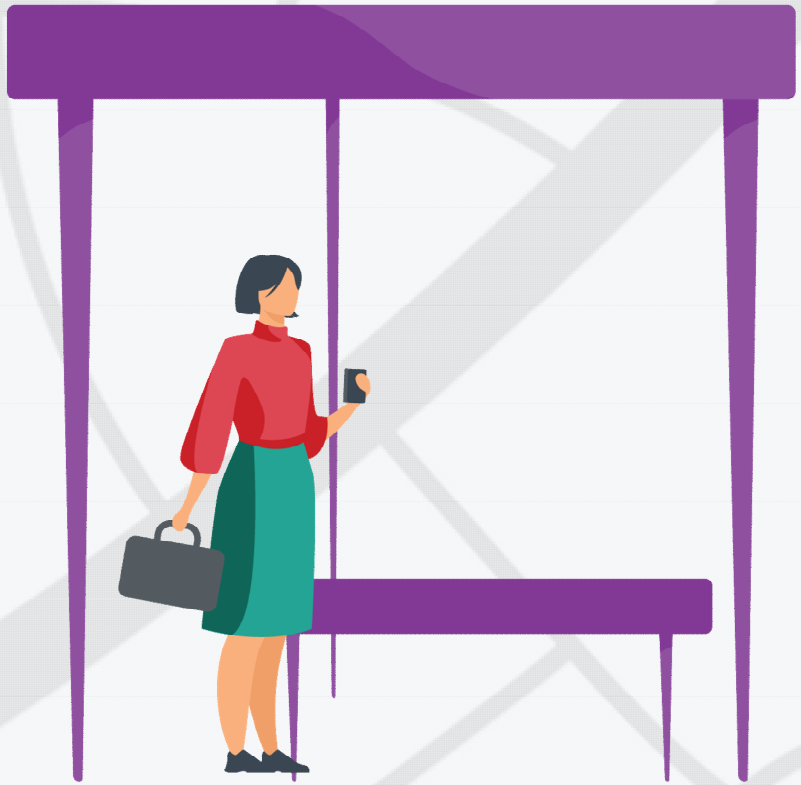
Workforce Mobility Project

City of Edinburgh Council Employee Postcode and Travel Analysis





www.esescityregiondeal.org.uk/workforce-mobility

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City of Edinburgh Council Analysis

Business Working Population Catchment Analysis

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Overview

The purpose of this analysis was to review the sustainable travel catchment area of the top 50 largest employers in Edinburgh. The intention behind this was to determine:

1. The accessibility of each business in relation to all the post code areas in Edinburgh. From this analysis, the catchment area of each business was identified.

2. The percentage of the working age population that can access a business within defined travel related parameters (arrival and departure time, max walking time, max travel time etc.)

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Data

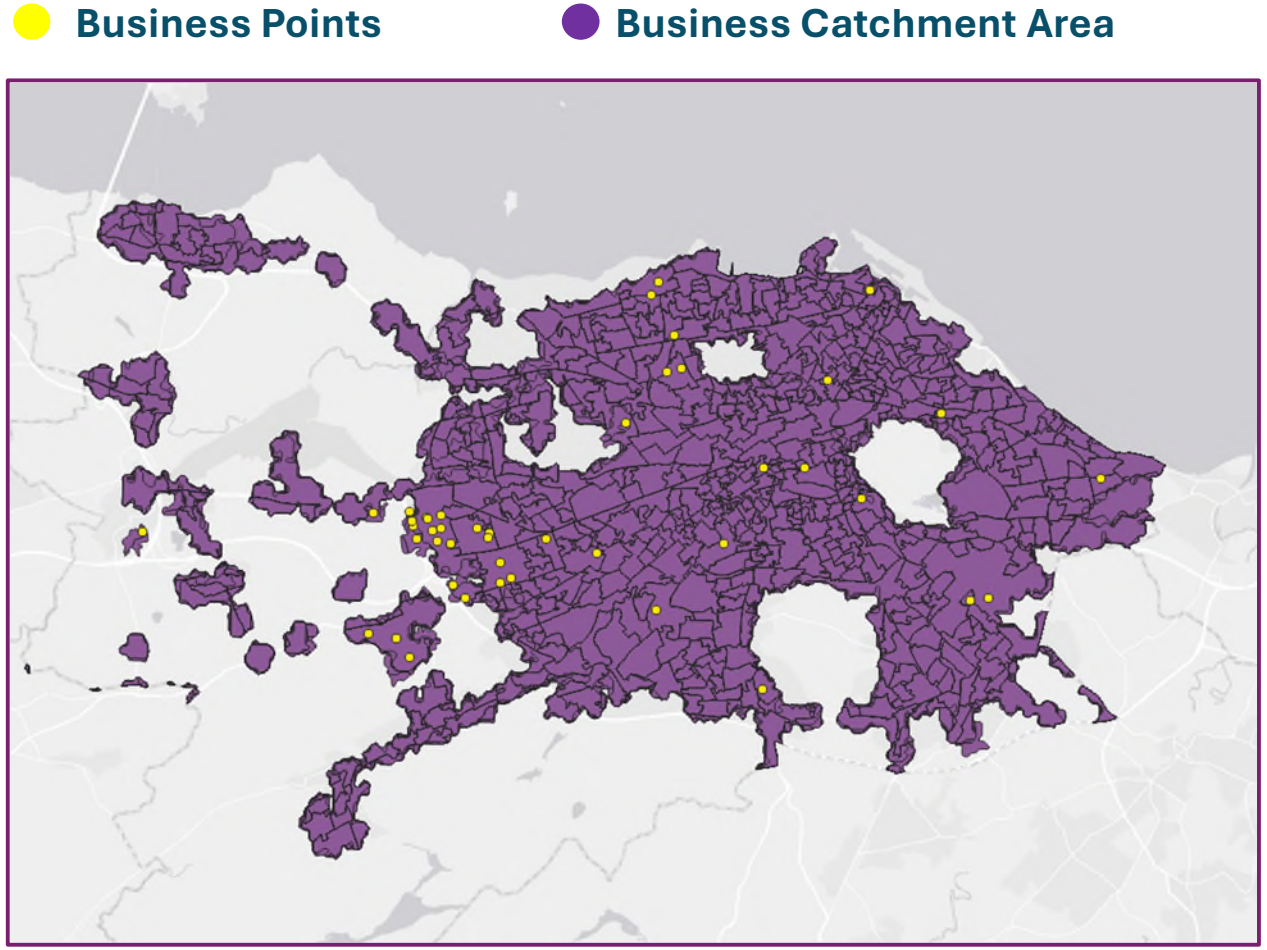
- The data for the analysis was provided by the City of Edinburgh Council. This included a list of workplace parking premises of the top 50 largest employers in Edinburgh.
- Data Zones with 2021 working population figures was used to estimate the working age population in each business catchment area.

