A screenshot of a cell phone

Description automatically generated

**Black Country Careers Hub**

**SEN/PRU Community of Practice Project**

**Transport Sector**

**Teachers Guidance notes**

*This event consists of 4 presentations accompanied by audio. This guide will take you through each slide step by step.*

*Questions in* ***RED*** *are a prompt for classroom teachers to ask children in order to generate discussions if you feel applicable, or amend to suit ability and needs of learners*

*At the end of this guide there are a series of activities for you to utilise and implement when time allows and if applicable for your pupils .*

**Slide 1 – Introduction**

Today we are exploring the transport sector and careers within this sector. What type of careers do you think we will be exploring? Drone pilots, designers, autonomous vehicles and smart technology

**Slide 2 – Task 1**

Think about what type of career/job you would like in the future. Have a minute to chat with the person sitting next to you. Do you see yourself doing something practical, , working indoors or outdoors, working with animals etc? Tell your teacher what you would like to do and why?

**Slide 3 – What is Transport?**

Transport is a way of moving people or items from place to place.

There are 4 types of transport Can you think of what they are? *Airways, roadways, railways and waterways*. What do you think the most popular type of transport is? *Travel by car, followed by buses and trains.* What is the fastest type of transport? *Aeroplane* What is the most dangerous type of transport? *Motorbike*

**Slide 4-5 – History of Transport – facts**

The first car was made by Henry ford in the 1900’s in America. How did people travel from place to place 1000 years ago? They used their legs to walk and run or used the help of animals (horse, donkey, Oxon). The wheel was invented 5000 years ago and had a massive impact on travel and the ability to move things around. Steam trains were developed in 1800’s, air travel by 1900 and space travel was achieved in 1961 by the Russians. Videos embedded to bring to life the history of transport .

**Slide 6 – 7– What careers didn’t exist in this sector 10 years ago?**

It has been predicted that there will be an additional 1 billion cars on the road by 2030/2035. What will this cause? How will this impact on the environment? *Increase emissions and traffic jams or congestion. The future of cars is electric because they produce no emissions. This will have an impact on the types of careers there will be in this sector. Just 10 years ago, there were no iPhones and therefore no iPhone apps or iPhone app developers. Now there are literally 1000’s of apps that we use every day.*

**Slide 8 -9 – What careers exist?**

*Automation and technology will come together. It is predicted that there will be shift of the workforce which means we will be doing different jobs.* *At the train station or airport there is always a café or place to have a meal. Many of these services will become automated and done by artificial intelligence or robots. Careers will be created as Software designers, engineers and programmers. Shops, trains and aeroplanes will become autonomous.* Videos of robots, and self driving vehicle’s embedded to bring learning to life.

What type of career will be in demand? *Software designers, engineers to mend cars, programmers and users will be in high demand*. *Operators and drivers will be working remotely from call centres, offices or from home. An example of an automated system is - The Dubai metro redline which is fully automated and driverless, fully air-conditioned and very efficient*.

**Slide 10-11 – The future of transport**

*Videos of the future of transport to bring learning to life*

**Slide 12 – Top essential skills**

What personal skills do you think are important and why? Do you think these will change in the future? If yes, why?

What are your top skills? What are you good at ?

Spend a few minutes discussing this with the person next to you. What have you come up with? Discuss as a class .

**Slide 13** – Disability confident employers include ……………..

**Slide 14-** – *You will now hear presentations from a range of guest speakers.*

*Grace Hayward - Assistant Delivery Manager at Midland Metro Alliance.*

*Chris -* Driver Customer Service Representative and Crew supervisor and is employed by West Midlands Metro.

*Olly* Craughan – General Manager of Corporate Social Responsibility – DPD

*Jacqui –* Travel and transport advisor – Transport for West Midlands

**Slide 15-20 Presentation by Grace Hayward -Assistant delivery manager at Midland Metro Alliance – Slide 1**

Grace never has 2 days the same – Every day is different. Grace attends many meetings and has to manage a lot of people and put together a range of timetables. She talks to her boss about budgets. What is a budget? Budget is how much money is needed for each project.

