



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Ensuring a just transition and avoiding advanced transport poverty in Ireland

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Current transport emissions in Ireland

- In 2022, transport produced 19.1% of Ireland's GHG emissions, this was up 6% on 2021
- 94.7% of these emissions came from road-based transport
- 69% of all trips in 2022 in Ireland were taken by car, in 2012 it was 70%
- In rural Ireland 38% of people are within a 15 min walk of a shop, this increases to 97%+ on our cities

National Proximity to Amenities (within 15 min walk)

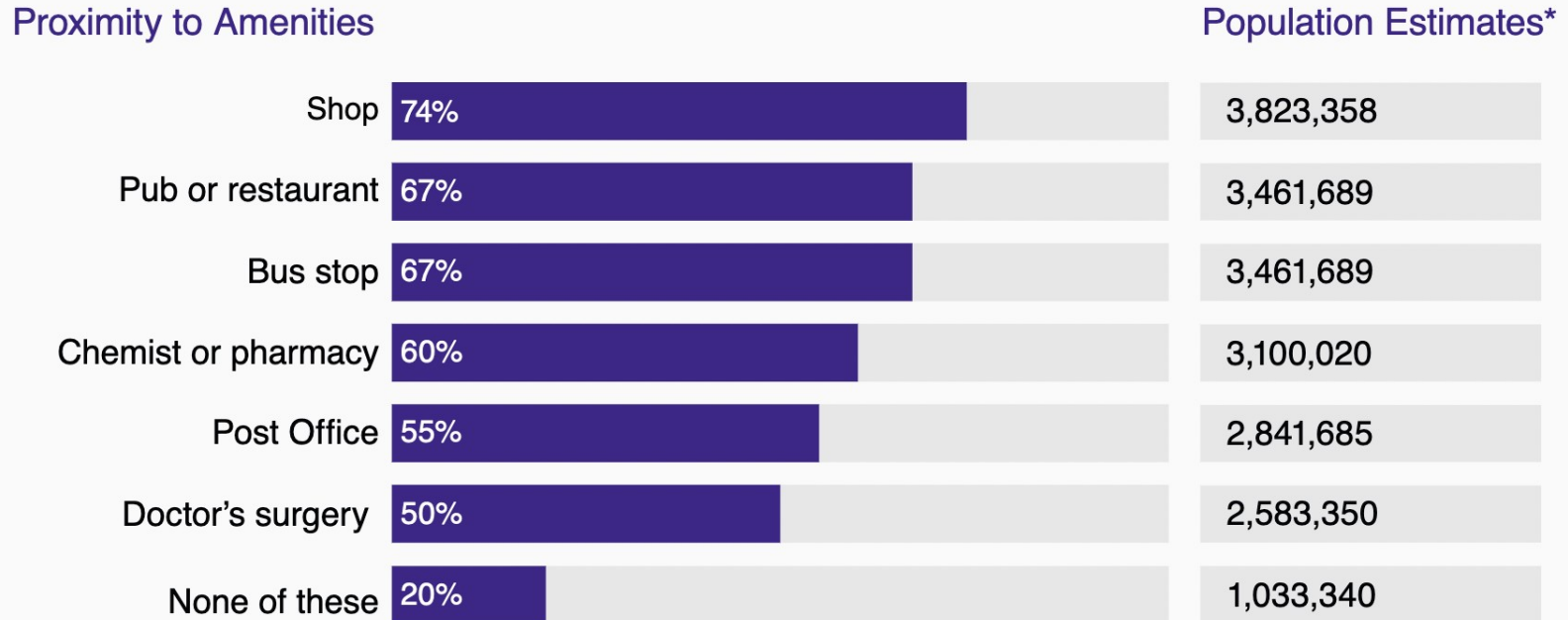


Figure 3: Proximity to Amenities (Live within a 15 minute walk): National

Dublin City & Suburbs Proximity to Amenities (within 15 min walk)

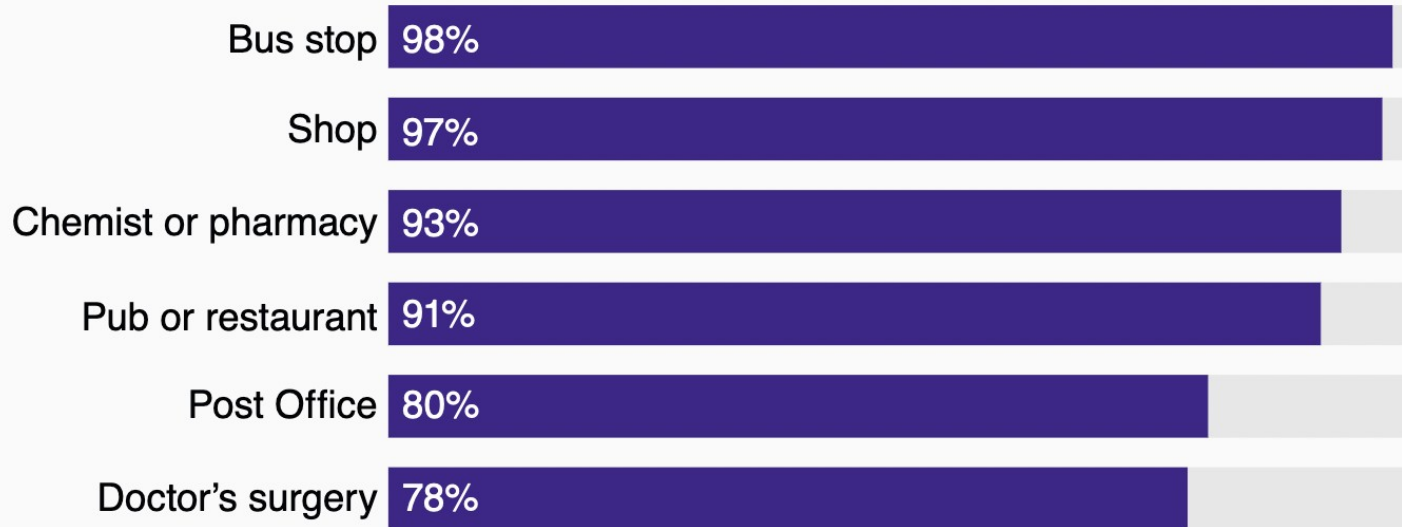


Figure 51: Proximity to Amenities (Live within a 15 minute walk): Dublin City and Suburbs

Rural Proximity to Amenities (within 15 min walk)