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Travel Analysis

- This analysis utilised 46 distinct business points (highlighted in yellow) selected from the top 50 parking lots in Edinburgh. Some closely situated lots were merged, resulting in a total of 46 points.
- A purple catchment area was established for businesses, constrained by time, duration, and walking distance to/from bus stops.

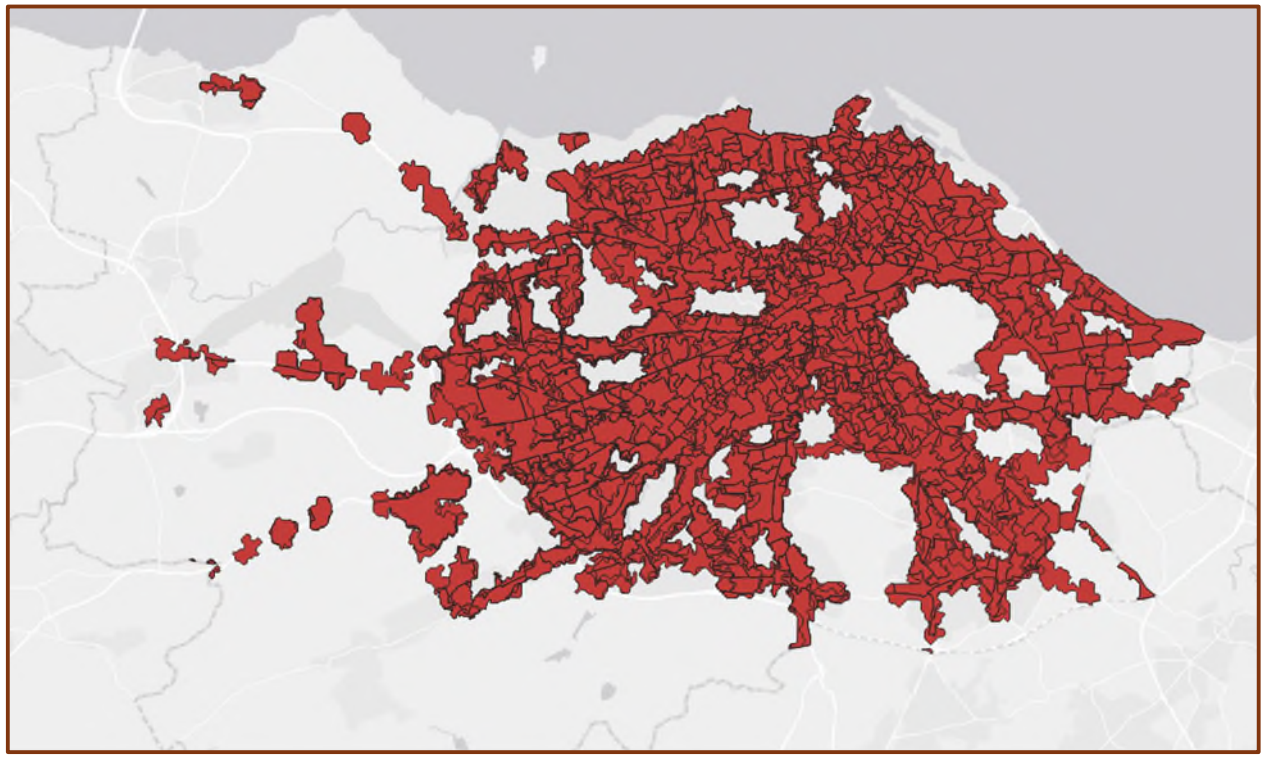


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Time and Duration Variations

- The catchment areas times for home departures was set at 8 and 9 AM and business departures at 4 and 5 PM.
- They were also divided into travel durations of 30, 60, and 90 minutes.
- The amount of walking time was set to 5 minutes maximum per interchange.