Grace will organise labour and work out how many staff are required for each part of the project. She will also deliver safety briefings on a daily basis. Why is Health and Safety important? Following Health and Safety rules at work keep us safe and Grace will make sure that all staff are following rules and wearing Personal protective equipment. What equipment do you think the team need to wear when they are working on the train lines? A hard hat, high visual clothes so they can be easily seen if they are working on the rail and tram lines and safety boots. Grace makes sure the projects are successful. What do you think makes a successful project? A successful project is one that’s completed on time, in budget which means the company has not had to spend more money that they planned for.

Drivers are using virtual reality or VR to help them learn new routes. Drivers also get tested every 3 months to make sure they know what they are doing and to make sure they follow strict rules about speed limits when driving trains and trams. In other words they have to take a test 4 times every year. Do you think this ?

**Slide 21-26 presentation by Chris – Driver Service representative and crew supervisor at West Midlands Metro -**

Chris has a very long title - Driver Customer Service Representative and Crew supervisor and is employed by West Midlands Metro. Chris has been there for over 2 years and what do you think his job involves? Chris takes care of his customers and makes sure they get to their destinations. Chris is always happy and puts a smile on everyone’s face!

Chris has set tasks he has to carry out every day. These include - Checking the tram to make sure it is clean and tidy and that everything works how it should. Do you think this is an important part of Chris’ job? Why? Customers would not want to travel on dirty messy trains or trams and it’s important to keep them happy so they continue to use public transport. Chris also drives the tram from point A to B, this will vary depending on which tram line Chris is working on. Chris also has to check that all the people traveling on the tram have a valid ticket or pass. These people are called passengers. Has anyone used a tram in the West Midlands? If so where did you travel to and from? Was it a good experience?

The tram network is expanding and new lines are being extended all the time, so West Midlands Metro will be looking at employing more people to cope with the demand. In time trains will become autonomous. What does autonomous mean? Autonomous means self-driving transport such as a tram in which human drivers are not required to take control. They use sensors and software to control and navigate the tram. Careers in software design, engineers and programming will be in high demand. Operators and controllers will be working remotely from call centres, offices or even from their homes.

Conductors will not be needed as everything will be done by machines or chatbots. Remember what we discussed in the opening presentation, Chatbots will be used to issue tickets and will be able to translate every spoken language. Do you think this is a good idea and why? Careers will be created in software programming and engineering

West Midlands Metro have invested in a new control room. What is a control room? A **control room** is a central space where a service can be monitored and controlled. Chris sometimes works in the control room and can see what’s happening on the tram and train lines across the area. He can make sure that everything is as it should be from one room.

West Midlands Metro are currently building a state of the art control room that will be digital and very modern. It will include – touch screen technology,

**Slide 27-31 Presentation by Olly Craughan – General Manager of Corporate Social Responsibility –**

Olly was promoted to General Manager of Corporates and Social Responsibility (or CSR for short) and helps the business fulfil its environmental, sustainability and social strategy and plans for the future. Can you remember what sustainability means? Sustainable means something that can continue for a long time – for future generations and means that it won’t run out.

Olly always starts his day by checking his emails. He starts work at 8am until 5pm and sometimes if he is really busy he will not finish until 6pm. At 9am and 4pm, Olly has a team video call to discuss daily tasks and review projects with his team. Do you think team meetings are a good idea? Why? What things would you discuss at a team meeting? Team meetings are a good way to catch up with your team, to hear about the latest project update and any issues. It’s about getting everyone together, so the team know exactly what’s going on in the business and with each project they are working on.

Olly also manages projects working with the IT department to look at how they can minimise printer and paper usage. Why is this important? Can you think of any ways in which you could reduce the amount of paper you use at school or home?

He also works with the HR department to make sure all staff are well looked after. DPD have a wellbeing initiative in place and really care of their staff. They will help people who feel stressed cope better. What does HR stand for? What do they do? Human resources and they will make sure people follow the rules at work, they are paid on time, with the correct amount, and they will look after the wellbeing of the staff and hire and fire people too.

Ollie will also review the website and make sure all information is up to date and current. There is a dedicated section to electric vehicles. Why is it important that the website is kept up-to-date? So customers are aware of what’s going on now and projects for the future,

You will not be expected to travel to the office every day. DPD will supply you with all the equipment you need to work from home (lap top, internet connection etc.). What would the advantage of working from home? It will reduce travelling time to and from work. Some people travel for over an hour to get to their place of work, adding 2 hours onto their working day and this could be even longer if they are sitting in traffic congestion, you will not get distracted by colleagues in the office and will be able to focus on your task. Less travelling will also mean less emissions of CO2, which will have a positive impact on the environment

**Slide 32-37 presentation by Jacqui Miller – Travel and transport advisor – Transport for West Midlands**

**Slide 2**

Jacqui studied French and business at university. She started working for a French company selling steel. She was able to use her language skills to communicate with customers. Do you think it’s important to be able to speak more than one language? Why? It will help you communicate with people from other countries which is good when they are your customers, learning a language will give you more opportunities to work abroad.

