



Plotting the route from research engineering to policy



*A geospatial analytics toolkit built with
and for local government*

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Organisations and RSEs involved



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FREE bus travel for kids

WEST

Hop on this Easter

3 – 19 April

Background

- A previous phase of the project explored micromobility data
- Policy makers were very interested in bus boarding data, in relation to the Kids Go Free scheme
- Such data can help inform evidenced based policy decisions
- This data could also be helpful for answering research questions
- We wanted to build a relationship between the University and WECA to leverage this data for both policy and research impact



Challenges of the dataset



Lots of different ticket types across operators with unique naming conventions



Bus boarding data available for all journeys, but journey end point often not available – we could only see where people got on the bus for most journeys



Passenger behavior has a direct impact on data due to tap on/off vs. buying a prepaid or paper ticket



The dataset is a byproduct of an operational process, not designed for data science use

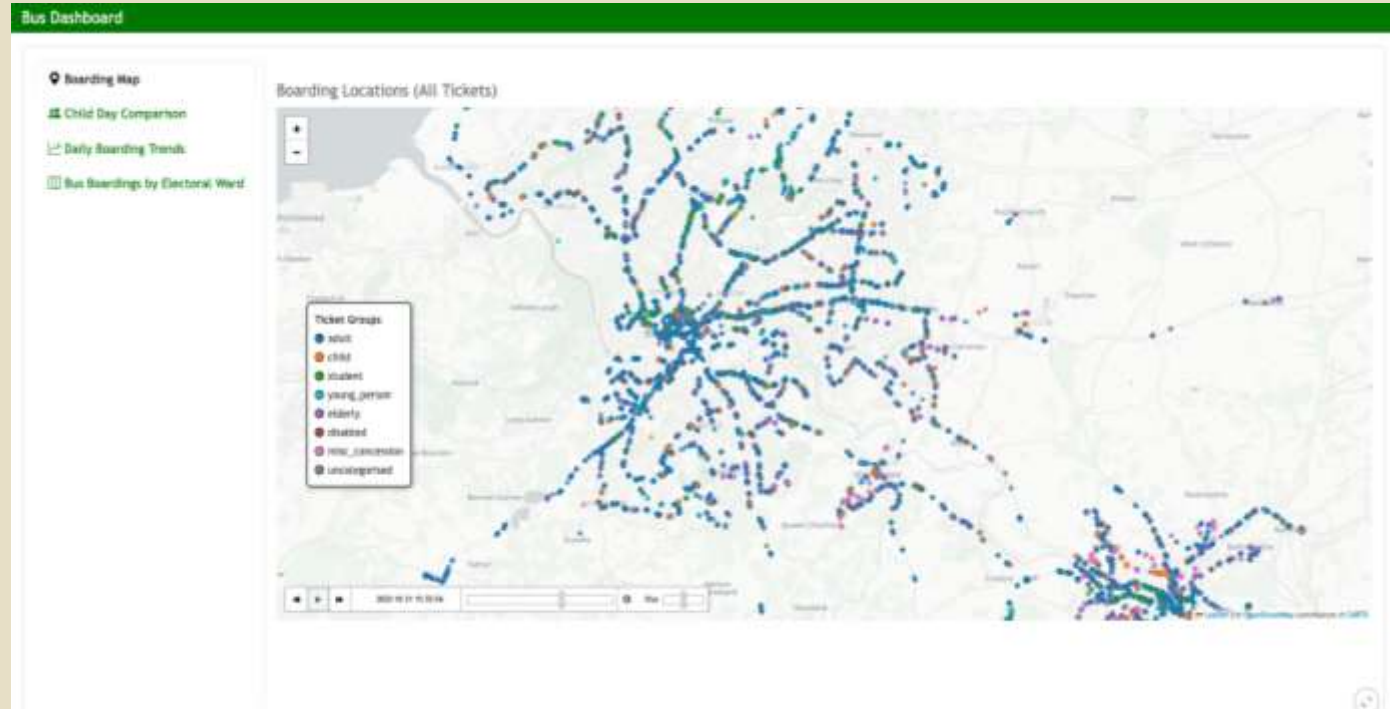
"Woe Sgl Child",
"M Metro ChildFFS",
"M Bath FFS Child",
"I Bris CH Sgl",
"I Bris CH 2 Trip",
"I Bris CH Day",
"M Bris 2 CH Day",
"M Bris 2 CH Mth",
"M Bris 2 CH Wk",
"M Bris 2 CH Yr",
"Bris 2 CH Day",
"Bris 2 CH Month",
"Bris 2 CH Week",
"Bris 2 CH Day 5",
"Bris 2 CH Mth",
"Bris 2 CH Wk",
"M Woe CH Day",
"M Woe CH Month",
"M Woe CH Week",
"M Woe CH Year",
"M Bath 2 CH Day",
"M Bath 2 CH Mth",
"M Bath 2 CH Wk",
"M Bath 2 CH Year",
"Woe Child Day",
"Woe Child Month",
"Woe Cd Day",
"Woe Plus Cd Day",
"Child 2-Trip",
"Child 2-Trip QR",
"Child BR DAY",
"Bris 5-Child 5",
"BL Cd Day Zone",
"BR Cd Day Zone",
"M Woe 6/20 CH",
"M Bris 20/40 CH",
"M Bris 12/40 CH",
"M Bris 5/10 CH",
"M Bris 10/20 CH",
"M Bath 3/10 CH",
"Airthru CH Sgl",
"Airthru CH Btn",
"AIRWoe CH Btn",
"M BLFlyer SglCH",
"Flyer CH Btn QR",
"Flyer CH Return",
"CH Bris T2 QR",
"CH Woe T2 QR",
"CH Bath T2 QR",
"CH Residents Sgl",
"ChdApt Any0 Sngl",
"Chd Apt 0/P Sngl",
"M CH Bris T2",
"Under 16"

Code Based Outputs

An early prototype of the
interactive Quarto
Dashboard



- A Quarto dashboard for interactive exploration of the dataset
- Geospatial analysis of the data to investigate the Kids Go Free scheme (results not yet published - watch this space!)
- A custom Python package for cleaning and plotting bus ticketer data
- Documentation





A workshop run as part of Urban Ride phase 1

Next steps: workshop with WECA

- Aiming to provide to provide WECA colleagues with the skills to have autonomy over the tools we have developed for them
- Learning from WECA about how our work fits into the policy landscape for them long term
- Understanding what coding work is done within WECA, and how we can support each other
- Opening the door for future collaboration, through identifying common areas of research interest





Key lessons learned

- Local government and academia both run on their own timescales
- There's a lot of red tape and legal procedures
- Policy makers have very specific areas of influence, so it's key to understand what's useful to them
- RSEs can provide insights and specialist skills
- Researchers can benefit hugely from the rich datasets that local government holds



Thank you ● ● ●