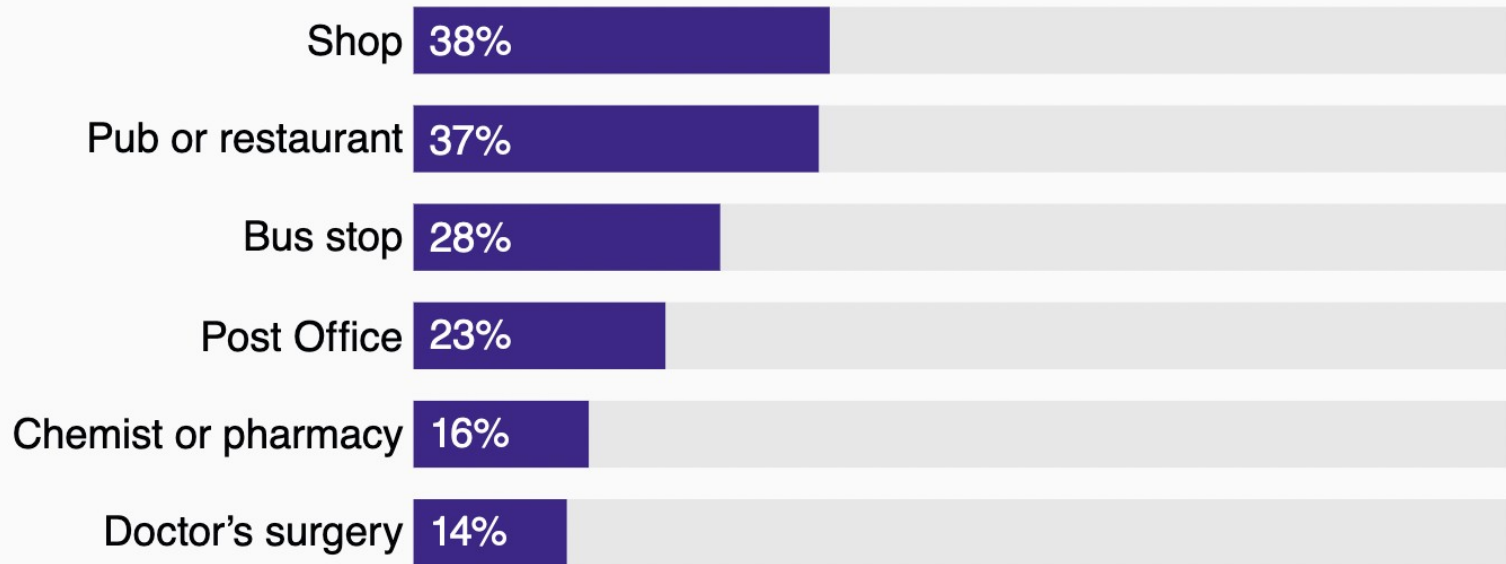
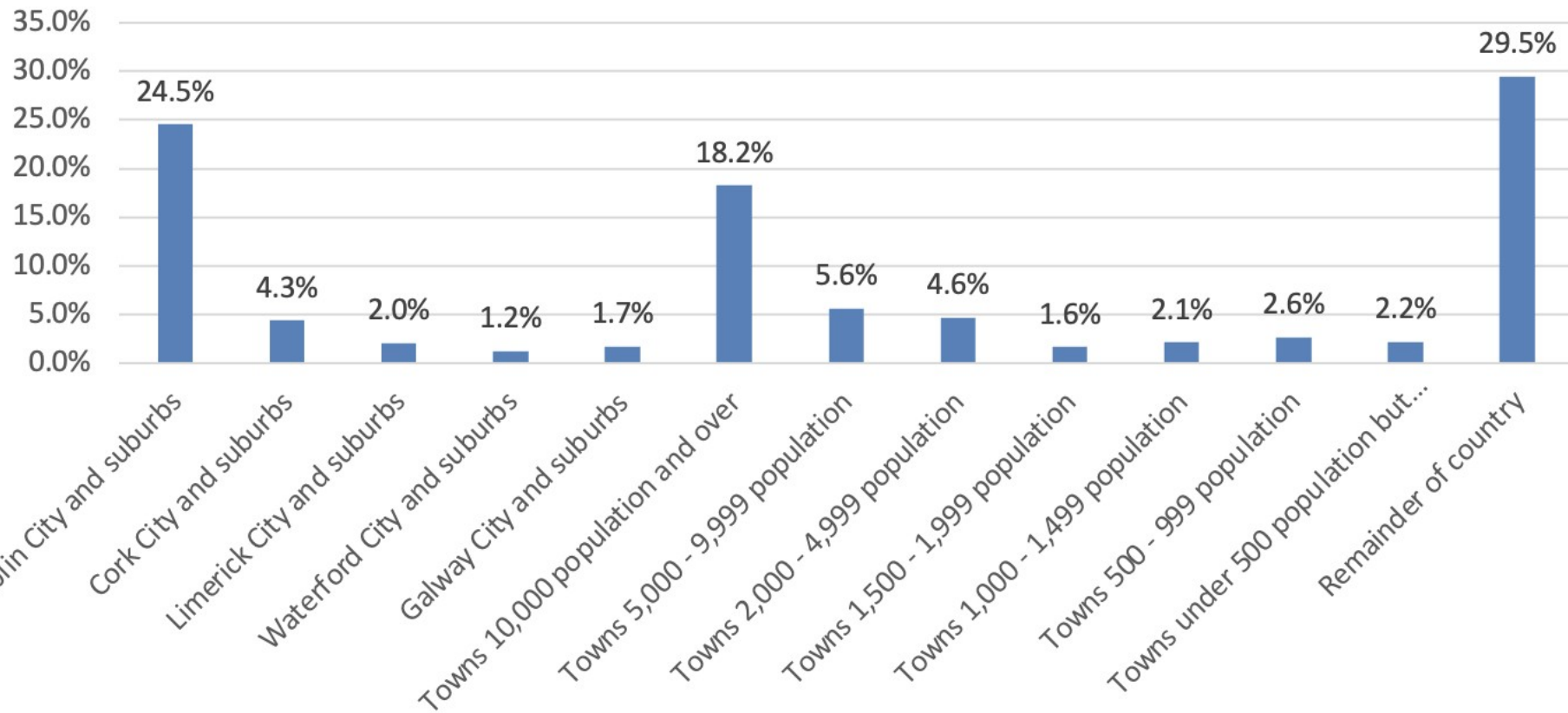
