About This Document

This document presents the Connecting Career Pathways (CCP) Job Profiles, highlighting 12 high-skill, high-wage, and in-demand occupations at the Texas Department of Transportation (TxDOT).

Each job profile is presented in a two-page, back-and-front format. It provides information on typical TxDOT* salary, projected statewide job growth, and examples of relevant interests and skills aligned to the role.** The profiles also include a roadmap of entry points that show how a student might enter each role, along with examples of potential career advancement opportunities at TxDOT or elsewhere.

Printing instructions: Job profiles look best when printed double-sided on 5” × 7” cardstock. If printing the full set, deselect the cover sheet and interest guides. You can also select only the job profiles you will distribute.

Use cases:

- Distribute all 12 profiles to students and allow them to flip through and ask questions.

- OR -

- Use the examples provided in the Interest Guides to select profiles specific to students’ interests.

* Average salary information is provided by TxDOT’s Human Resources Division when available. When TxDOT data is not available, statewide median salary information for Texas is used instead.

** Data included is as of 2/9/2026.

INTEREST GUIDE

THESE JOBS COULD BE A FIT IF YOUR INTERESTS INCLUDE...

	Working outdoors	Operating machines	Solving puzzles	Hands-on activities	Teamwork	Leading a team
Materials/Process Inspector	★	★	★	★		
Equipment Operator	★	★		★	★	
Traffic Systems Specialist	★	★	★			
Transportation Technician	★	★			★	
GIS Analyst	★	★				
Construction Supervisor	★		★	★		★
Environmental Project Planner	★		★			
Construction Manager	★			★		★
Construction Inspector	★			★		
Transportation Planner		★	★		★	
Equipment Mechanic		★	★	★		
Civil Engineering Manager			★	★		★

Connecting Career Pathways

Check out the job profiles for each position to see if this career is the right fit for you.

INTEREST GUIDE

THESE JOBS COULD BE A FIT IF YOUR INTERESTS INCLUDE...

	Entering the workforce after high school	Earning a post-secondary degree	Studying engineering
Materials/Process Inspector	★	★	★
Transportation Technician	★		
Equipment Mechanic	★		
Equipment Operator	★		
Construction Supervisor	★		
Traffic Systems Specialist	★		
Civil Engineering Manager		★	★
Environmental Project Planner		★	★
Construction Inspector		★	
Construction Manager		★	
GIS Analyst		★	
Transportation Planner		★	

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Check out the job profiles for each position to see if this career is the right fit for you.



Civil Engineering Manager

Overview: *Plan, direct, or coordinate activities in fields like architecture and engineering and lead teams of designers for projects like highways and bridges.*

Interests & Skills

- Leading a Group
- Learning New Software
- Problem Solving
- Designing Structures

Statewide Median Salary

$167,740/year

Growth Rate (TX)

18%

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**Data provided by Texas Education Agency LWDA via Texas Workforce Commission*

Civil Engineering Manager

For more details, visit onetonline.org and enter SOC code 11-9041.

Entry Points:
- Civil Engineering program of study
- Engineering technician

Education Required:
- Bachelor's degree
- Master's degree

Skills/Competencies:
- Complex problem solving
- Mathematics
- Project management
- Computers and electronics

Work-based Learning:
- On-the-job training
- Apprenticeships
- Industry internships
- Job shadowing

Emerging Skills:
- Business intelligence software
- Building information modeling (BIM)
- Cloud-based management

Available Credentials:
- Professional in Revit for Structural Design
- Professional Engineer

Exit Opportunities:
- Civil Engineering Manager
- Postsecondary Engineering Teacher
- Product Development Manager

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Construction Manager

Overview: *Plan and direct construction projects and lead a team as they build transportation infrastructure while following schedules and budgets.*

Interests & Skills

Leading a Group

Planning Activities

Statewide Median Salary

$106,980/year

Growth Rate (TX)

15%

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Construction Manager

For more details, visit onetonline.org and enter SOC code 11-9021.

