

# Supply Chain & Transportation

Driving Efficiency and Streamlining Tomorrow's Transport

The modernized National Career Clusters Framework comprises 14 industry-oriented, sector-specific Career Clusters and 72 Sub-Clusters. Industry sector profiles serve as a resource for each Career Cluster. Each profile provides a Cluster overview, details the Sub-Clusters, and contains labor market data, occupational data, and relative skills.

Each industry sector profile was developed through an analysis of quantitative and economic data organized by the North American Industry Classification System (NAICS), Standard Occupation Classification (SOC) codes, as well as national labor market data from the U.S. Bureau of Labor Statistics (BLS) and other federal sources. The Career Cluster title and caption, full definition, and Sub-Clusters

with definitions are part of the official Framework and informed by input from sector-focused Industry Advisory Groups convened.

The Industry Sector Profiles can be used in a variety of ways, including to:

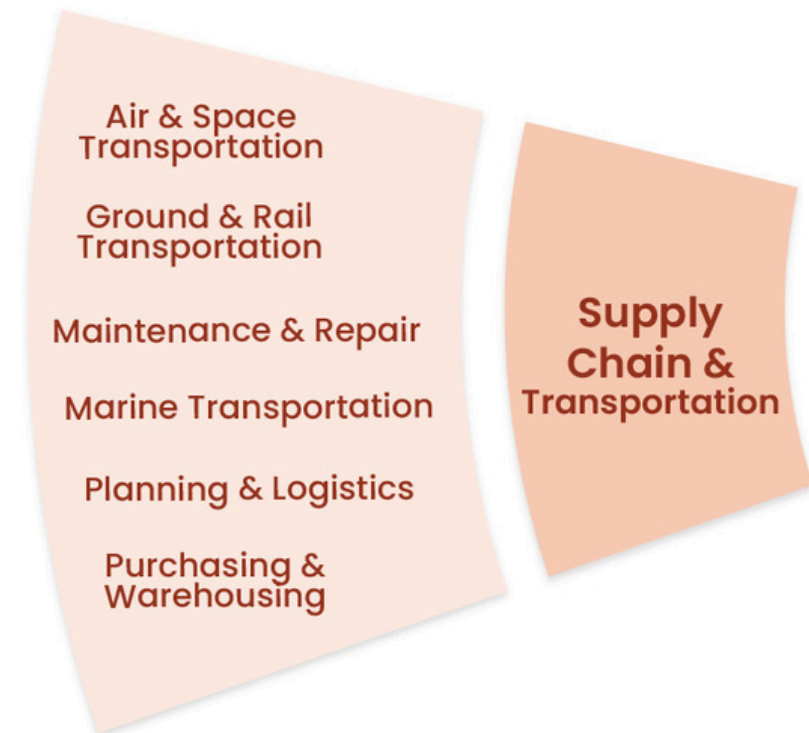
- understand the breadth and depth of each Cluster;
- identify skills, competencies, and careers that can be incorporated into curriculum and program design;
- create connections and opportunities for work-based learning;
- assist learners in career exploration and advising;

...and many other possible uses!

# Overview: Supply Chain & Transportation Career Cluster

The Supply Chain & Transportation Career Cluster focuses on the various career opportunities that center around the pipeline through which materials, goods and products, and people get from one place to another. Skills developed from programs in this Cluster lead learners to work in air- and marine ports, logistics providers, auto body shops, and other spaces where ensuring effective and safe transportation is a key priority. This Cluster falls within the “Building and Moving” Cluster grouping, recognizing learners’ passion for how products, materials, and structures are designed, transported, and built. Based on national labor market data, this Career Cluster is most closely connected to **Advanced Manufacturing; Agriculture; Construction; Energy & Natural Resources; Hospitality, Events, & Tourism** Career Clusters. Read the [Interdisciplinary Elements explainer resource](#) for more information.

