The Propensity to Cycle Tool

A nationally scalable strategic cycle network planning tool

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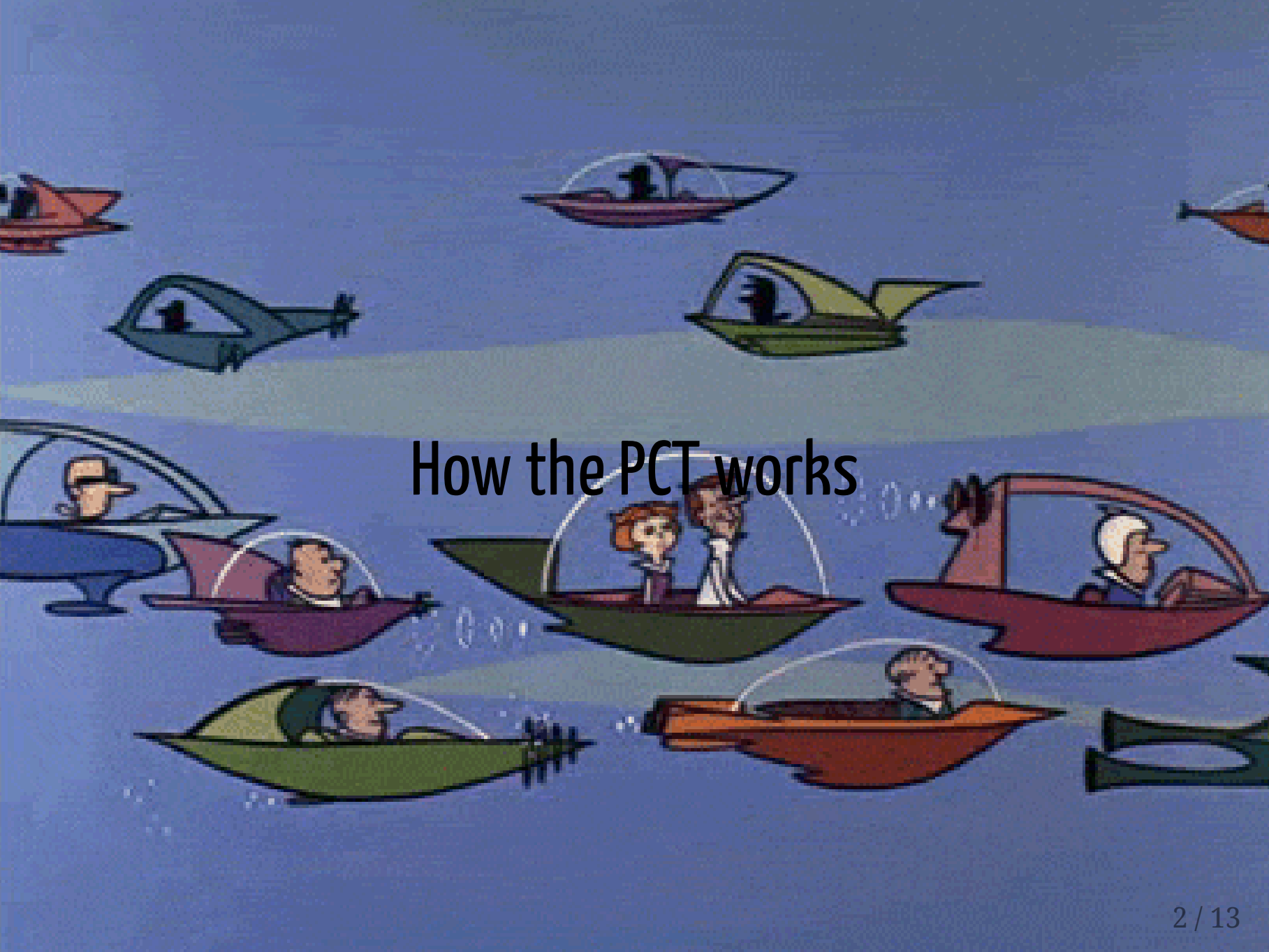
WWW.PCT.BIKE

PROPENSITY TO CYCLE TOOL



How the PCT works

The first prototype of the PCT

- 1st prototype: Hackathon at ODI Leeds in February 2015
- We identifying key routes and mapped them
- For description of aims, see Lovelace et al. (2017)

- Launched in 2017 with the Cycling and Walking Investment Strategy (CWIS)