Entry Points:

- Architecture & Construction programs of study
- Work experience in construction

Education Required:

- Bachelor's degree in a related field

Skills/Competencies:

- Leadership
- Management of material resources
- Project management

Work-based Learning:

- Industry internships
- On-the-job training
- Job shadowing

Emerging Skills:

- ERP software
- Process mapping and design software

Available Credentials:

- Master Trainer
- Certified Design Firm Administrator
- Master Craft/Technician Instructor

Exit Opportunities:

- Construction Consultant
- Construction Manager

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Environmental Project Planner

Overview: *Study the ways in which a transportation infrastructure project can affect environmental factors like water, wildlife, and air quality.*

Interests & Skills

- Studying the Environment
- Working Outdoors
- Problem Solving

TxDOT Average Salary

$86,531/year

Growth Rate (TX)

21%

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Environmental Project Planner

For more details, visit onetonline.org and enter SOC code 19-2041.

Entry Points:

- Geospatial Engineering and Land Surveying programs of study
- Summer camps

Education Required:

- Bachelor's degree in environmental science, ecology, or a related field

Skills/Competencies:

- Environmental science
- Biology
- Research
- Communication
- Project management

Work-based Learning:

- TxDOT internships
- EPA internships
- Job shadowing
- University research assistantships

Emerging Skills:

- AutoCAD
- Drones
- GIS and mapping tools

Available Credentials:

- Registered Environmental Manager (REM)
- Certified Environmental Planner (CEP)
- Certified Green Project Manager (GPM-b)

Exit Opportunities:

- Environmental Project Planner
- Environmental Engineer
- Geoscientist
- Microbiologist

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Construction Supervisor

Overview: *Supervise and coordinate construction workers as they build transportation infrastructure projects like highways, railroads, and airports.*

Interests & Skills

- Leading a Group
- Learning New Software
- Problem Solving
- Working Outdoors

Statewide Median Salary

$72,120/year

Growth Rate (TX)

10%

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Construction Supervisor

For more details, visit onetonline.org and enter SOC code 47-1011.

Entry Points:

- Architecture & Construction programs of study
- Work experience in construction

Education Required:

- Post-secondary certificate or high school diploma

Skills/Competencies:

- Building and construction
- Human resources
- Instructing
- Engineering

Work-based Learning:

- On-the-job training
- Apprenticeships
- Industry internships

Emerging Skills:

- CAD software
- Facilities management
- Adobe Acrobat

Available Credentials:

- Master Trainer
- Highway Construction Inspection
- Master Certified Remodeler

Exit Opportunities:

- Construction Supervisor
- Construction Manager
- Safety Manager

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GIS Analyst

Overview: *Collects, analyzes, and visualizes geographic data to help organizations make informed decisions based on spatial patterns and relationships.*

Interests & Skills

- Data Analysis
- Spotting Details
- Critical thinking

TxDOT Average Salary

$84,542/year

Growth Rate (TX)

29%

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GIS Analyst

For more details, visit onetonline.org and enter SOC code 15-1299.02.

Entry Points:

- Volunteering
- Community service projects
- Academic projects

Education Required:

- Bachelor's degree in geography, GIS or related field, preferred

Skills/Competencies:

- GIS and mapping
- Project and team leadership
- Operational and safety practices
- Technical and analytical ability to communicate effectively

Work-based Learning:

- STEM company internships
- Job shadowing
- Positions that require supplemental mapping

Emerging Skills:

- Programming and automation
- Web GIS and cloud platforms
- AI and machine learning integration

Available Credentials:

- GIS certification
- GIS Professional (GISP)

Exit Opportunities:

- Web GIS Developer
- Project Manager
- Database Administrator
- Platform Administrator

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Equipment Mechanic

Overview: *Diagnose, adjust, repair, and overhaul light-duty equipment. Experienced and specialty technicians may work on heavy equipment like bulldozers, cranes, and graders.*

Interests & Skills

- Mechanical Design and Function
- Using Tools
- Problem Solving

TxDOT Average Salary

$62,618/year

Growth Rate (TX)