The Supply Chain & Transportation Career Cluster encompasses the transfer, coordination, and management of goods from production to consumption, ensuring efficient movement across various modes of transportation including air, ground, and water, as well as maintenance of the respective transport modes. This Cluster integrates logistics and distribution networks to facilitate the seamless flow of materials and products, playing a crucial role in global commerce, economic development, and community health. This Cluster is largely similar to the 2002 “Transportation, Distribution, & Logistics” Career Cluster.



## Sub-Clusters, Definitions, & Example Programs of Study

### Air & Space Transportation

Careers related to the design, operation, and management of both air and space transportation, including air cargo and passenger services, as well as space exploration and satellite operations. This field incorporates the maintenance of electrical equipment such as radios, navigation equipment, and autopilot systems. Careers in this field ensure the safety and efficiency of air transport and advance space travel and research. This Sub-Cluster also includes managing flight operations and air traffic, designing aerospace systems, and conducting space exploration.

#### Example Programs of Study

Aviation Technology

Avionics

“Your Place in Space” Department of Education Program

### Ground & Rail Transportation

Careers related to the transportation of goods and passengers by road and rail. This field includes the design, operation, and management of automotive, trucking, rail operations, and logistics services, focusing on efficient and safe ground transport. Professionals in the field of rail operations work in a variety of settings from urban transit systems, such as subways and light rail, to cross-country freight and high-speed passenger trains, emphasizing the diverse yet specialized skills required to meet a wide range of transportation needs.

#### Example Programs of Study

Commercial Driving

Railroad Operations

### Maintenance & Repair

Careers encompassing the repair and maintenance of transportation systems, including ground vehicles, rail vehicles, aircraft, and nautical vessels. This field also integrates specialized areas such as auto body and engine repair and is increasingly influenced by advancements in technology, including the maintenance of electric vehicles and systems for autonomous driving. Professionals in this field ensure that all forms of transportation equipment operate safely and efficiently, adapting to new technologies to meet evolving demands.

#### Example Programs of Study

Auto Body Technology

Automotive Maintenance

Diesel Mechanics

Electric Vehicle Maintenance

## Marine Transportation

Careers in the design, operation, and management of maritime vessels and infrastructure for the transportation of goods and passengers, and watercraft used in sports and leisure activities. Professionals in this field engage in managing ship navigation; engineering marine systems; overseeing port operations; and ensuring the safety and maintenance of recreational vessels such as yachts, human-powered craft, and water powersport vehicles.

### Example Programs of Study

**Food Science**  
**Meat Science**  
**Sustainable Food & Farming**

## Planning & Logistics

Careers focused on managing and optimizing the supply chain's flow of goods and information. This Sub-Cluster encompasses roles in transportation planning, supply chain coordination, and efficient material sourcing, all aimed at enhancing efficiency, minimizing waste, ensuring safety, and facilitating timely delivery. This field integrates modern technologies to improve production, drive innovation, and maintain competitiveness in global trade systems. It also includes urban and regional planning for transit, further supporting effective transportation and logistics.

### Example Programs of Study

**Transportation, Distribution, & Logistics Systems**

## Purchasing & Warehousing

Careers centered around procurement, warehousing, and facility maintenance. Professionals in procurement negotiate contracts and purchases as well as manage supplier relationships. Warehousing includes careers that oversee efficient storage, dispatch, and inventory control of goods. Professionals in facility maintenance manage supply chain facilities, ensuring operational efficiency and compliance with safety regulations.

### Example Programs of Study

**Business Administration**  
**Supply Chain Management**

# Occupations, Employment Contexts, Credentials, & Skills

Designing intentional and labor market-aligned pathways requires understanding the occupations and skills that are in demand and commanding family-sustaining wages in your context. Building a deeper understanding of employment trends, including wage potential, a clear picture of the types of employment contexts or businesses this sector offers, and the knowledge and skills needed for success are all important aspects of a learner's journey through their pathway and into the world of work. Leaders can use the data below to inform pathway design at the state or local levels or by advisors and learners as they plot paths to the future. The skills and occupations below were validated using real-time labor market information from 2023 and 2024 from online job postings, which provided the frequency with which skills were mentioned in digital job postings.