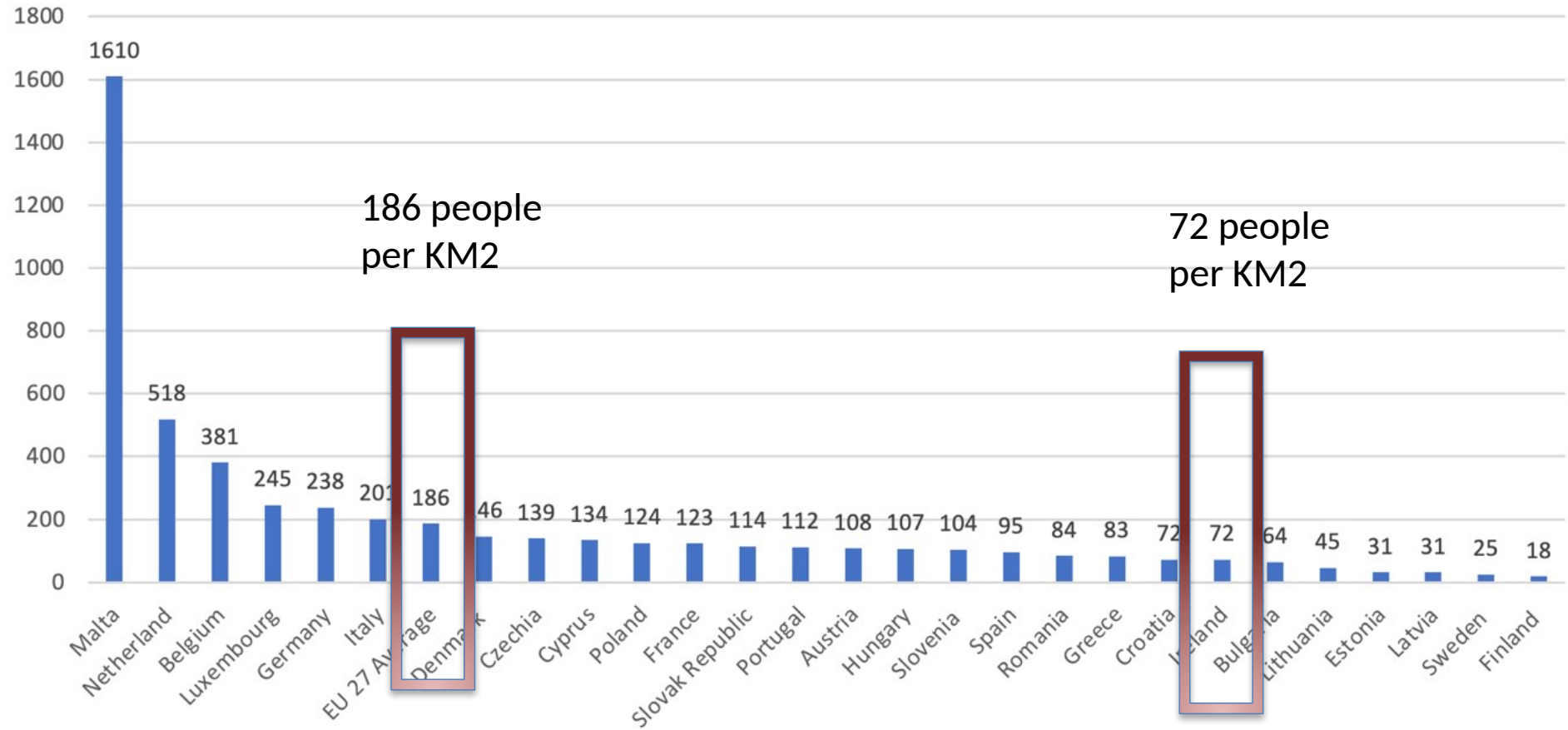