19%

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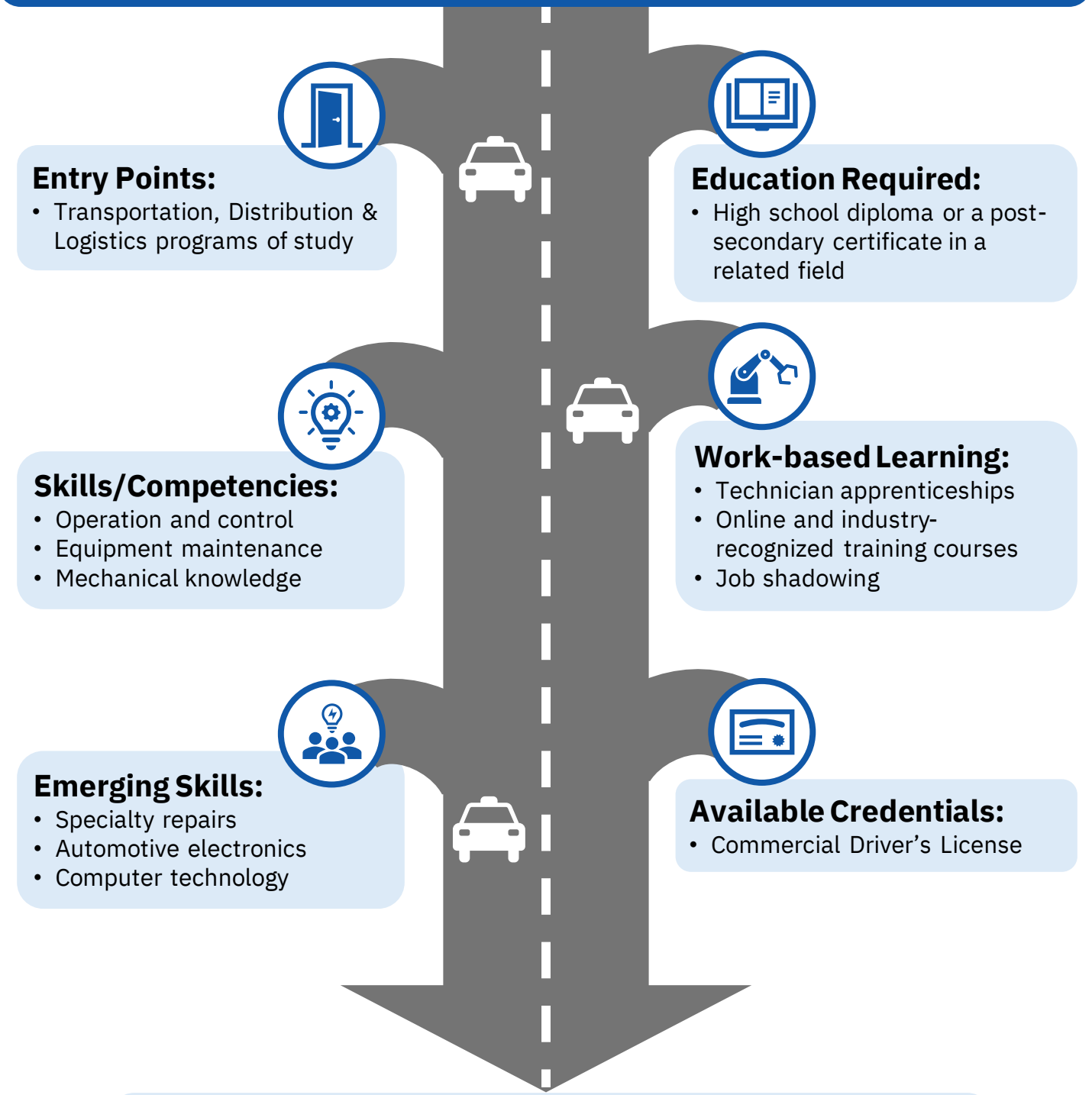
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Equipment Mechanic

For more details, visit onetonline.org and enter SOC code 49-3042.



Entry Points:

- Transportation, Distribution & Logistics programs of study

Education Required:

- High school diploma or a post-secondary certificate in a related field

Skills/Competencies:

- Operation and control
- Equipment maintenance
- Mechanical knowledge

Work-based Learning:

- Technician apprenticeships
- Online and industry-recognized training courses
- Job shadowing

Emerging Skills:

- Specialty repairs
- Automotive electronics
- Computer technology

Available Credentials:

- Commercial Driver's License

Exit Opportunities:

- Lead or Senior Equipment Mechanic
- Shop Foreman or Supervisor
- Specialized Automotive Technician

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Equipment Operator

Overview: *Use equipment like cranes, bulldozers, graders, and conveyors to build transportation infrastructure, including highways, railroads, airports, and more.*