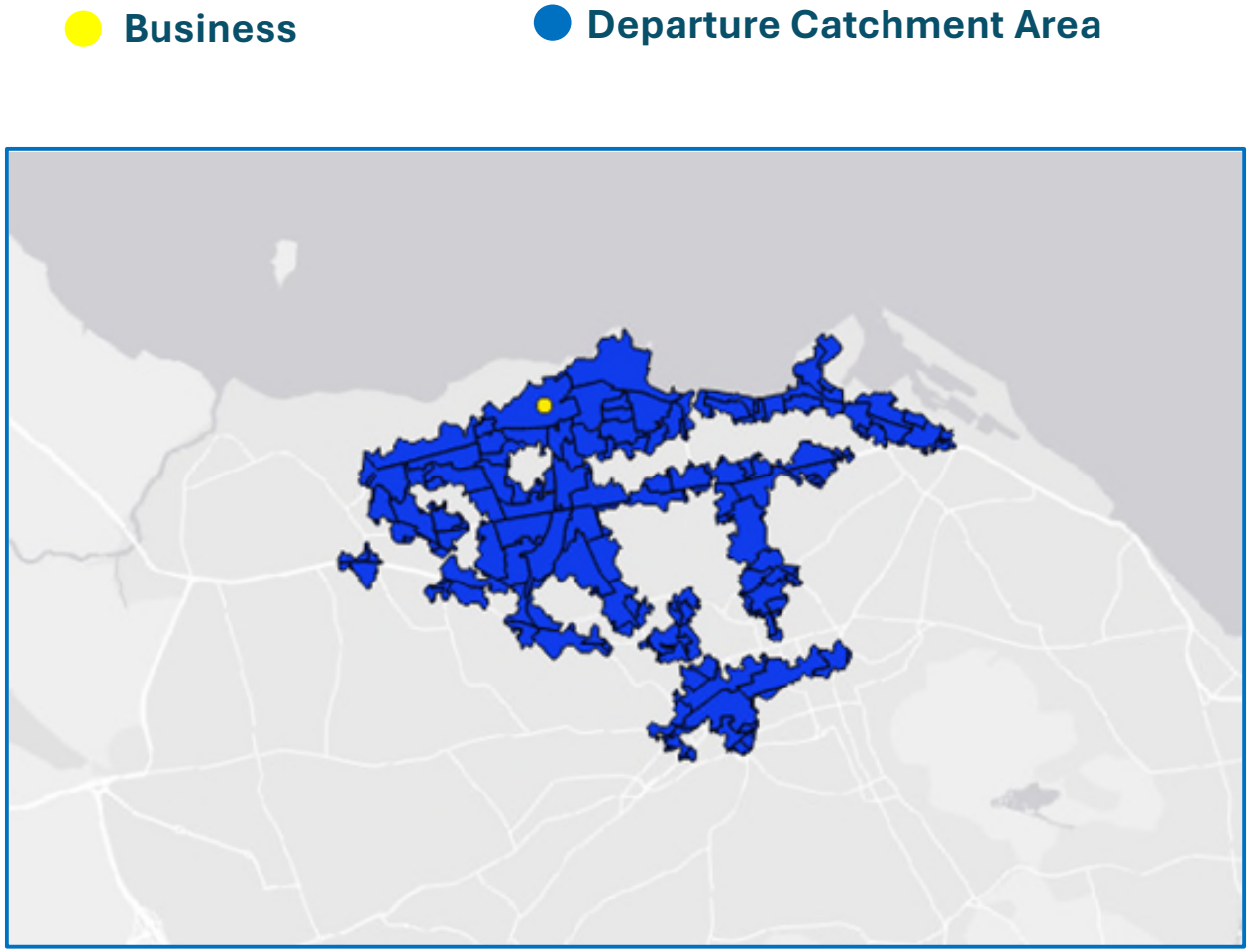


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Business View

- Each business had its own catchment area.
- This example shows the business location (yellow)and the departure catchment area (blue). The parameters were for a 30-minute journey with a departure time of 5pm.
- The map shows where a person could get to within the set criteria from that business using public transportation.