Jacqui joined Transport for West Midlands in 1999 working with businesses to help staff use buses, trains and trams to travel around. This role expanded in 2012 and Jacqui now works with schools, colleges and universities. We are being encouraged to use public transport more and more. What do you think the advantages are, using a bus, train or tram to travel to work? If more people use public transport there will be less congestion or traffic jams on the roads, less emissions which is good for the environment and it will cost less than running a car. Parking can be expensive and time looking for a space is wasted. What about the disadvantages of using public transport? Sometimes there are delays which will make you late for work or school and sometimes employees go on strike and at busy times (called peak times) and public transport can sometimes be overcrowded.

Jacqui has a very interesting job and she gets to travel around the West Midlands on public transport to include busses, trains and trams. She talks to passengers and asks them how their journey has been and if they find it easy to use public transport and whether they think the rates are fair. Jacqui will ask them for feedback. Why is feedback from customers important? Feedback tells you how things can be improved and the customers opinion always matters. Without customers there would be no business.

Jacqui is working from home due to COVID so she spends her time contacting businesses and schools across the West Midlands informing them of new routes that will be opening in Birmingham, Dudley and Wolverhampton. They would not get to know about this unless they already use public transport. Jacqui encourages people to use busses, trains and trams and really enjoys this part of her job because it keeps people connected. Do you think it’s important for people to know about how public transport is improving and expanding?

30 years ago Jacqui used desk telephones, fax, hand written or typed letters and post, and a shared computer to communicate with others. What has replaced these items? Now we have laptops to send emails, IPhone that are able to connect to other people instantly, social media and we use technology much more.

In the future Jacqui will be working from home more often but is still very keen to travel on public transport asking passengers for feedback. It’s important to keep customers happy. Do you think more people will use public transport in the future? Why?

Jacqui uses a laptop and IPhone every day. She is able to work anywhere so long as she has a Wi-Fi connection. She is still very keen to meet people face to face and encourage people to use public transport.

If more people are encouraged to work from home, do you think public transport will be needed as much in the future?

Do you think public transport will expand and less people will use cars?

Public transport vs cars?????? Which do you prefer and why?

**Slide 38**

*Now you have listened to the presentation about Transport,* Would you consider a career in this sector? *Spend a few minutes discussing this with the person next to you.* Why, why not?

**Slide 39**

Have any of the presenters inspired you? Why?

Has anything you have seen today, inspired you? Why?

**ACTIVITY 1 – SELECTION OF YOUTUBE LINKS**

Link 1 shows an autonomous pizza delivery robot

Link 2 shows an autonomous grocery delivery robot

Link 3 shows delivery with a “mothership concept”

<https://m.youtube.com/watch?v=ujzjZuhE92g>

<https://m.youtube.com/watch?v=AbQN-a2d1s0>

<https://m.youtube.com/watch?v=yUMOLzCsifs>

Link 1 explores the future of sky drive-2030- flying cars

Link 2 explores self-driving cars

Link 3 explore sustainable air travel with KLM (via vlog)

<https://m.youtube.com/watch?v=Rmah9HPKbgQ>

<https://m.youtube.com/watch?v=eCJo-2yjtLg>

<https://m.youtube.com/watch?v=cZJzD7bhE_Y>

Links 1 and 2 explain how dpd are using electric vehicles as new delivery solutions with zero emissions.

You will hear more from dpd later.

<https://vimeo.com/389270648/38fb0f2f47>

<https://vimeo.com/392466902/faa18def9c>

**ACTIVITY 2**

Work in small groups and look at different transport means around the West Midlands (Tram, train, bus). Do your research and find out how long it would take you to travel from A to B on the each mode of transport (for example Walsall to Wolverhampton or Walsall to Birmingham)

Compare each one to a car journey and compare the travelling time.

Looks at the cost for each one and work out which is the best value for money, the fastest and the best way to travel to your chosen destination

Which mode of transport would you chose and why?