Interests & Skills

- Working with Machinery
- Hands-on Activities
- Being on a Team
- Working Outdoors

TxDOT Average Salary

$59,929/year

Growth Rate (TX)

14%

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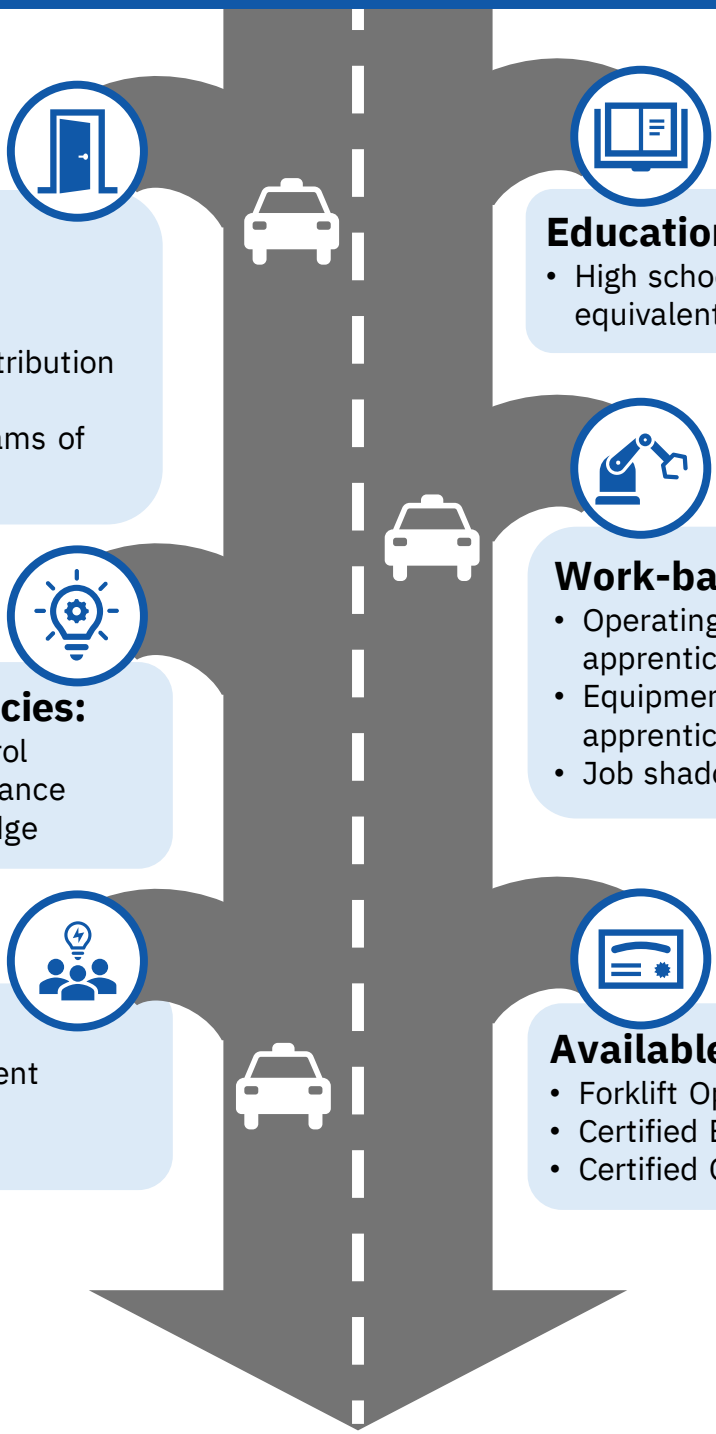
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Equipment Operator

For more details, visit onetonline.org and enter SOC code 47-2073.



Entry Points:

- Heavy equipment experience
- Transportation, Distribution & Logistics, and Construction programs of study

Education Required:

- High school diploma or equivalent required

Work-based Learning:

- Operating engineer apprenticeships
- Equipment operator apprenticeships
- Job shadowing

Skills/Competencies:

- Operation and control
- Equipment maintenance
- Mechanical knowledge

Emerging Skills:

- Facilities management software
- Time accounting

Available Credentials:

- Forklift Operator
- Certified Equipment Manager
- Certified Graduate Builder

Exit Opportunities:

- Equipment Mechanic
- Equipment Operator
- Equipment Technician

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Materials/Process Inspector

Overview: *Ensure every material, process, and project meets the high-quality standards that keep roads, bridges, and infrastructure safe.*

Interests & Skills

- Hands-on Activities
- Spotting Details
- Problem Solving
- Working Outdoors

TxDOT Average Salary

$67,433/year

Growth Rate (TX)

6%

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Materials/Process Inspector

For more details, visit onetonline.org and enter SOC code 51-9061.

