

# Civil Engineering

Civil engineering is everything you see that's been built around us, from roads and railways to schools and hospitals to water and power supply.



Image by [Dean Moriarty](#) from [Pixabay](#)

## What does a civil engineer do?

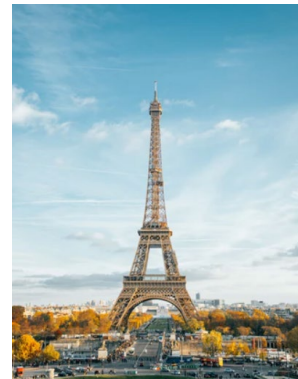
Civil engineers design, create and construct the built environment. This is everything around us, and helps us build towns and cities, and makes sure they keep working well for people. When designing the built environment they minimise the impact on the environment but also make sure the construction is not too expensive.

## Some examples of civil engineering projects

**Clifton Suspension Bridge.** Was designed and constructed so ingeniously it can now carry around four million vehicles a year.

**Eiffel Tower.** When built in 1887 it was the tallest structure in the world for 43 years.

**Hoover Dam.** Generates enough electricity to power 1.3 million homes.



The Eiffel Tower, Taken by Anthony Delanoix, 2017, [Unsplash](#).



The Hoover Dam Taken by Ryan Thorpe, 2020, [Unsplash](#).



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# Minecraft challenge

**Aim** - Create the quickest road from A to B using the criteria below:

**Avoid steep drops of land** - Building a road on steep land requires reinforcement to ensure stability.

**Avoid removing trees** - Removing trees can effect the environment and destroy wildlife habitats.

**Avoid ponds/basins** - Constructing near to basins can disrupt wildlife.

**Minimise length of road used going over rivers** - Building bridges over rivers is time consuming and expensive.

**Remember** - You will likely find multiple solutions! As an engineer it is up to you to use your engineering judgement to decide which is the best route. Good luck!



Suspension Bridge built by Alex Kiyani, Science Hunters participant 2019



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