



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%



Interested in learning more?



CCP@txdot.gov

*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



Interested in learning more?



CCP@txdot.gov



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%



Interested in learning more?



CCP@txdot.gov

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

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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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
- Database Administrator
- Project Manager
- Platform Administrator



Interested in learning more?



CCP@txdot.gov



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%



Interested in learning more?



CCP@txdot.gov

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

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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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



Skills/Competencies:

- Operation and control
- Equipment maintenance
- Mechanical knowledge



Work-based Learning:

- Operating engineer apprenticeships
- Equipment operator apprenticeships
- Job shadowing



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



Interested in learning more?



CCP@txdot.gov



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%



Interested in learning more?



CCP@txdot.gov

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

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
- Calibration Technologist
- Quality Assurance Technician



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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 tools



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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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



Interested in learning more?



CCP@txdot.gov

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



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%



Interested in learning more?



CCP@txdot.gov

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

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



Skills/Competencies:

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



Emerging Skills:

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



Education Required:

- Vocational school or an associate degree



Work-based Learning:

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



Available Credentials:

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

Exit Opportunities:

- Code Enforcement Officer
- Construction Inspector
- Construction Manager



Interested in learning more?



CCP@txdot.gov

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