Entry Points:

- Engineering programs of study
- Laboratory experience

Education Required:

- High school diploma or equivalent

Skills/Competencies:

- Attention to detail
- Effective communication
- Strong math skills
- Using computers, programs, applications, and related systems

Work-based Learning:

- Industry internships
- Apprenticeships
- Job shadowing

Emerging Skills:

- Logic and reasoning
- Quality control analysis
- Production and processing

Available Credentials:

- Driver's license
- ACI Concrete Field Test Tech-Grade I
- Hot Mix Asphalt Plant Specialist

Exit Opportunities:

- Quality Assurance Auditor
- Quality Assurance Technician
- Calibration Technologist

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Traffic Systems Specialist

Overview: *Performs specialized electronic/electrical construction and maintenance work related to traffic data collection, power, and communication systems to improve roadway safety and efficiency across Texas.*

Interests & Skills

- Learning New Software
- Problem Solving
- Working Outdoors

TxDOT Average Salary

$62,439/year

Growth Rate (TX)

4%

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Traffic Systems Specialist

For more details, visit onetonline.org and enter SOC code 53-6041.

Entry Points:

- Volunteering
- Community service projects
- Academic projects
- Assistant roles
- Worksite tours/field trips

Education Required:

- High school graduate or equivalent in general education

Skills/Competencies:

- Electronic/electrical repair
- Construction equipment operations
- Using specialized tools
- Strong driving record
- Effective communication

Work-based Learning:

- Associates programs
- Technical internships
- Apprenticeships
- Job shadowing

Emerging Skills:

- Intelligent-Transportation Systems (ITS) and sensor integration
- Wireless communications
- Software and programming
- GIS and mapping tolls

Available Credentials:

- Electrical/electronic certification
- ITS technical qualification
- Work Zone Traffic Control certification
- First Aid certification

Exit Opportunities:

- ITS Specialist
- Transportation Analyst
- Roadway Supervisor
- ITS/Traffic Data Analyst

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Transportation Planner

Overview: *Analyze how people travel and propose better ways to help them get from one place to another safely and efficiently.*

Interests & Skills

- Being on a Team
- Future-oriented
- Problem Solving
- Strategic Thinking

TxDOT Average Salary

$91,255/year

Growth Rate (TX)

