months to create regional partnerships and create 15 career academies in International Trade and Logistics throughout the state.

The RFP stipulated that projects should:

- Involve regional partnerships with employers, economic development, workforce investment boards, and other stakeholder groups.
- Build a career pathways system, focusing on the international trade and logistics high-demand, high-wage employment sectors that incorporates a seamless structure of national certification, skills training, and work experience.

Once a budget has been determined, partners can work together to determine how industry, government, and state and local agencies will pay for the various operational and functional components of the career pathways system.
employer validation of competencies and pathways

The development of a successful career pathways program that meets industry requirements must receive employer validation. Logistics and transportation career pathways also necessitate alignment with an articulated education system, high school to college and/or nationally recognized certification training. Another necessary component — training must be able to support supply chain management occupations. Taking a moment to review proposed career ladders with employers to confirm needed skill sets in the industry sector is key to the success of the career pathway.

Some questions for employers in the validation process are:

- Have we identified the occupations within logistics and transportation?
- Do the selected occupations match the job openings?
- Should additional occupations be a part of this career ladder?
- Is this career ladder accurate?
- How does this career ladder compare to traditional career pathways in this industry?
Career pathway programs leading to industry credentials support an employer’s recognition of work-readiness and an individual’s level of competency. Educational programs aligned with national credentials ensure standards are relative to logistics and transportation and are focused on industry requirements.

In order to guarantee continued support from business partners, the committee cultivates and nurtures partner relationships. Listed below are some tactics for retaining constructive, productive relationships with employer partners:

- Create win-win partnerships by determining what each employer hopes to accomplish as a part of the career pathways system and helping the employer achieve it.
- Identify available resources for the system.
- Show sincere appreciation for, and demonstrate the value of each business partner’s contributions.
- Communicate high expectations by telling business partners exactly what is needed and by what time.
- Share and discuss performance outcomes with all business partners.

According to the Bureau of Labor Statistics, employment of logistics professionals will grow by 26 percent between 2010 and 2020.
conclusion

Career Pathways as a Systemic Framework in logistics and transportation is the culmination of efforts by many who have supported the career pathways development with Polk State College. Our purpose in preparing this publication has been to illustrate the key steps in implementing a successful career pathways in the logistics and transportation sector. Funding and resources were provided by the state of Florida, the Department of Transportation and Department of Labor grants, the logistics and transportation industry and the Florida education system. State-of-the-art curriculum designed with industry-based knowledge also was a key success with the Web-based online “Tucker Stiles” avatar program and six unit textbook endorsed by industry leaders and the American Association of Transportation and Logistics.

The shared goal of this initiative is to better prepare students for postsecondary education through the use of career pathways. Research has shown that informed, prepared learners are more likely to succeed when following their chosen career pathway. Congratulations to the many people who contributed resources and other information to the career pathways Roadmap. The success was due to many dedicated key stakeholders who shared the same mission and vision of success in building a workforce of the future.

*This material is based upon work supported by the Federal Highway Administration under Grant No. DTFH61-08-00010. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the Federal Highway Administration.