Figure 40: Proximity to Amenities (Live within a 15 minute walk): Rural Areas

Population Distribution - 2022 Census



Average population density (people per KM2) EU 27



Reduce transport emissions by 50%

How do we do this?

- Reduce vehicle KM by 20%
- 50% reduction in fuel consumption
- 50% increase in active trips
- 130% increase in public transport trips
- Sell 1m electric vehicles



21%

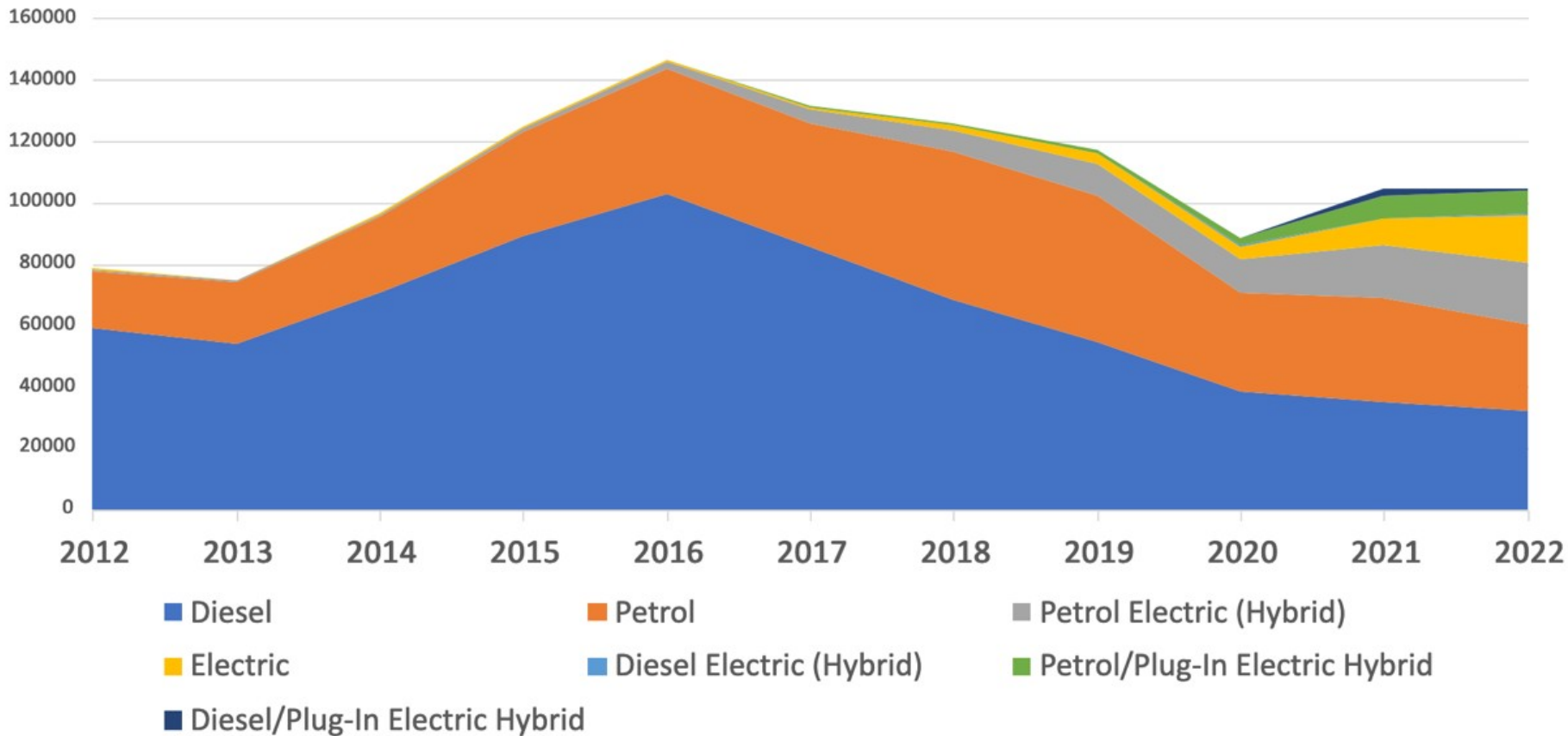


21%

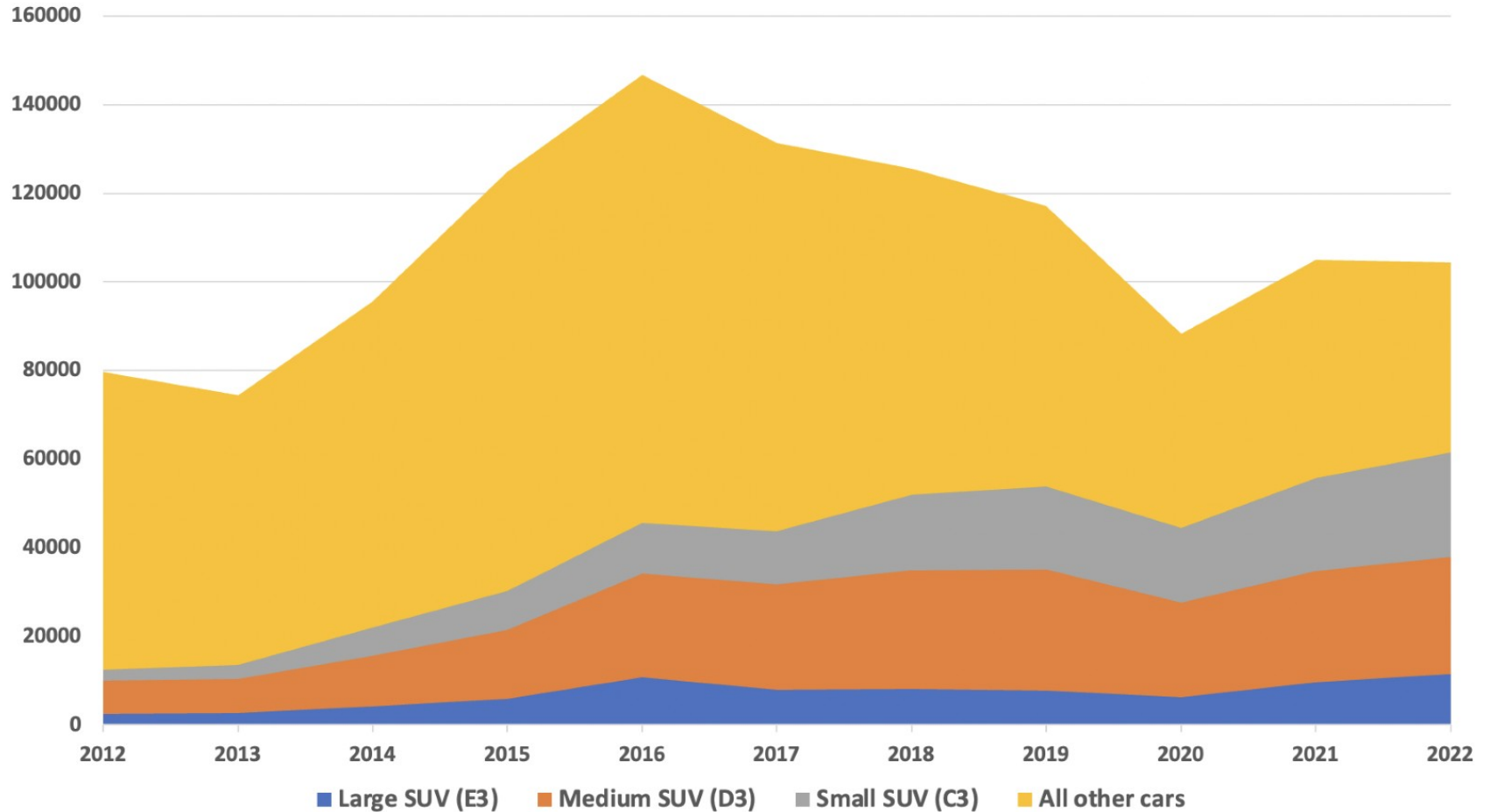


58%

Sales by fuel type 2012-2022



New car sales 2012 - 2022: SUV's vs all other sales





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Energy

journal homepage: www.elsevier.com/locate/energy



Measuring the equity impacts of government subsidies for electric vehicles