8%

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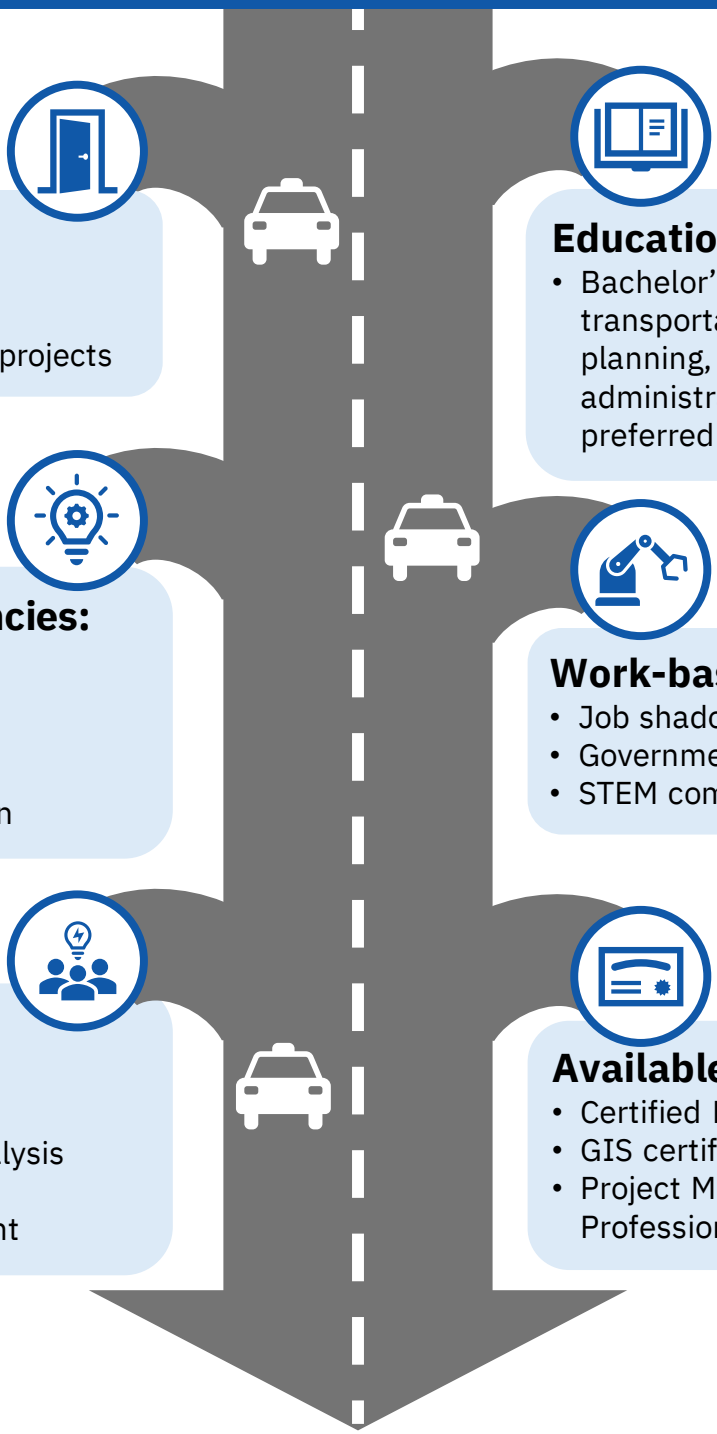
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Transportation Planner

For more details, visit onetonline.org and enter SOC code 19-3099.01.



Entry Points:

- Volunteering
- Academic projects
- Community service projects

Education Required:

- Bachelor's degree in transportation planning, urban planning, business administration or related field, preferred

Skills/Competencies:

- Analytical skills
- Communication
- Critical thinking
- Computer modeling/simulation

Work-based Learning:

- Job shadowing
- Government work
- STEM company internships

Emerging Skills:

- Data analytics and visualization
- GIS and spatial analysis
- Smart mobility
- Project management

Available Credentials:

- Certified Planner (AICP)
- GIS certification
- Project Management Professional (PMP)

Exit Opportunities:

- GIS Analyst
- Financial Analyst
- Project Manager
- Planning Director

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Transportation Technician

Overview: *Use a wide range of tools and machinery to build and maintain transportation infrastructure, including highways, bridges, and runways.*

Interests & Skills

- Working with Machinery
- Working Outdoors
- Being on a Team

TxDOT Average Salary

$54,973/year

Growth Rate (TX)