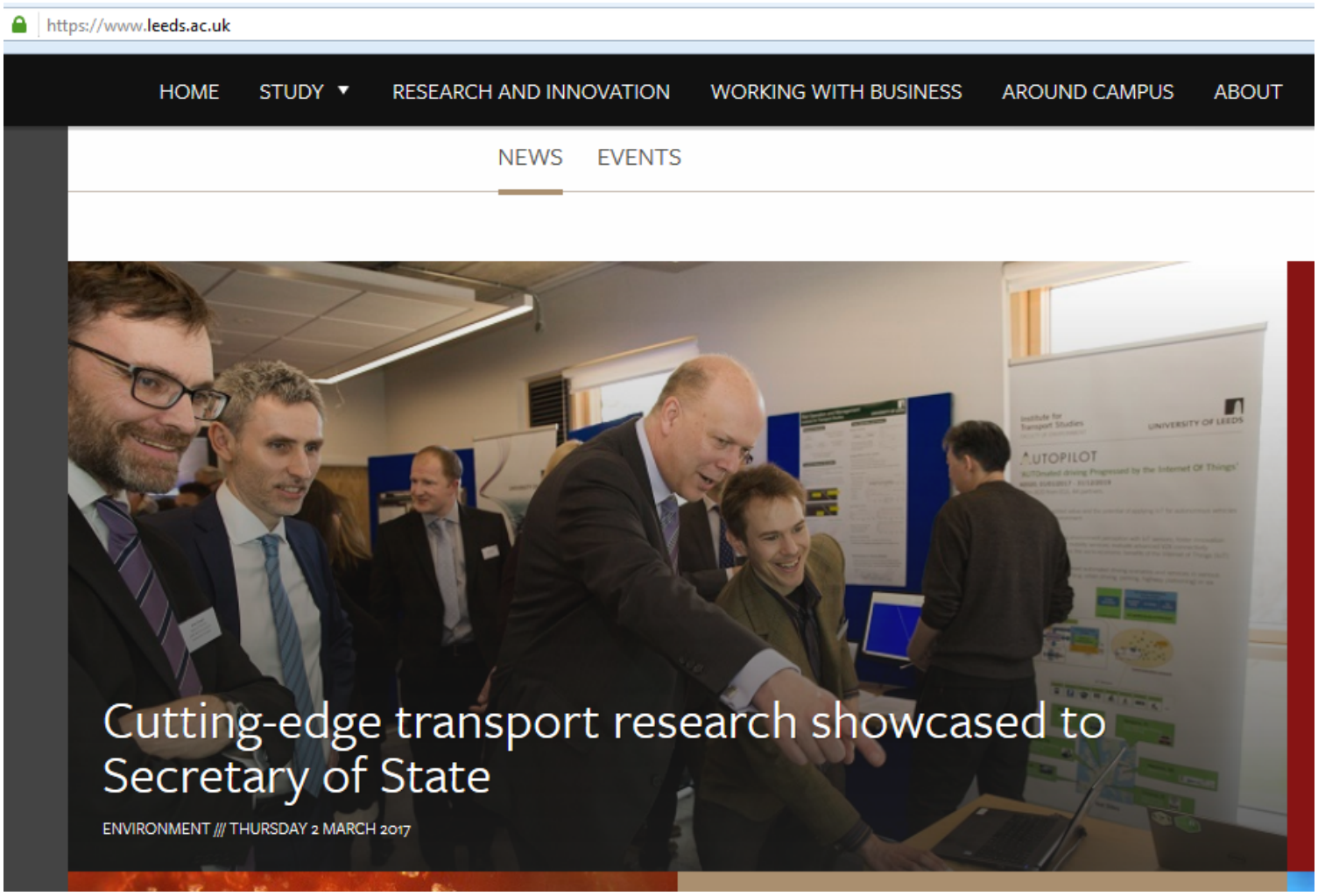


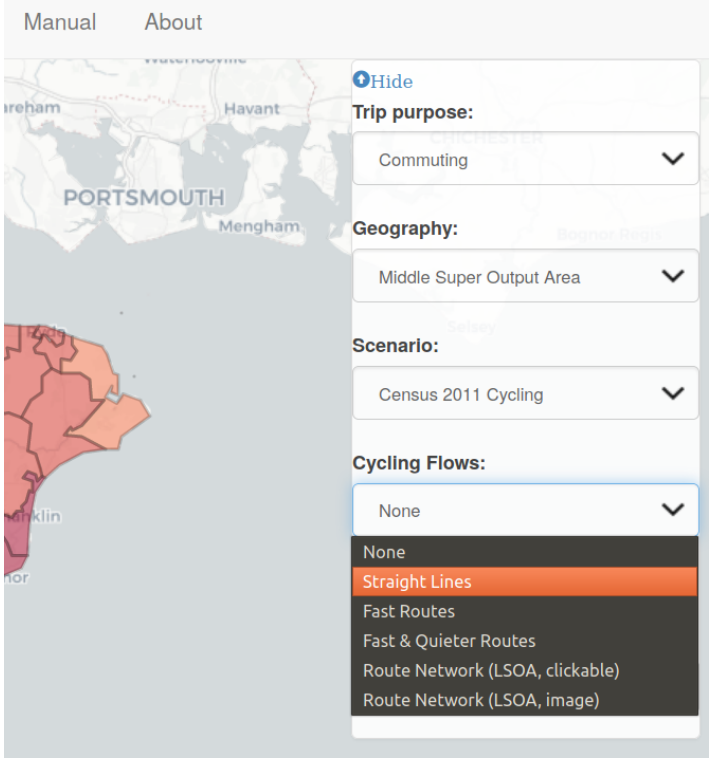
Photo: demo of the PCT to Secretary of State for Transport (March 2017)

