CASE STUDY
Project Cinderella

https://www.hoxton.ai/home

It's difficult to ascertain accurately and cost-effectively how many people are on a bus at any one time. Using Artificial Intelligence, we were able to gather data that enabled a bus company to optimise its route management and improve the customer experience.

THE BUSINESS CASE

While the latest contactless ticket machines record passengers getting on a bus, they can't record them getting off (unless PAYG of course, which had a very low penetration back in 2019).

This made it impossible to understand, with any degree of precision, the entire passenger journey and passenger flows (origin and destination).

Plymouth Citybus needed more detailed information on exact passenger patronage to optimise route management, allocation of assets and improve the customer experience.

This data could also provide the basis for significant operational cost savings over the life of the service.

METHODOLOGY

To gain passenger insights for this project, I decided to partner with a start-up specialised in artificial intelligence (AI), Hoxton Analytics. Cameras were deployed at ground level on the entry and exit points of buses on a selected route.

The cameras and the supporting AI were programmed to recognise and differentiate passengers by their footwear, eliminating any GDPR issues, and pinpoint when they got on and off the bus. An approximation of gender could also be made by the shape of the shoe. This information was relayed to a back-office system that provided detailed route analyses.

Following an initial trial period, Plymouth Citybus identified several areas where they could improve their operations. Firstly, bus choice; deciding on whether a single or double decker bus would be most appropriate for a particular route. Secondly route optimisation; adjusting routes and timetables based on actual use. And thirdly, bus procurement; traditionally influenced by high level modelling of expected bus use, the decision on whether to buy a single or double decker bus could then be based on hard evidence.

RESULTS

- Bus of choice - operator can decide on whether a single or double decker bus would be most appropriate for a particular route, which can reduce operational costs.
- Route optimisation - bus operators can adjust their routes and timetables based on actual use, which improves the customer experience.
- Bus procurement - whether to buy a single or double decker bus could be based on hard evidence.

Future Investment Strategy based on hard evidence