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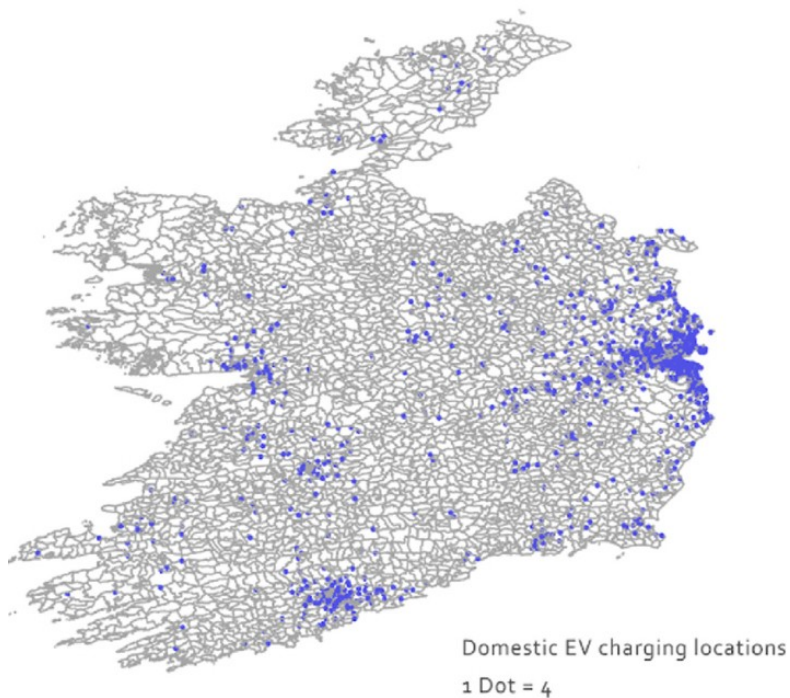
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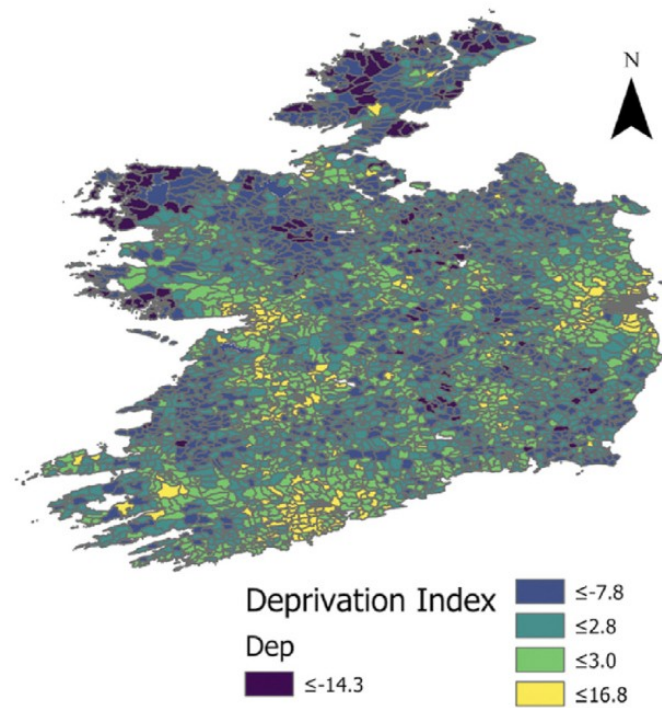
^d School of Mechanical and Aerospace Engineering, Queens University Belfast, Belfast, United Kingdom

Caulfield, B., Furszyfer, D., Stefaniec, A., Foley, A. Measuring the equity impacts of government subsidies for electric vehicles. Energy, 2022, 248, 123588





a: Household EV charging locations



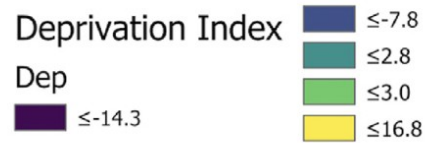
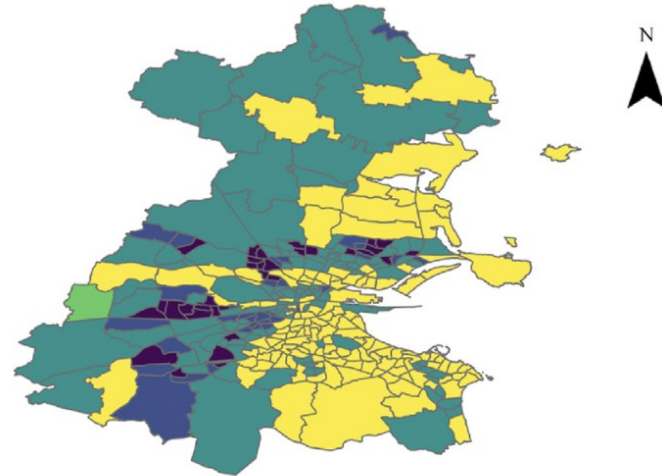
b: Deprivation index



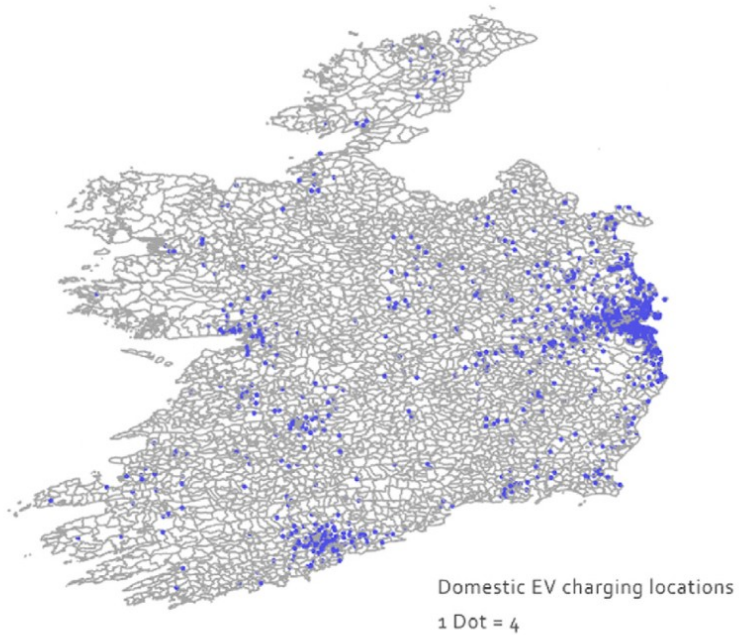
Domestic EV charging locations

1 Dot = 4

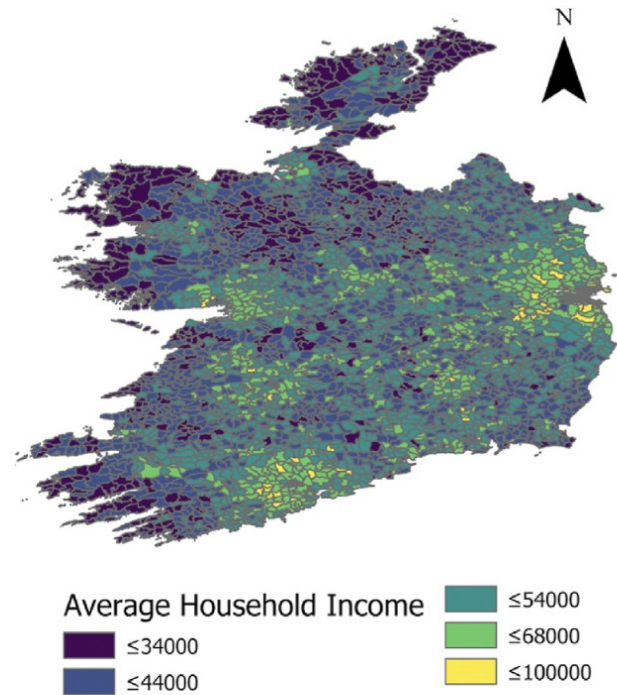
a: Household EV charging locations - Dublin