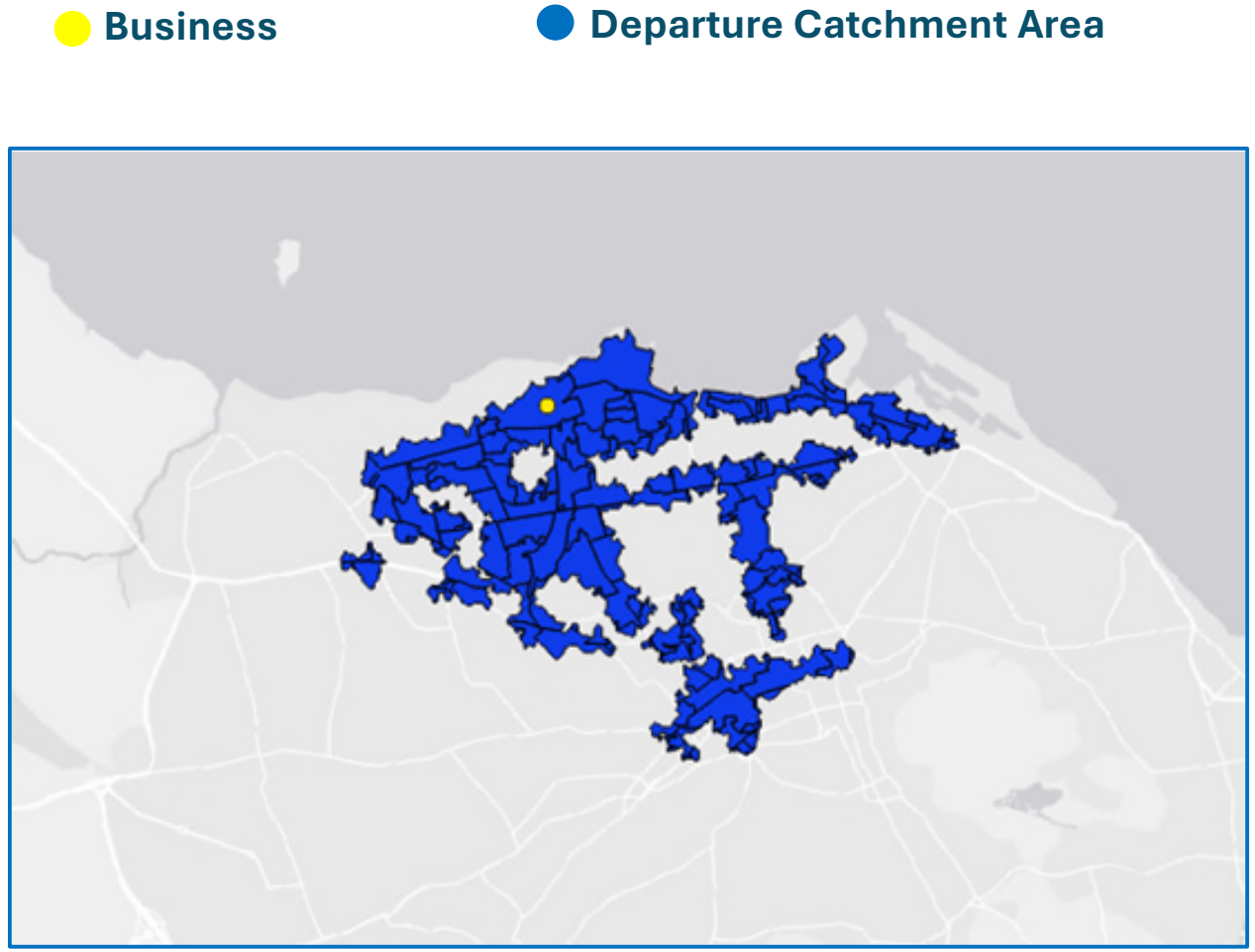


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Catchment Area Working Population Calculations

- The catchment area (blue) was divided into data zones. These data zones contain working population estimates.
- Using these working population estimates (from 2021) the amount within these catchment areas could be calculated.



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Catchment Area
Working Population Calculations

- The number of working age people within a business catchment area was calculated by identifying the percentage of the coverage of a data zone and multiplying that percentage with the working age population number.