## Top Occupations

The following table (Figure 1) displays the top occupations within this Cluster. Occupations are listed in order of typical entry-level education required for the position, beginning with a bachelor's degree and then moving through an associate degree, a Postsecondary nondegree award, and a High School Diploma to demonstrate the potential occupational pathways available in this Cluster. Data points for each occupation include five-year job projections, 2023 hires, average annual job openings, 10th percentile hourly earnings (as a proxy for entry-level wages), median hourly earnings, and required entry-level education. The table is reflective of national data and was pulled in 2024. Users should be mindful that the data in this table will not be updated, so the percentages and numbers are subject to change in real-time. For updated state-level occupation projection data, please visit O\*NET's [Projection Central](#).

**FIGURE 1**

Source: U.S. Bureau of Labor Statistics, QCEW; Lightcast Database; U.S. Census Bureau.

\*To contextualize this data, educators are encouraged to identify and share their hourly living wage by family size for their state, county, or region at the [MIT Living Wage Calculator](#) or other source of living wage data.

Occupation Title	2024 Jobs	2029 Jobs	% Change	2023 Hires	Avg. Annual Openings	10th Percentile Hourly	Median Hourly	Typical Entry Level Education
Buyers and Purchasing Agents	507,197	509,738	1%	229,817	48,168	\$20.51	\$34.31	Bachelor's degree
Logisticians	268,682	299,543	11%	125,191	28,601	\$22.90	\$38.07	Bachelor's degree
Industrial Production Managers	233,166	245,129	5%	72,476	18,651	\$33.98	\$55.87	Bachelor's degree
Airline Pilots, Copilots, and Flight Engineers	141,994	149,562	5%	72,823	18,189	\$48.10	\$104.78	Bachelor's degree
Natural Sciences Managers	104,901	112,453	7%	34,509	9,112	\$37.27	\$75.84	Bachelor's degree
Purchasing Managers	84,174	89,302	6%	29,858	7,430	\$39.26	\$64.91	Bachelor's degree
Engineering Technologists and Technicians, Except Drafters, All Other	75,226	79,262	5%	34,154	7,840	\$20.47	\$35.27	Associate's degree
Civil Engineering Technologists and Technicians	71,949	74,919	4%	31,031	7,336	\$18.69	\$29.14	Associate's degree
Avionics Technicians	42,232	43,921	4%	17,359	4,209	\$22.39	\$37.22	Associate's degree
Mechanical Engineering Technologists and Technicians	40,875	42,548	4%	19,764	4,210	\$21.05	\$30.73	Associate's degree
Air Traffic Controllers	32,554	33,877	4%	12,877	3,179	\$36.63	\$66.05	Associate's degree
Heavy and Tractor-Trailer Truck Drivers	2,410,219	2,551,020	6%	1,557,092	288,421	\$17.41	\$25.95	Postsecondary nondegree award
Automotive Service Technicians and Mechanics	824,432	855,439	4%	375,656	78,108	\$13.44	\$22.10	Postsecondary nondegree award
Aircraft Mechanics and Service Technicians	208,632	219,772	5%	82,657	18,062	\$21.72	\$35.94	Postsecondary nondegree award
Captains, Mates, and Pilots of Water Vessels	50,382	52,615	4%	32,813	5,867	\$20.93	\$42.22	Postsecondary nondegree award
Stockers and Order Fillers	2,960,317	3,149,480	6%	2,927,802	526,695	\$14.00	\$17.49	High school diploma or equivalent
Light Truck Drivers	1,111,494	1,215,005	9%	900,980	141,470	\$13.25	\$20.38	High school diploma or equivalent
Shipping, Receiving, and Inventory Clerks	864,476	865,866	0%	539,801	91,096	\$14.68	\$19.11	High school diploma or equivalent
First-Line Supervisors of Mechanics, Installers, and Repairers	636,135	668,395	5%	307,123	60,136	\$22.08	\$36.42	High school diploma or equivalent
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	620,129	659,801	6%	387,679	71,355	\$18.89	\$29.06	High school diploma or equivalent