b: Deprivation index - Dublin



a: Household EV charging locations



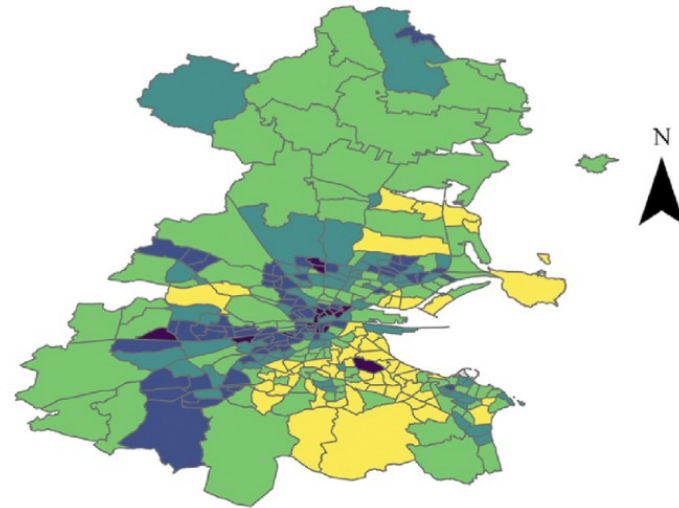
b: Average Household Income



Domestic EV charging locations

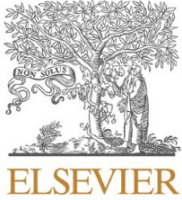
1 Dot = 4

a: Household EV charging locations - Dublin



Average Household Income	≤54000
≤34000	≤68000
≤44000	≤100000

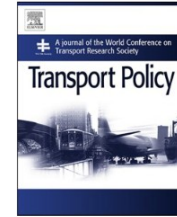
b: Average Household Income - Dublin



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Transport Policy

journal homepage: <http://www.elsevier.com/locate/tranpol>



Identifying hotspots of transport disadvantage and car dependency in rural Ireland



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Carroll, P., Benevenuto, R., Caulfield, B. Identifying Hotspots of Transport Disadvantage and Car Dependency in Rural Ireland, *Transport Policy*, 2021, Vol 101 pp46-56



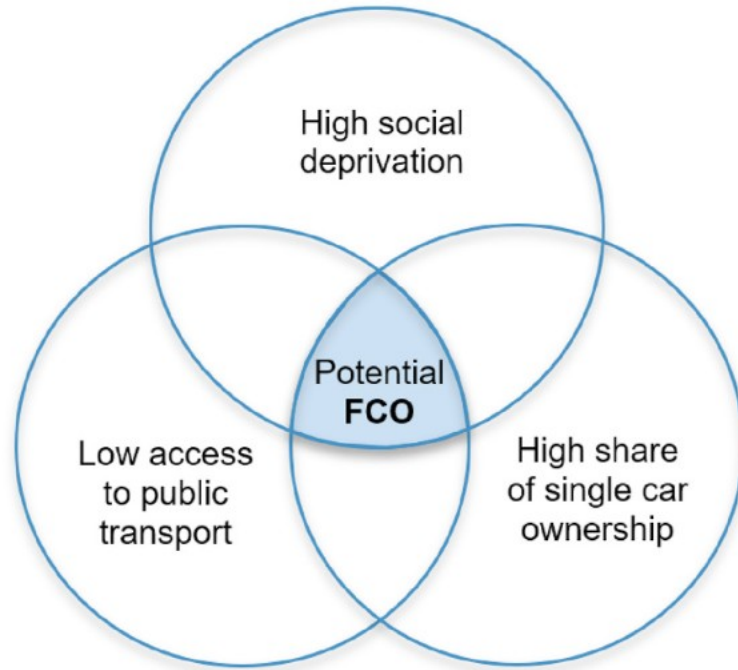


Fig. 5. Forced car ownership hypothesis.

