HACKATHON
CHALLENGE

HKD
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USING DATA SCIENCE FOR PUBLIC GOOD PUBLIC TRANSPORT AND EMPLOYMENT

PETER DONAGHY

ONS LOCAL TRANSPORTATION DATA

In January 2023, the ONS released data on the areas people can feasibly travel to using public transport, for hundreds of thousands of starting points across the UK.

The data includes the areas that people can travel to for 4,537 Census Small Areas across Northern Ireland.

For each small area in Northern Ireland, the data includes isochrones (transport maps) of the areas that can be travelled to within 15, 30, 45 and 60 minutes, including a maximum walking distance of 1.5km.

To demonstrate the data, the map below shows the differences the areas that can be travelled to from the centre of Grimsby (a town in the North East of En land), and the suburb of Waltham, 4 miles to the south of the town centre. A commuter living in the centre of Grimsby will be able to travel to much larger area within an hour than is the case for a commuter living in Waltham.
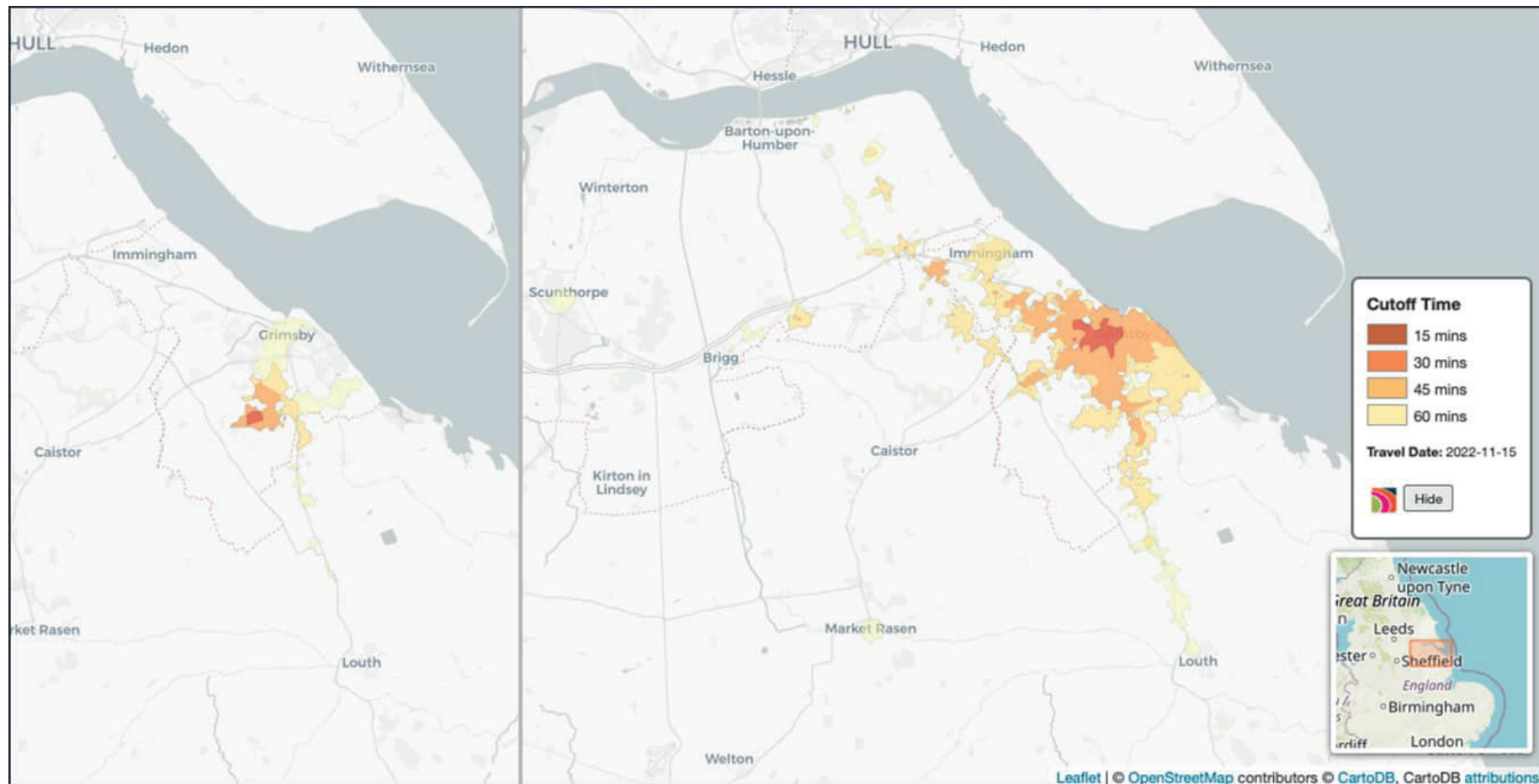
NORTHERN IRELAND TRAVEL AREA ISOCHRONES