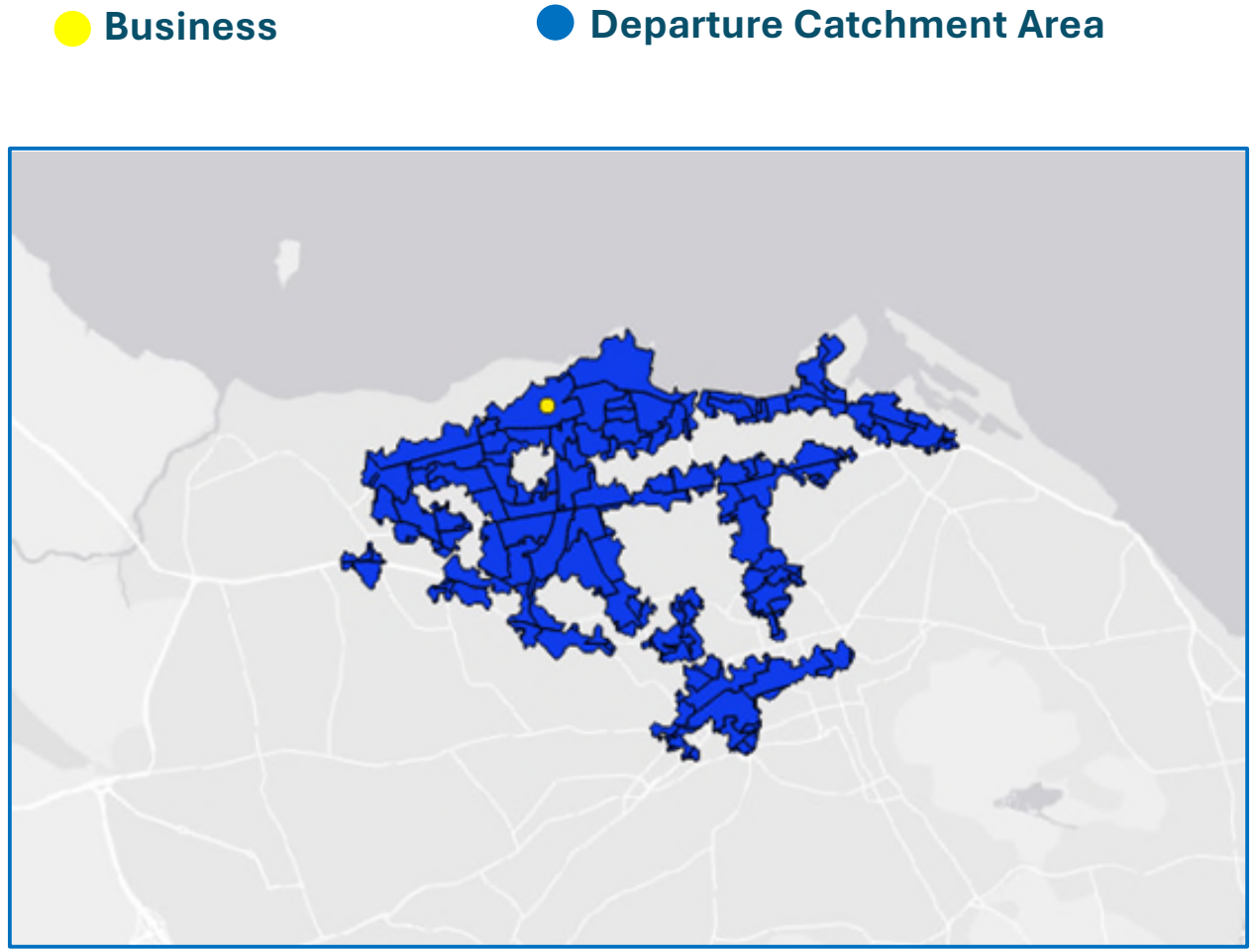
- For example, if a data zone had a population of 500 people and the catchment area covered 50% of that area then 250 people would be recorded.

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Catchment Area Working Population

- The data could then be outputted in shapefiles and into an excel spreadsheet.
- Once put into a spreadsheet it could be brought into Power BI to easily view the results.



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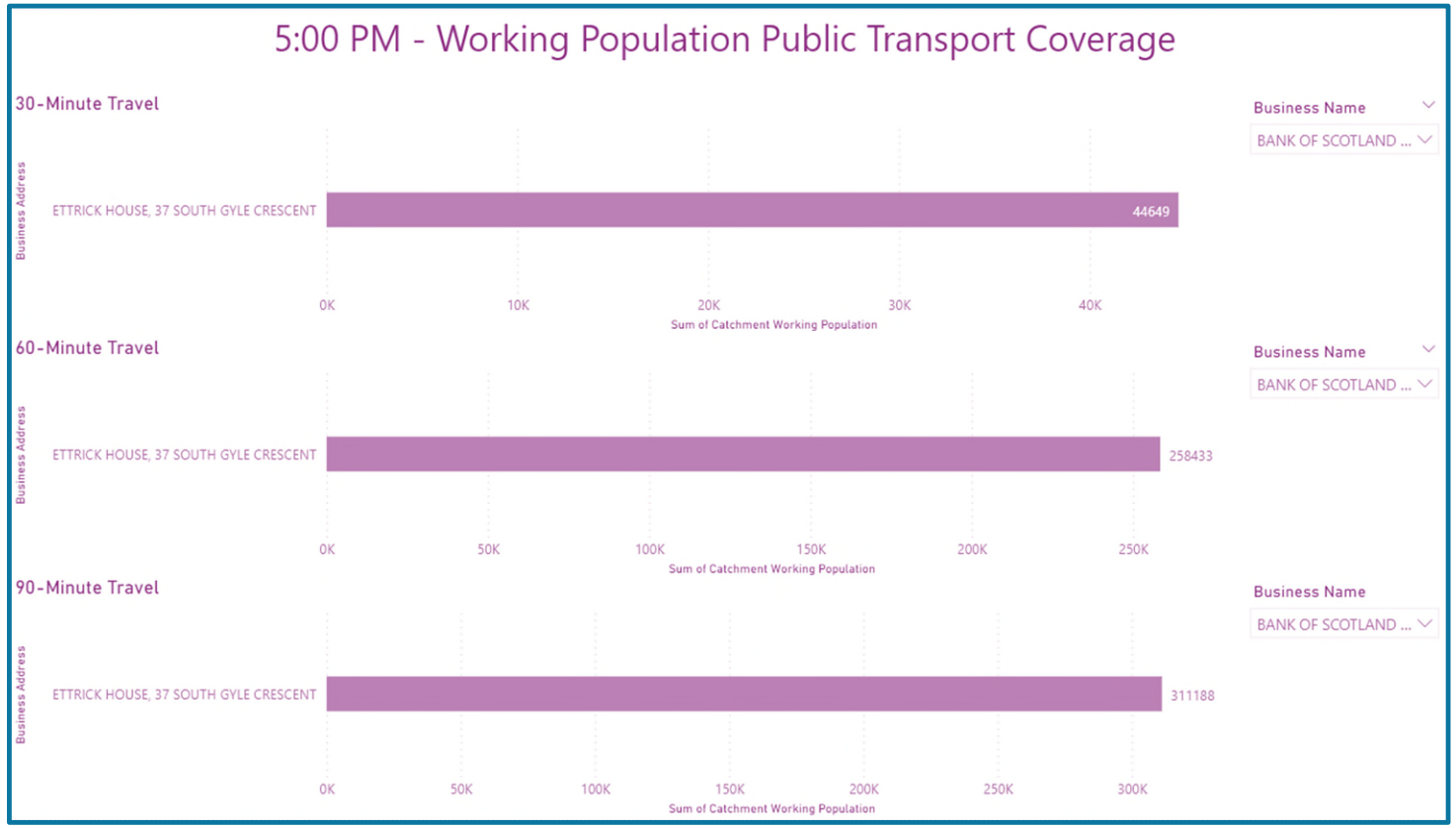
City of Edinburgh Council Analysis