Transport nodes

PT density in Raster

PT density by ED

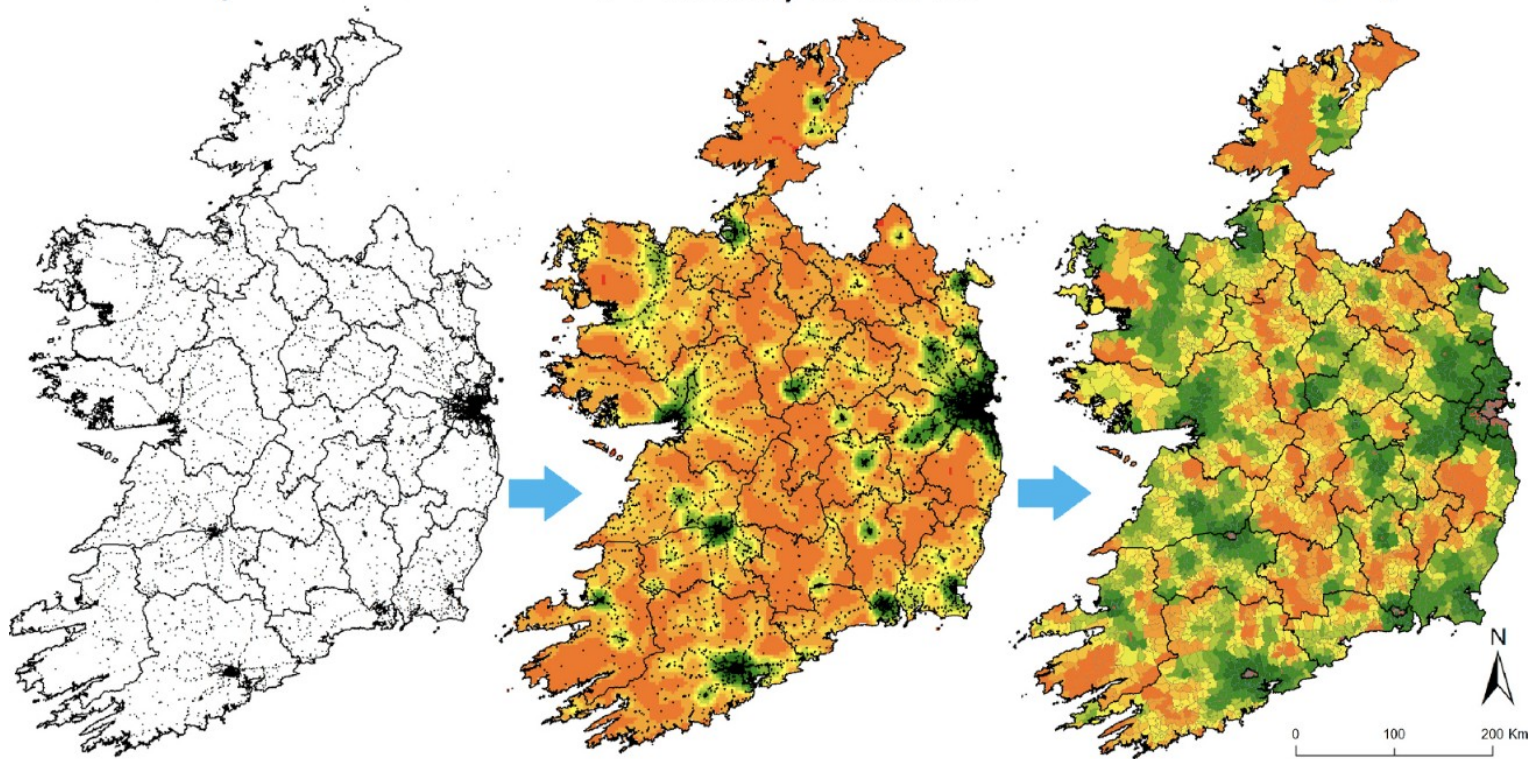


Fig. 4. Access to Public Transport calculation.

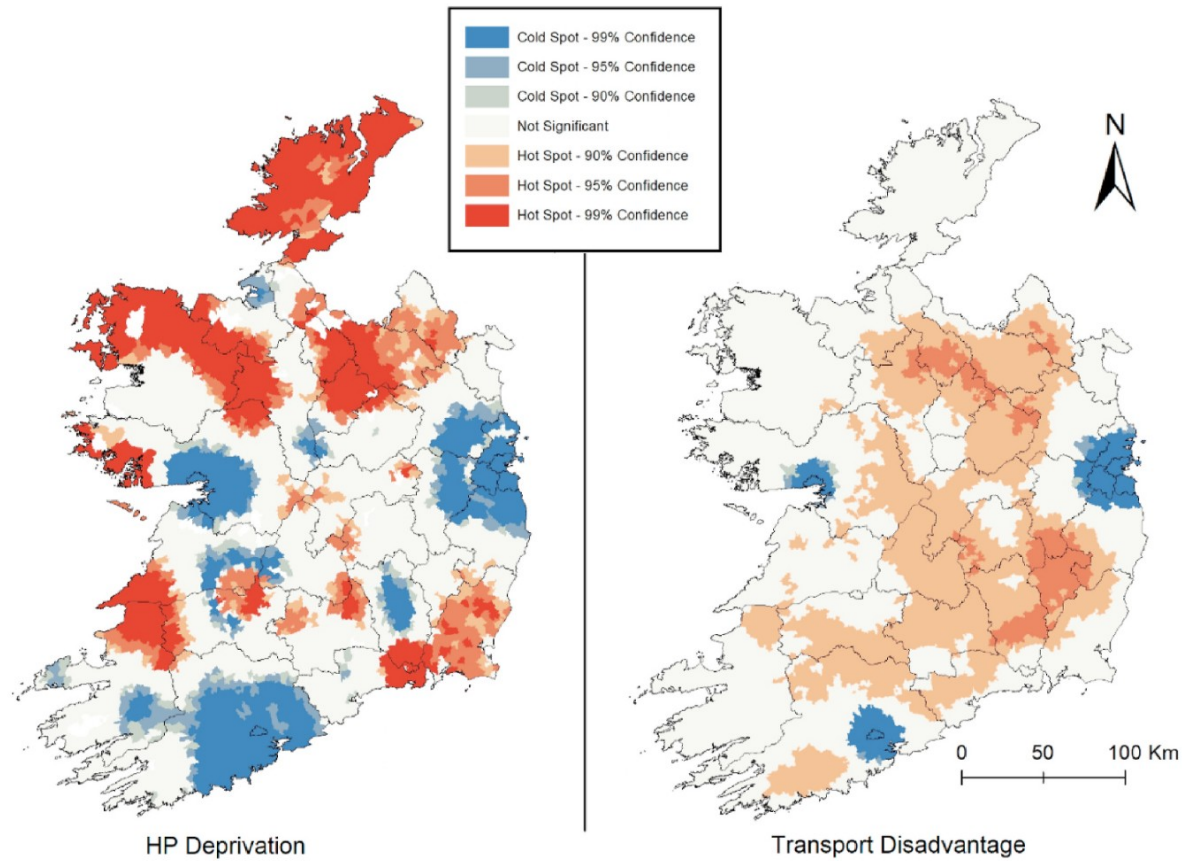


Fig. 6. Hotspot analysis of social (left) and transport (right) disadvantage.