The map below shows a representation of the areas that can be reached by public transports from each of Northern Ireland's Census Small Areas.

UK Travel Area Isochrones (Nov/Dec 2022) by Public Transport and Walking in Northern Ireland

⊘ Authoritative

ONS Geography
Office for National Statistics

Summary

Isochrones

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Details

🗄 Dataset
Feature Layer

ⓘ December 15, 2022
Info Updated

🕘 January 23, 2023
Data Updated

📅 January 16, 2023
Published Date

▦ 18,148 Records
View data table

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18,148 records

Esri, HERE, Garmin, USGS | Esri, HERE
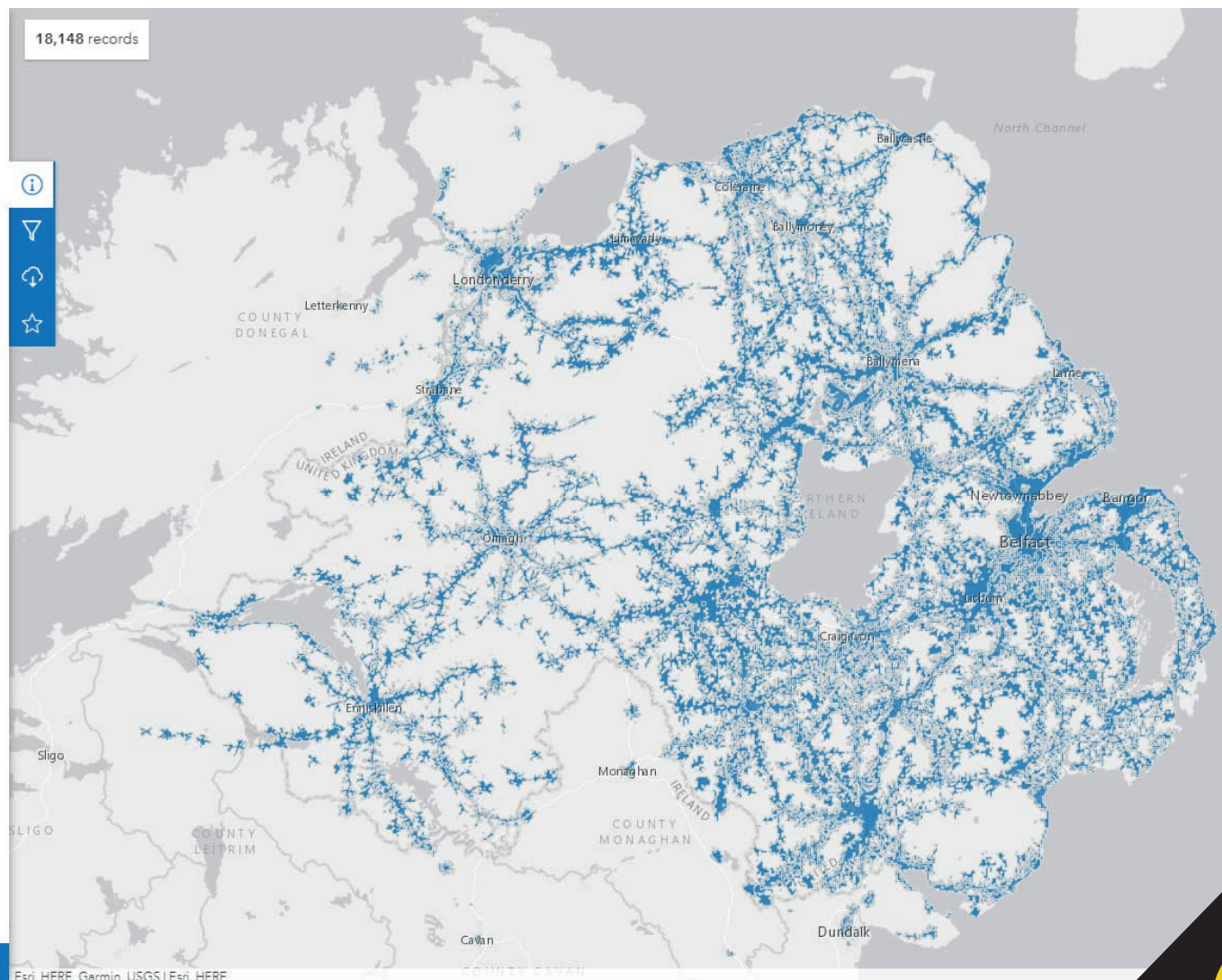
For Northern Ireland, the data shows the distance that could be travelled by public transport on the morning of Tuesday the 6th of December 2022