Catchment Area
Working Population – Power BI Output

Number of working aged population in a data zone that can reach home from the business point within 30 minutes of travel.

Number of working aged population in a data zone that can reach home from the business point within 60 minutes of travel.

Number of working aged population in a data zone that can reach home from the business point within 90 minutes of travel.



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How the Power BI Data Can Be Used



IDENTIFY WHICH BUSINESS HAS THE MOST/LEAST WORKING POPULATION COVERAGE



IDENTIFY WHICH BUSINESSES ARE ACCESSIBLE/INACCESSIBLE



COMPARE BUSINESS CATCHMENT AREAS TO OTHERS

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City of Edinburgh Council Analysis

Data Zone Travel Analysis

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City of Edinburgh Council Analysis

Data Zone Travel Analysis

This analysis examined the journey between businesses and data zones (post code areas where people live) using **the most optimal** public transportation solution. In particular:



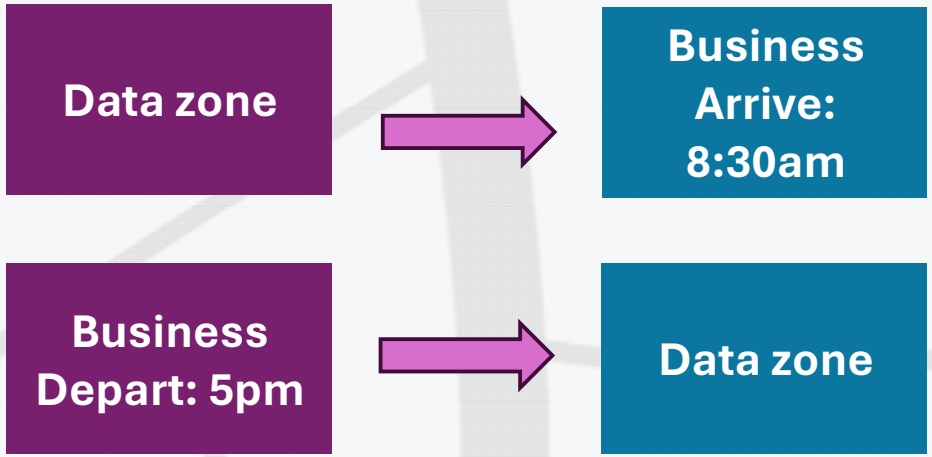
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City of Edinburgh Council Analysis

Outputs of Data Zone Travel Analysis

The result of the analysis shows each data zone's best (fastest) way of travel using public transportation with these specific outputs:

- Departing public transport stop name and coordinates
- Arrival public transport stop name and coordinates
- Walking times
- Travel time
- Public transport route number



