

# CTE: THE KEY TO ECONOMIC DEVELOPMENT

## Transportation, distribution and logistics:

Accounts for **9%** of U.S. GDP<sup>1</sup>

Serves more than **7.6M** business establishments<sup>2</sup>

Moves almost **18B** tons of goods annually<sup>3</sup>

What is the pathway to these fulfilling and essential careers?

Career and Technical Education!



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# Transportation, Distribution and Logistics

The transportation, distribution and logistics (TDL) sector:

- moves people and products around the nation and the world
- is the foundation of the U.S. consumer economy
- includes air, freight rail, maritime, truck and public transport; maintenance of vehicles, public highways, rail systems, bridges, seaports and airports; postal, sightseeing and courier services; warehousing; and logistics and supply chain management

## What jobs are available in TDL?

Transportation, warehousing and related fields employ more than 13 million people—9 percent of the labor force—in occupations from driving to sales to maintaining roads, rails and ports.<sup>4</sup> Jobs with motor vehicle and parts dealers have grown by 34 percent in the past three decades, while warehouse employment has exploded since the turn of the century.<sup>5</sup> More than 600,000 new jobs will be created in transportation and material moving by 2026 owing to increased consumer spending, resulting in greater delivery needs.<sup>6</sup> In addition, many jobs will open up as older workers retire; for instance, in the supply chain industry, between one-quarter and one-third of the workforce is at or past retirement age.<sup>7</sup>

Jobs in TDL can provide family-sustaining wages for those with a high school diploma as well as middle-skill workers with credentials below the bachelor's degree level, including postsecondary certificates, associate degrees, licenses and industry certifications. Individuals with these qualifications can earn above the U.S. median annual wage of \$37,690, and in some cases well above, working as automotive technicians, heavy and tractor-trailer truck drivers, and aircraft and avionics technicians.<sup>8</sup> For instance, heavy vehicle and mobile equipment service technicians earn almost \$50,000 per year, on average.<sup>9</sup>

Careers in this sector increasingly require at least some postsecondary education. Licenses and industry-recognized certifications are an asset to many employees, including National Institute for Automotive Service Excellence (ASE) certifications, credentials offered through the U.S. Department of Transportation's Transportation Safety Institute, commercial driver's licenses and Federal Aviation Administration licenses and certificates. Individuals in TDL occupations need academic, technical and employability skills in order to perform tasks such as inspecting, maintaining and repairing vehicles and transit routes; managing supply chains; and delivering goods. Here is a small sampling of jobs in this sector:

- subway train operators
- transportation inspectors
- logistics technicians
- diesel engine specialists
- automotive technicians
- signal and track switch repairers
- warehouse managers
- air traffic controllers



## Endnotes

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## How does CTE prepare the TDL workforce?

Career and technical education prepares high school, postsecondary and adult students for careers in TDL through:

- the National Career Clusters® Framework—including Career Clusters and pathways in TDL and manufacturing—which outlines course progressions that help students explore career options and prepare for college and career success
- CTE courses in automotive, diesel, small engine, marine and heavy equipment mechanics; hybrid engines; heavy equipment operation; aviation; warehouse operations; automotive body repair and refinishing; and more, all integrated with rigorous academics
- work-based learning experiences, such as internships, apprenticeships and work-study programs like the collaboration between Washington's West Sound Technical Skills Center and Puget Sound Naval Shipyard, in which students transition between full-time work and full-time school at a facility that simulates the shipyard environment<sup>10</sup>
- career and technical student organization experiences, such as SkillsUSA competitions in automobile, aviation, diesel, marine and motorcycle service technology and Technology Student Association events in transportation modeling and dragster design<sup>11</sup>
- opportunities to earn stackable, industry-recognized credentials, such as the International Freight Transportation certificate available at Miami Dade College, which articulates to the associate degree in Transportation and Logistics, which in turn leads to guaranteed admission into one of the state's public universities<sup>12</sup>

## What are promising programs in TDL?

**Anderson I & II Career and Technology Center** in rural Williamston, South Carolina, boasts an award-winning program of study in automotive technology built on curriculum from the National Automotive Technicians Education Foundation (NATEF). The center, which serves almost 2,000 students from four local high schools, features industry-standard equipment, including trainer vehicles, a computer training lab and an engine training lab.<sup>13</sup> The automotive technology program was developed in response to regional workforce needs and is supported by an advisory board of industry and education representatives. Employer partners provide paid work-based learning experiences for junior and seniors that result in course credit. Students can also earn postsecondary certificates in engine electrical systems and braking systems through an articulation agreement with Tri-County Technical College, as well as ASE certifications. Almost 100 percent of students in the 2015-16 school year earned industry credentials.<sup>14</sup> The Automotive Technology program has been recognized by Advance CTE for excellence in TDL and is committed to access and equity, as demonstrated by a 50-percent increase in female and minority student enrollment in the course of one year.

The Logistics, Supply Chain Management and Manufacturing Technology program at **Cedar Valley College**, part of the Dallas County Community College District, prepares individuals for careers in a thriving industry sector in the region. The program develops students' skills in operations, warehousing, production, inventory control, distribution and transportation through a curriculum aligned with the Manufacturing Skill Standards Council (MSSC), an industry leader.<sup>15</sup> Students can earn postsecondary certificates or an associate of applied science degree that also prepares them for MSSC credentials, including Certified Logistics Technician and Certified Logistic Associate certifications. The program was founded through a National Science Foundation Advanced Technological Education grant and prepares people for jobs as cargo and freight agents; production, planning and expediting clerks; and transportation, storage and distribution managers—three occupations that are predicted to grow by more than 15 percent in Texas through 2024.<sup>16</sup>