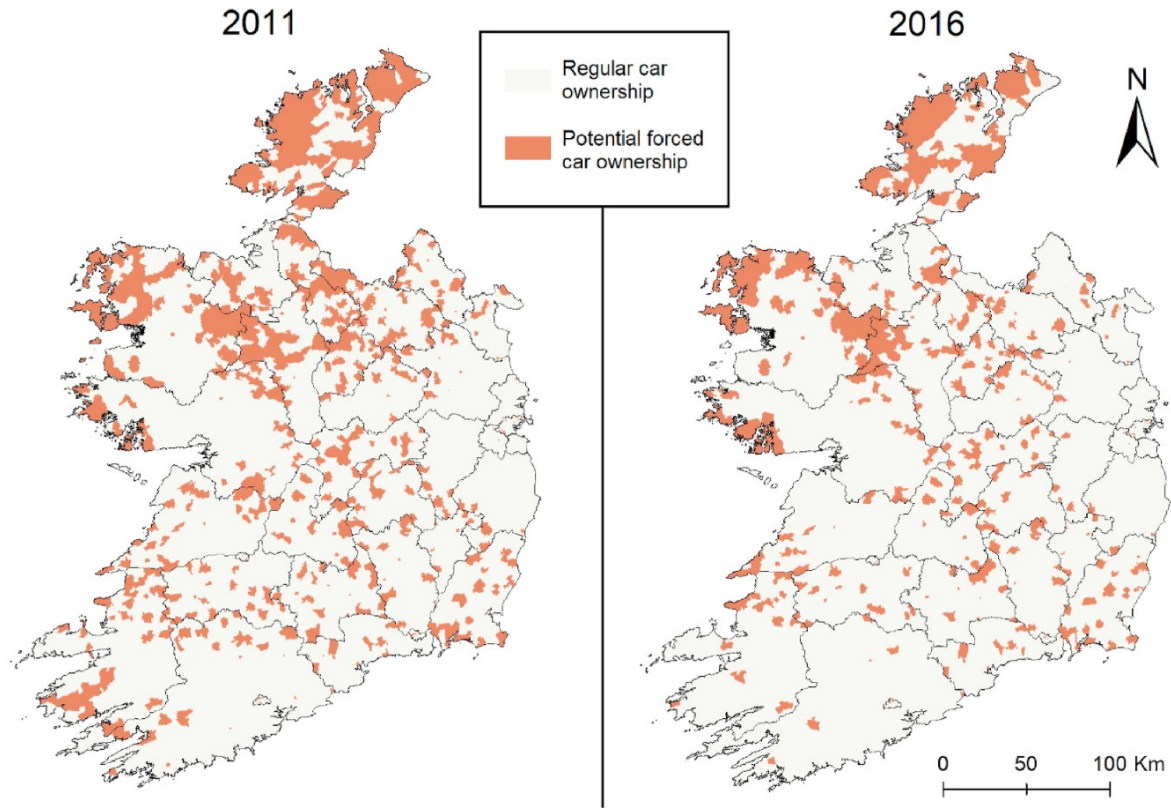


Fig. 7. Variations of potential FCO at Electoral District level in Ireland between 2011 and 2016.

How affordable are EV's?

		<i>Current price</i>	<i>20% price reduction</i>
<i>Loan repayment period</i>	<i>3-year loan</i>	Scenario S3 Households purchase a small EV at the current price with a loan repayment period of 3 years	Scenario S3r Households purchase a small EV at the price reduced by 20% with a loan repayment period of 3 years
	<i>5-year loan</i>	Scenario S5 Households purchase a small EV at the current price with a loan repayment period of 5 years	Scenario S5r Households purchase a small EV at the price reduced by 20% with a loan repayment period of 5 years
	<i>3-year loan</i>	Scenario M3 Households purchase a medium EV at the current price with a loan repayment period of 3 years	Scenario M3r Households purchase a medium EV at the price reduced by 20% with a loan repayment period of 3 years
	<i>5-year loan</i>	Scenario M5 Households purchase a medium EV at the current price with a loan repayment period of 5 years	Scenario M5r Households purchase a medium EV at the price reduced by 20% with a loan repayment period of 5 years

*Number of households below
affordability threshold*

*Number of households as
a percentage of all Irish households*

Scenario S3	1,280,358	75.42%
Scenario S3r	1,128,003	66.44%
Scenario S5	1,035,964	61.02%
Scenario S5r	921,513	54.28%
Scenario M3	1,503,720	88.58%
Scenario M3r	1,399,361	82.43%
Scenario M5	1,284,480	75.66%
Scenario M5r	1,153,509	67.95%

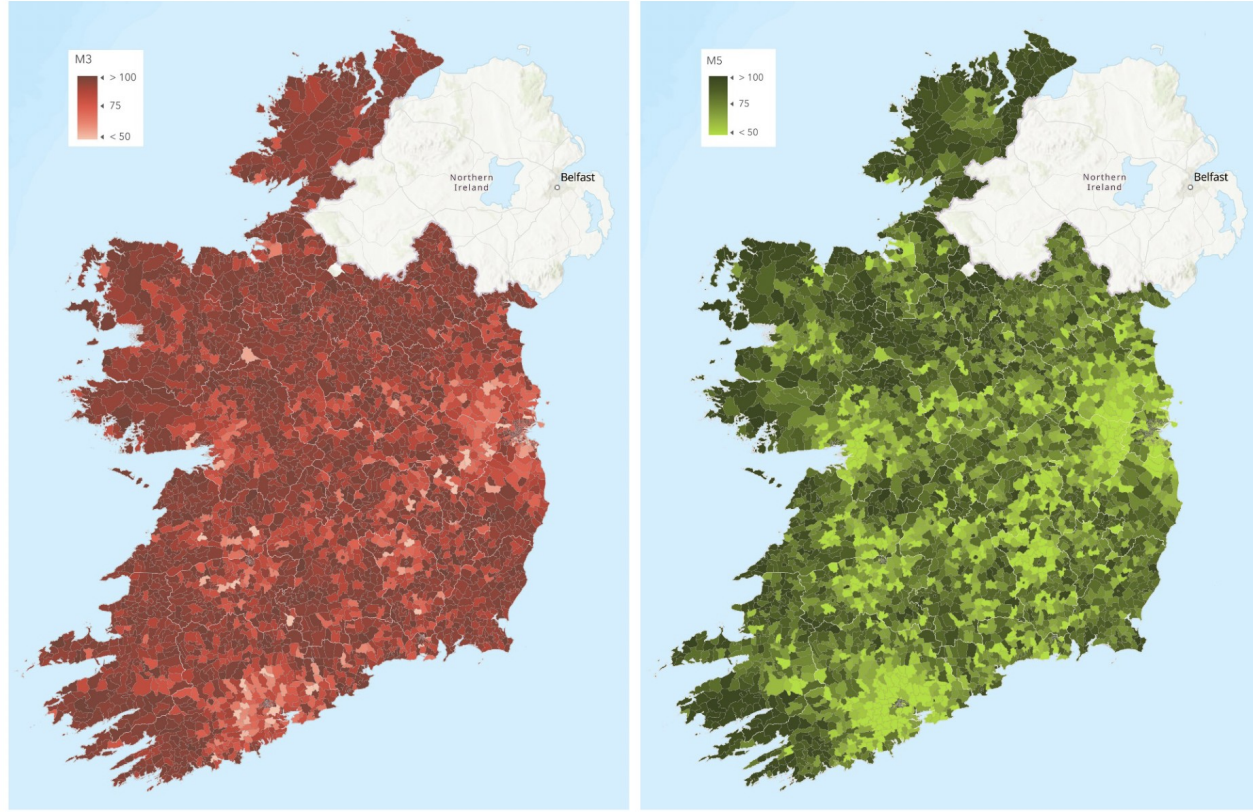


Figure 3. Percentage of the households below the affordability threshold by ED for scenarios S3, S5, M3, and M5.

Green shoots.....



To conclude

The current government policy aimed at delivering the majority of emissions reductions from transport is inequitable

The research shows that it may take several decades for electric vehicles to reach price parity and for the second-hand electric vehicle market to work for everybody

Other countries are also seeking to incentivise the second-hand electric vehicle market

Countries like Scotland have provided more nuance in their electric vehicle grants, with those in rural areas receiving more targeted grants

To conclude

Initiatives like Connecting Ireland have real potential to close the gap on rural transport poverty in Ireland

Ensuring equal access for all to employment, healthcare and education is vital for a just and equal society

this access also improves well-being, with improved access to green spaces and recreational facilities



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Thank you

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