

SOUND TRANSIT 3 CONSTRUCTION WORKFORCE ANALYSIS

PUGET SOUND'S LARGEST TRANSPORTATION PROJECT

In November of 2016, voters approved Sound Transit 3 (ST3), a comprehensive package of regional transit expansions and upgrades.

Sound Transit's construction work is unique, requiring several specialist occupations that are critical to rail and tunnel work.

Understanding how regional supply and demand are forecasted to interact is critical for identifying and addressing shortages before they occur.

ST3 projects will require 43 million labor hours from now through 2042, in addition to more than 17 million labor hours of ST2 work required from now through 2023.

Taken together, Sound Transit's needs for ST2 and ST3 will employ one in every 70 construction workers regionwide during the 2018-2023 period.

CONSTRUCTION WORKFORCE SUPPLY AND DEMAND

Across the three-county region (King, Pierce, and Snohomish Counties), **construction industry employment is forecasted to grow at 1.4% annually from 2018 through 2042**, compared to 1.3% for all industries in the region.

Local sources of construction workforce supply include new apprenticeship openings, educational program completions, and unemployed persons recently employed in construction occupations.

Regionally, there is forecasted to be a **construction occupational supply shortage of 9%-10%** during the 2018-2042 period. For comparison, the King County's manufacturing industry is forecasted to experience a 1% shortage in local labor supply for the 2018-2023 period.

WORKFORCE SHORTAGE IMPLICATIONS

ST3 work is forecasted to peak in 2029 and 2030. In order to assure access to critical workers, contractors and unions working on ST3 will have to import talent from elsewhere in the state, or from other states entirely.

Expanding apprenticeship programs or developing new ways to improve apprenticeship program retention would help alleviate the projected undersupply of workers.

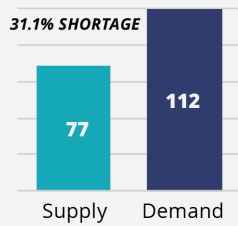
Several critical-path occupations are forecasted to experience local labor shortages, including electricians, operating engineers, elevator installers, pile driver operators, and rail track layers.

REGIONAL SUPPLY & DEMAND, 2018–2042

KEY TAKEAWAYS

RAIL LAYING EQUIPMENT OPERATORS

ST3 Demand: 97 average annual workers

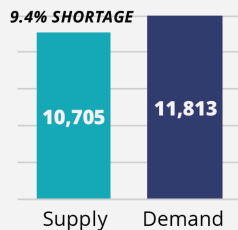


Rail Track Laying Equipment Operators are key to Sound Transit's core work: light rail development. With consistent high demand for these workers and an average annual shortage of 35 workers, Sound Transit will need to import talent from outside the region.

Sound Transit's demand for these workers is forecasted to peak in 2029–2030 with more than 250 average annual workers needed—more than three times higher than regional supply.

ELECTRICIANS

ST3 Demand: 60 average annual workers

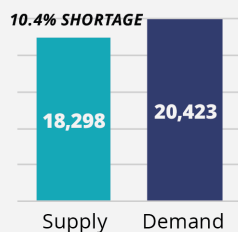


Electricians are essential to ST3 project work, especially electricians skilled in high-voltage lines. Electricians help lay cable for utilities work in tunnels, set up high-voltage lines for light rail track, and wire stations and operations facilities across the region.

ST2 project managers have noted considerable difficulty in finding qualified high-voltage electricians for current work. With a projected local labor shortage of 9.4%, this will remain a significant concern for Sound Transit for the duration of ST3 work.

HEAVY TRUCK DRIVERS

ST3 Demand: 60 average annual workers

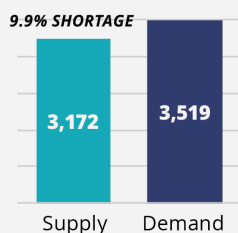


Heavy and Tractor-Trailer Truck Drivers on ST3 work sites will have two primary roles. First, most major equipment and building materials are transported by truck to work sites. Second, construction managers rely on truck drivers to remove spoils from the work site—this includes rubble cleared from tunnels as well as debris from work sites.

Regionally, local sources are forecasted to undersupply the occupation by 10.4%.

OPERATING ENGINEERS

ST3 Demand: 175 average annual workers



Operating engineers are essential to any heavy construction project. ST3 work is forecasted to rely on operating engineers significantly more than the industry average; **just under one in five ST3 workers will be an operating engineer, compared to one in fifty for the industry's construction industry as a whole.**

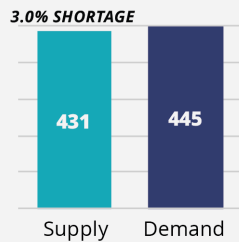
For the 2018–2042 period, local supply is forecasted to fall short of local demand by 9.9% on average.

REGIONAL SUPPLY & DEMAND, 2018–2042

KEY TAKEAWAYS

ELEVATOR INSTALLERS

ST3 Demand: 2 average annual workers

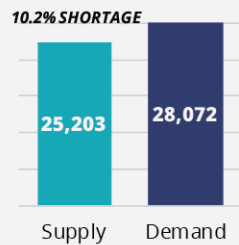


Elevator Installers and Repairers are primarily employed in commercial construction projects. However, Sound Transit will need a small number of these specialized workers for station and operations facility construction for ST3.

In addition to a local labor shortage of 3.0% for ST3's construction period, Sound Transit will be competing with much larger commercial projects for elevator installers.

CARPENTERS

ST3 Demand: 171 average annual workers

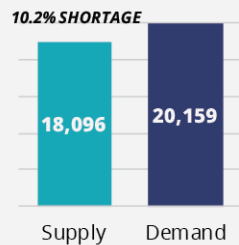


Carpenters are the largest construction occupation in the three-county region. They are essential for a wide range of projects, from private home construction to high-rise development.

Carpenters on ST3 projects will primarily be involved in underground and aerial track and station work, but also have a part to play in the construction of at-grade stations and track.

CONSTRUCTION LABORERS

ST3 Demand: 252 average annual workers



Construction Laborers are an essential component of the region's construction industry, serving commercial, residential, and public works projects.

Sound Transit will need a large number of these workers for ST3 work, **an average of 252 workers annually from 2018–2042.**