**Name:**
Dave

**Job title:**
Chief engineer (transport)

**Career:**
I am a chartered engineer and I have a degree in Electronics with Medical Electronics from UCL which I did having done A-levels and GCSEs, a traditional route. I did maths, physics, biology and computer science for A-level. I also did Law for Engineers at University. I was originally in medical electronics working with a company that exported medical equipment to the third world. They went down with the recession but some of the equipment was similar to using some detectors with traffic. It was accidental but because my engineering skills were very transfer-rable, I was always going to do electronics and engineering but I hadn't thought I would end up in transport.

**Responsibilities:**
- Talking with engineers,
- Working through projects
- Analysis of programmes we are operating
- Preparing budgets of projects.
- Details of the workings of a traffic signal sign.
- Site visits fairly regularly.
- I do go abroad to talk at conferences

**Essential skills in my job:**
- Communication skills (report writing and verbal skills)
- I have to be able to break down complex details about junctions into information that is understandable by those involved in the court proceedings.
- I work with the legal teams to negotiate contracts with contractors which involve a lot of technical and legal detail.
- IT skills.

**What I need to know in my job:**
- Safety regulations
- Traffic signal legislation.
- British standards and understanding of legal requirements for contracts.

**Chief engineer, Dave**

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I was originally in medical electronics working with a company that exported medical equipment to the third world. They went down with the recession but some of the equipment was similar to using some detectors with traffic. It was accidental but because my engineering skills were very transfer-rable, I was always going to do electronics and engineering but I hadn't thought I would end up in transport. None of the innovations that we have now, cycle hire, electronic vehicles nor special junc-tions were around when I left university but the skills that I learned meant that I was able to get involved in developing these innovations.

Skills I learned at school which I still employ in my work include lots of fundamental physics like how detectors work, e.g. infra-red and microwave detectors to know how to position it and to be able to understand why something might not be working. Equally, numerical skills are important, using them to work out big data sets. So, the practical and academic skills really. Also, skills learned in English are important with all the communication I have to do. Having done computer science has helped me with programming and understanding how to debug a program. Being able to logically step through a program is vital which will be the same for most engineering now.

A typical day is talking with engineers, working through projects doing some analysis of pro-grammes we are operating, preparing budgets of projects. I occasionally delve into the details of the workings of a traffic signal sign. I work with contractors and I go on some site visits fairly regularly. My job is mostly office based but I do make some visits.

I do go abroad to talk at conferences, for example, this year I was in Berlin talking about how we negotiated our new contracts. I've been to look at new technology development on the Isle of Man because it is a self- contained jurisdiction where they are using new radio systems. I've also had meetings with visitors from delegations involved with future Olympic Games and similar sized events including the Commonwealth Games in Glasgow – I had to go there for the meetings.

Most interesting in my work is looking at a journey from a customer's point of view. We can get too focussed on the engineering about how things work or how things operate together but what actually is the most interesting thing is thinking how this affects a customer's journey and their experience when travelling with us from the moment they leave home to the moment they get into work or the shops. Especially when a customer may have special mobility requirements, how do we make all the parts link well together? We encourage lots of customer surveys and get feedback from specialist groups like the Royal Institute for the blind. The most challenging is trying to deal with every need at once. For example, when designing a junction we have to take in the needs and requirements of cyclists and pedestrians and still give enough capacity for motorists too, giving a balance to all groups. At the moment we are looking at how to make cycling in London safer.

To consider transport as a career, it can be very rewarding. Do you want to go into an industry that has a lot of impact on many people's lives or do you want to go into something that doesn't really have an outward impact? Don't feel locked into a career because once you have engineering, science and maths skills you are able to be flexible to respond to changes in work and jobs.