The PCT in 2020

- Now the go-to tool for strategic cycle network planning in England and Wales, used by most local authorities with cycling plans (source).

Geographic levels in the PCT

- Generate and analyse route networks for transport planning with reference to:
  - Zones
  - Origin-destination (OD) data
  - Geographic desire lines
  - Route allocation using different routing services
  - Route network generation and analysis

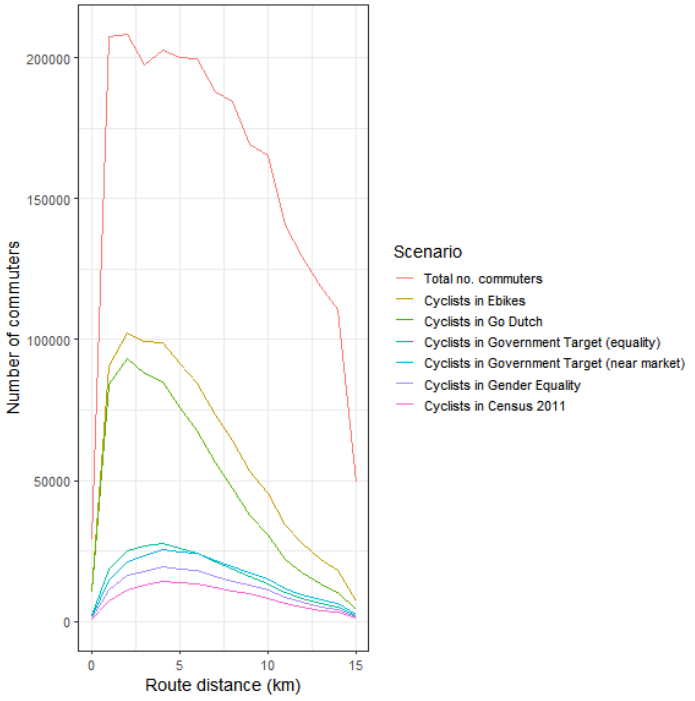


See these levels at www.pct.bike

Route networks

```
rnet = stplanr::overline(r, "bicycle")
plot(rnet, lwd = rnet$bicycle / 10)
```