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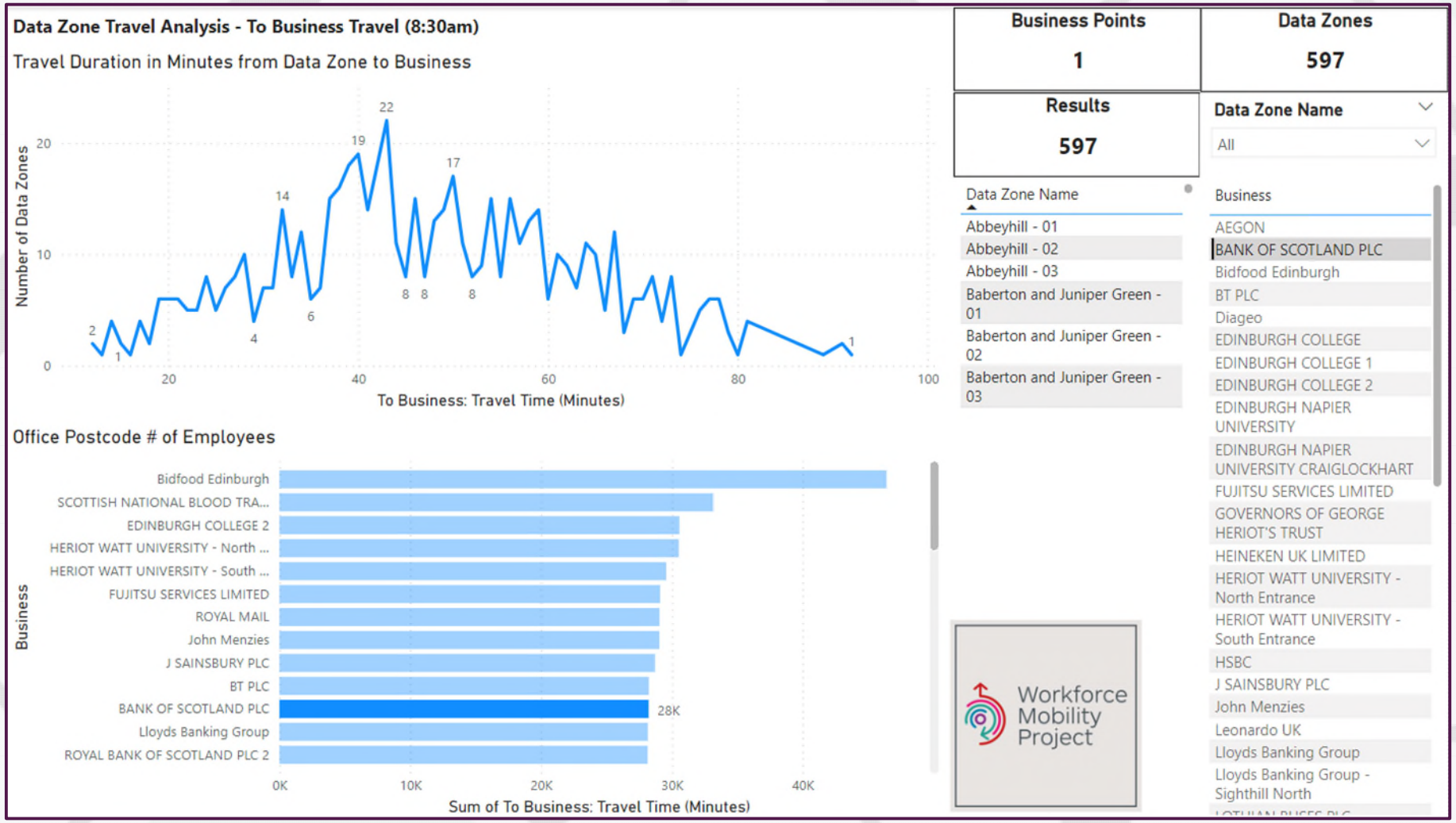
Data Outputs

- The data has been divided into two separate spreadsheets
  - Travel from data zone to business arriving before 8:30am
  - Travel from business to data zone departing at 5:30pm
- The data was further analysed using Power BI.

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Power BI Output



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City of Edinburgh Council Analysis

How The Data Can Be Used

1. Identify which businesses have the best/worst access to each data zone within Edinburgh.
2. Identify which data zones have the best/worst access to each business.
3. Identify where key bus stop locations are for connecting many of the data zones.
4. Identify the most popular bus routes.
5. Identify where active travel locations may be best placed with walking time results.

City of Edinburgh Council (CEC) Staff Public Travel Analysis

Workforce Mobility Project

City of Edinburgh Council Analysis

Employee Postcode Travel Analysis

This analysis examined the travel between CEC offices using **the most optimal** public transportation solution. In particular:

Employee Postcode → **Business Arrive: 8:30am**

Business Depart: 5pm → **Employee Postcode**

The data for this analysis was provided by the City of Edinburgh Council. This included the employee post code details taken from 4000 CEC laptops.

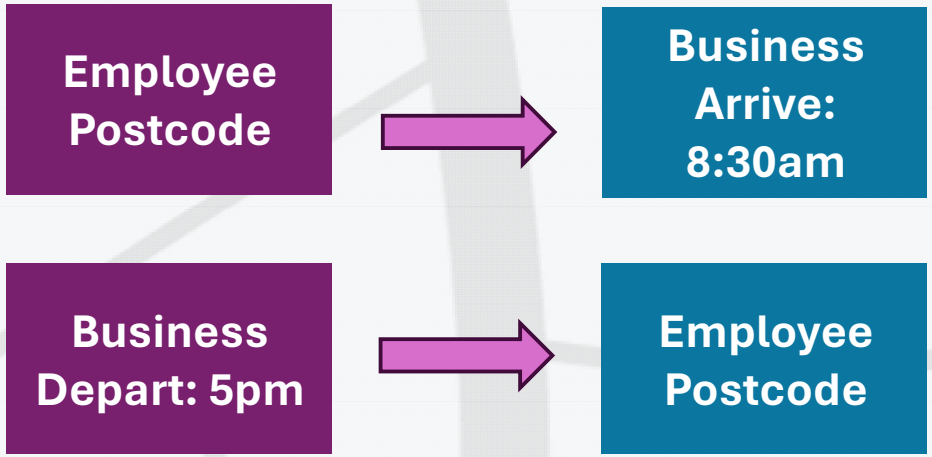
Workforce Mobility Project

City of Edinburgh Council Analysis

Outputs of CEC Public Travel Analysis

The output of the employee post code data analysis shows each employees best (fastest) way of travel using public transportation with these specific outputs:

- Departing public transport stop name and coordinates
- Arrival public transport stop name and coordinates
- Walking times
- Travel time
- Public transport route number



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City of Edinburgh Council Analysis

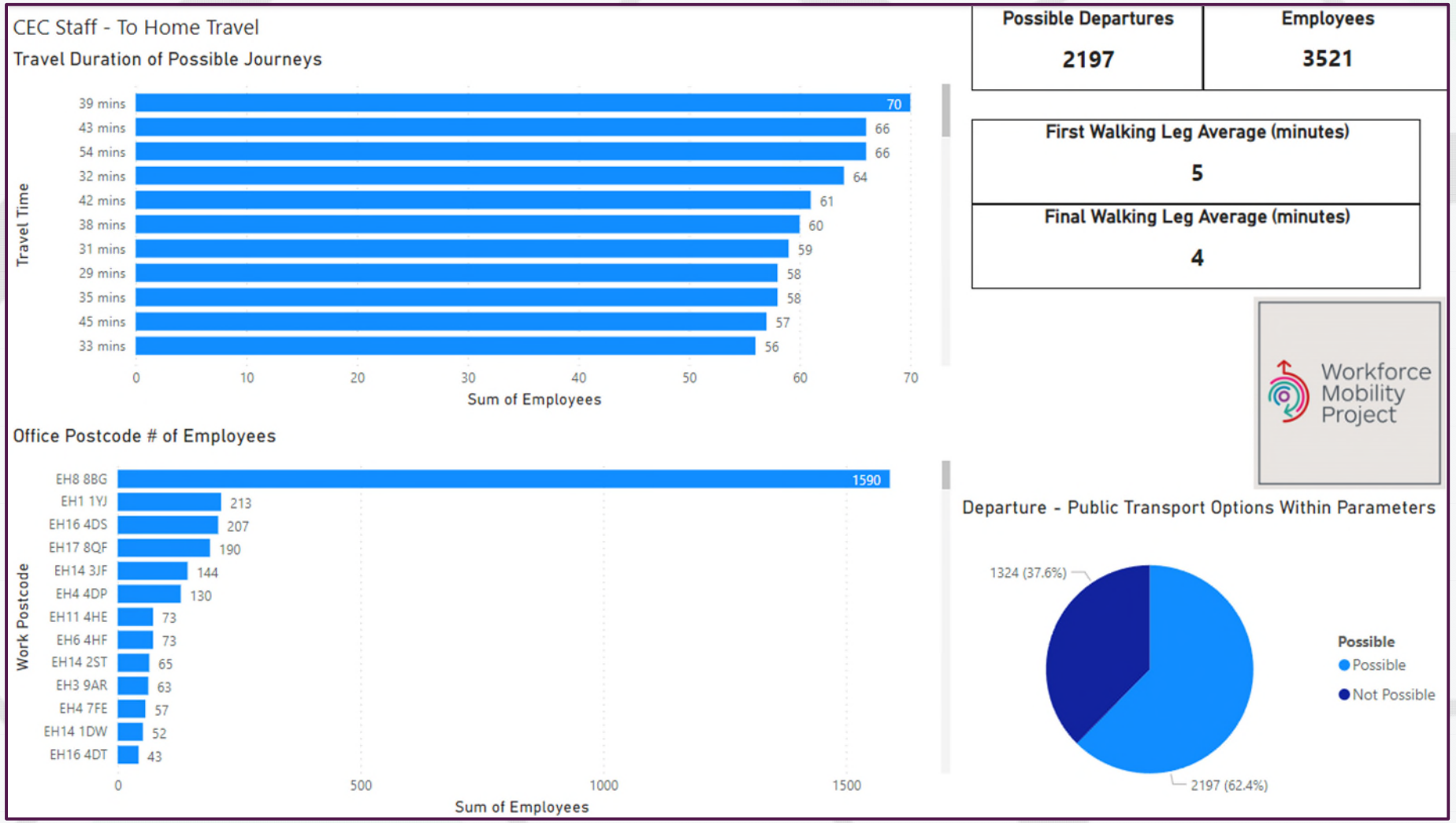
Data Outputs

- The data has been divided into two separate spreadsheets
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Power BI Output



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City of Edinburgh Council Analysis

How The Data Can Be Used

1. Identify which employee postcodes have acceptable access using public transport.
2. Identify which employees have the best/worst access to each business.
3. Identify where key bus stop locations are for connecting many of the employees.
4. Identify the most popular bus routes.
5. Identify where active travel locations may be best placed with walking time results.