## Top Industry-Recognized Credentials

- Commercial Driver's License (CDL)
- Automotive Service Excellence (ASE) Certification
- Forklift Certification
- Airframe and Powerplant (AandP) Certificate
- HVAC Certification
- Six Sigma Certification
- EPA 608/EPA Universal
- Certified In Production & Inventory Management
- Project Management Professional Certification
- APICS Certified Supply Chain Professional

These credentials are commonly requested by employers for the occupations listed on page 6, and were identified using national real-time labor market information from 2024. In addition to the credentials shown here, employers also requested credentials that require a degree, including a Professional Engineer, Engineer in Training, and Architecture License.

# HIGH-DEMAND SKILLS

Curated through Lightcast Job Posting Analytics and Industry Advisory Groups

- Airplane Engine Mechanic
- Crane Operators
- Diesel Mechanic
- EV Technician

- Communication Skills, Verbal & Written
- Customer Relationship Management

- Diagnostic Tools
- Electrical Diagnostics
- Mechanics

- Inventory Control
- Inventory Management
- Merchandising
- Product Knowledge

- Forklift/Truck
- Palletizing
- Machine Operations
- Vehicle Service Systems

- Marketing
- Sales
- Sales Prospecting
- Selling Techniques

- Purchasing
- Parts Ordering
- Procurement
- Shipping & Receiving
- Supply Chain
- Warehousing

- Financial Literacy
- Invoicing
- Mathematics





## HIGH-DEMAND SOFTWARE SKILLS

Inventory Control Systems  
Inventory Management  
Order Management Systems  
Operating Systems  
Warehouse Management Systems

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Customer Relationship Management (CRM)  
Salesforce  
SAP Applications  
Software Systems  
Spreadsheets  
SQL

# Sample Occupations & Emerging Occupations

These tables list sample occupations, emerging occupations, and sample places of work based on quantitative industry data validated by Industry Advisory Groups.



## Sample Occupations

- Air Traffic Controller
- Auto Mechanic (also Aviation, Rail, & Marine Mechanics)
- Bus Driver
- Customs Broker
- Forklift Driver
- Freight Forwarder
- Health & Safety Inspector
- Heavy Equipment Operator
- Inventory Control Specialist
- Logistics Coordinator
- Maritime Operations Manager
- Order Filler
- Pilot
- Procurement Specialist
- Railroad Conductor
- Ship Captain
- Shipping Coordinator
- Traffic Engineer
- Transport Safety Officer
- Transportation Planner
- Truck Driver
- Warehouse Manager



## Emerging Occupations

- Blockchain Specialist for Supply Chain
- Circular Economy Coordinator
- Drone Delivery Operator
- E-Commerce Logistics Manager
- Logistics Analyst
- Supply Chain Data Scientist
- Transportation Analyst



## Sample Places of Work

- Airports
- Automotive Repair Shops
- Car Dealerships
- City or State (public transportation)
- Departments of Transportation
- Federal Transportation Administrations
- Freight Rail Operators
- Independent Owner/Operator (for trucking)
- International Trade & Development Agencies
- Large Supply Chain Companies
- Large Trucking Companies
- Port Authorities
- Railroad & Metro Stations
- Self-Employed, Entrepreneur
- Shipping Companies
- Shipping Ports
- Small Businesses
- Third-Party Logistics Providers (3PLs)
- Warehouses

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## About Advance CTE

Advance CTE is the longest-standing national non-profit that represents State Directors and state leaders responsible for secondary, postsecondary, and adult Career Technical Education (CTE) across all 50 states and U.S. territories. Established in 1920, Advance CTE supports state CTE leadership to advance high-quality CTE policies, programs, and pathways that ensure career and college success for each learner. Advance CTE is the steward of the National Career Clusters Framework.



Visit the [Career Clusters resources](#) to access the full Framework and to explore the complete methodology that informed its modernization.