LINK TO THE DATA SET >>>

EMPLOYMENT DATA

The Department for Communities publishes data on the number of job vacancies notified to job centre jobs and benefit offices for each census ward and Super Output Area in Northern Ireland.

The map on the right shows the number of vacancies across Northern Ireland from a Statistical Bulletin published in 2022. The granular data covers job vacancies for 890 Super Output Areas across Northern Ireland over one year. This data allows for granular geographical analysis on the hotspot areas for new jobs.

Northern Ireland Jobs & Benefit Offices

Notified vacancies are presented here by J&BO which the employer account vacancy is assigned to. The purpose is not to rank J&BOs by the number of notified vacancies, but rather to gain an understanding of the spread of notified vacancies at a local level. Vacancies assigned to Lisnagelvin J&BO are coded under Foyle J&BO on Client Management System (CMS); they are therefore grouped together in this publication.

Coleraine 541
Foyle/Lisnagelvin 1,008
Limavady 495
Ballymoney 150
Ballymena 1,769
Larne 122
Strabane 174
Magherafelt 332
Antrim 1,524
Carrickfergus 109
Cookstown 503
Newtownabbey 128
Bangor 913
Omagh 284
Newtownards 1,418
Dungannon 332
Lurgan 362
Lisburn 1,308
Portadown 1,162
Ballynahinch 159
Enniskillen 374
Downpatrick 271
Armagh 1,341
Banbridge 184
Newcastle 79
Newry 490
Kilkeel 40

Shankill 114
Belfast North 2,034
Falls Road 224
Holywood Road 1,251
Shaftesbury Square 2,402
Andersonstown 135
Knockbreda 798

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LINK TO THE DATA SET >>>

THE HACKATHON CHALLENGE
KEY QUESTIONS

Across Northern Ireland, how many open job vacancies are available to residents within 15, 30, 45 and 60 minutes using public transport?

Are there any areas that are currently underserved by public transport compared with surrounding areas?

Can you identify any potential new public transportation routes that would have a significant impact in terms of maximizing access to employment opportunities?

Are there any other key insights you can derive from this data?

THE DATA SETS

The travel area isochrones
UK Travel Area Isochrones (Nov/Dec 2022) by Public Transport and Walking for Northern Ireland - Generalised to 10m | UK Travel Area Isochrones (Nov/Dec 2022) by Public Transport and Walking for Northern Ireland - Generalised to 10m | Open Geography Portal (statistics.gov.uk)

Labour market statistics (including job vacancies)
Labour Market datasets - NINIS: Northern Ireland Neighbourhood Information Service (nisra.gov.uk)

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