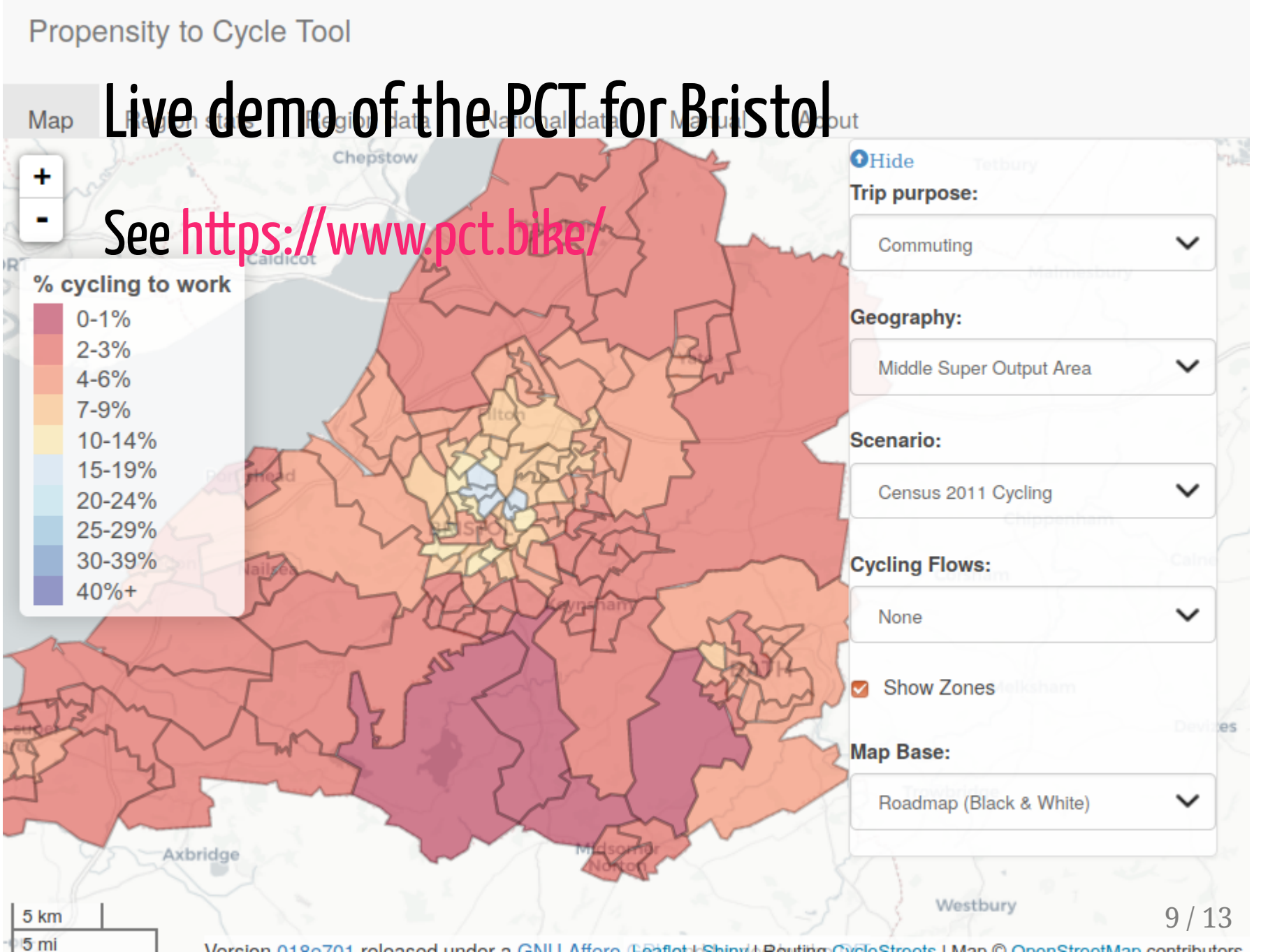
Cycling uptake



Cycling potential in London under scenarios of change

- Ebike scenario is most ambitious
- Government target can be set to local priorities

Dose/response modelling: about cycling in response to distance, hilliness and other factors. Source: pct R package website


Propensity to Cycle Tool
Map
Regional data
National data
Manual
About
Live demo of the PCT for Bristol
See https://www.pct.bike/
Chepstow
Caldicot
Tetbury
Malmesbury
Chippenham
Devizes
Westbury
Axbridge
+
-
% cycling to work
0-1%
2-3%
4-6%
7-9%
10-14%
15-19%
20-24%
25-29%
30-39%
40%+
Hide
Trip purpose:
Commuting
Geography:
Middle Super Output Area
Scenario:
Census 2011 Cycling
Cycling Flows:
None
Show Zones
Map Base:
Roadmap (Black & White)
5 km
5 mi
Version 018e701 released under a GNU Affero
Leaflet | Shiny | Routing CycleStreets | Map © OpenStreetMap contributors

Uses of the PCT

- Visioning
- Planning strategic cycle networks
- Identifying corridors with high latent demand

Uses that were not initially planned

- Pop-up cycleway planning
- LTN planning?

Deploying in new contexts

- Requires survey based or synthetic OD data, to be processed by software developed at Leeds (Lovelace and Ellison, 2018)
- For mor on methods, see the transport chapter (available free online) (Lovelace, Nowosad, and Muenchow, 2019)
- Can also be used for specific contexts (e.g. cycling to school, cycling to public transport) (Goodman, Rojas, Woodcock, et al., 2019)

For further info, see the training materials at itsleeds.github.io

References

[1] A. Goodman, I. F. Rojas, J. Woodcock, et al. "Scenarios of cycling to school in England, and associated health and carbon impacts: Application of the 'Propensity to Cycle Tool'". In: *Journal of Transport & Health* 12 (Mar. 2019), pp. 263-278. ISSN: 2214-1405. DOI: 10.1016/j.jth.2019.01.008. URL: http://www.sciencedirect.com/science/article/pii/S2214140518301257 (visited on 03/04/2019).

[2] R. Lovelace and R. Ellison. "stplanr: A Package for Transport Planning". In: *The R Journal* 10.2 (2018), pp. 7-23. DOI: 10.32614/RJ-2018-053. URL: https://doi.org/10.32614/RJ-2018-053 (visited on 11/24/2016).

[3] R. Lovelace, J. Nowosad, and J. Muenchow. *Geocomputation with R*. CRC Press, 2019. ISBN: 1-138-30451-4. (visited on 10/05/2017).