17%

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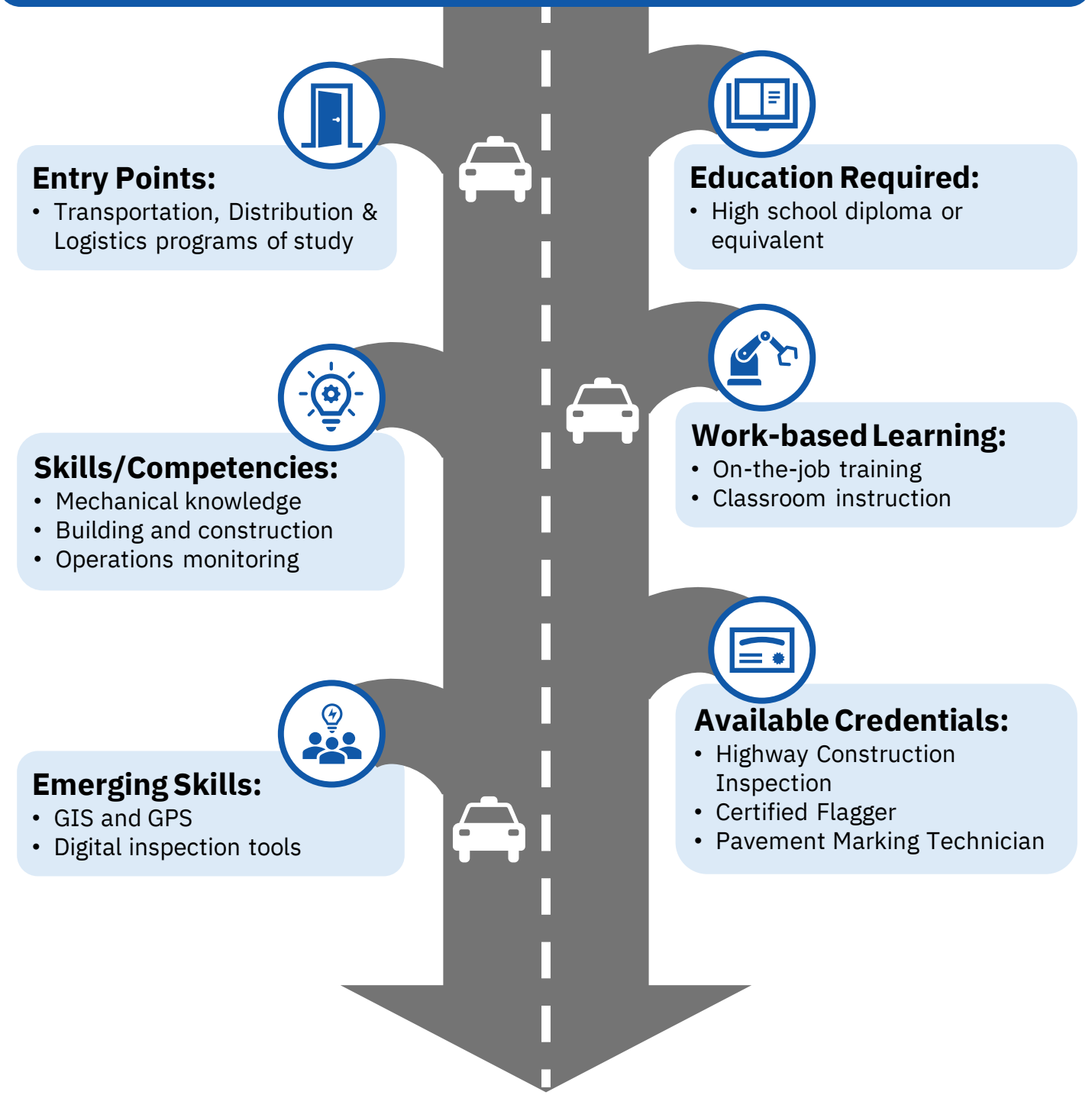
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Transportation Technician

For more details, visit onetonline.org and enter SOC code 47-4051.



Entry Points:

- Transportation, Distribution & Logistics programs of study

Education Required:

- High school diploma or equivalent

Skills/Competencies:

- Mechanical knowledge
- Building and construction
- Operations monitoring

Work-based Learning:

- On-the-job training
- Classroom instruction

Emerging Skills:

- GIS and GPS
- Digital inspection tools

Available Credentials:

- Highway Construction Inspection
- Certified Flagger
- Pavement Marking Technician

Exit Opportunities:

- Construction Equipment Operator
- Maintenance Supervisor
- Transportation Technician

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Construction Inspector

Overview: *Use engineering skills to inspect structures like highways and bridges for safety, match the building plan, and comply with construction codes.*

Interests & Skills

- Building Structures
- Working Outdoors
- Spotting Details

TxDOT Average Salary

$66,745/year

Growth Rate (TX)

10%

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Construction Inspector

For more details, visit onetonline.org and enter SOC code 47-4011.

Entry Points:

- Prior experience in construction trades
- Specialized certifications and licenses

Education Required:

- Vocational school or an associate degree

Skills/Competencies:

- Project management
- Engineering
- Construction
- Systems analysis
- Quality control

Work-based Learning:

- Field inspection/work-zone operations
- Construction inspection apprenticeships
- Job shadowing

Emerging Skills:

- GIS and mapping tools
- Geographic management software
- CAD software

Available Credentials:

- Quality Control Inspector
- Registered Construction Inspector
- Contract Plans and Specifications
- Code Specialist

Exit Opportunities:

- Code Enforcement Officer
- Construction Inspector
- Construction Manager

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