Data issues around a methodology for identifying where potential mobility hubs should be located

Lessons for Transport East from a project funded by the Foundation for Integrated Transport

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Foundation for Integrated Transport

Southend-on-Sea City Council

Foundation for Integrated Transport

- Established by the late Dr Simon Norton in 2014 to promote UK-focused sustainable and transformational transport solutions.

- Simon's vision was a world where…
  - Humans have a right to get around without a car
  - People can travel with minimum impact on other people's lives and the environment
  - Trains and buses are integrated and safe and attractive routes are provided for walking and cycling
  - Barriers to transport justice are removed, by means which include volunteering and social enterprise

- Foundation for Integrated Transport (FIT) is a registered charity (No. 115 63 63) and offers funding to organisations and individuals who can see a fairer and more sustainable future for the ways we travel.

- www.integratedtransport.co.uk

Mobility Hubs – Facilitating a 'Sustainable Travel' Lifestyle

- A diverse concept but it is fundamentally Geographic (relates to concepts of proximity, access, location, networks)
- Applies to Urban, Suburban and Rural situations (but emphasis is different in each; e.g. in Urban relates to 15-minute city concept)

Supporting concepts

MaaS – The digital mirror of Mobility Hub networks

Needed to make viable

Strong sense of place

Economic activity

The 15-minute city

- **Proposition from the work of Peter Warman and John Austin from 2004 to 2015:**
- Geography and Networks changing only slowly over time – stickiness
- Key corridors remain important

What non-transport Hub facilities may they also provide?

- Community Hubs / facilities alongside

- Work Hubs alongside

- Parcel Collection Points alongside

Research project to devise a methodology to identify potential Mobility Hub locations

- University of Plymouth
- (inc. data licences from Edina Digimap)

- ESRI GIS software
- (licenced under University of Plymouth's participation in the Esri Chest Agreement 2020 – 2023)

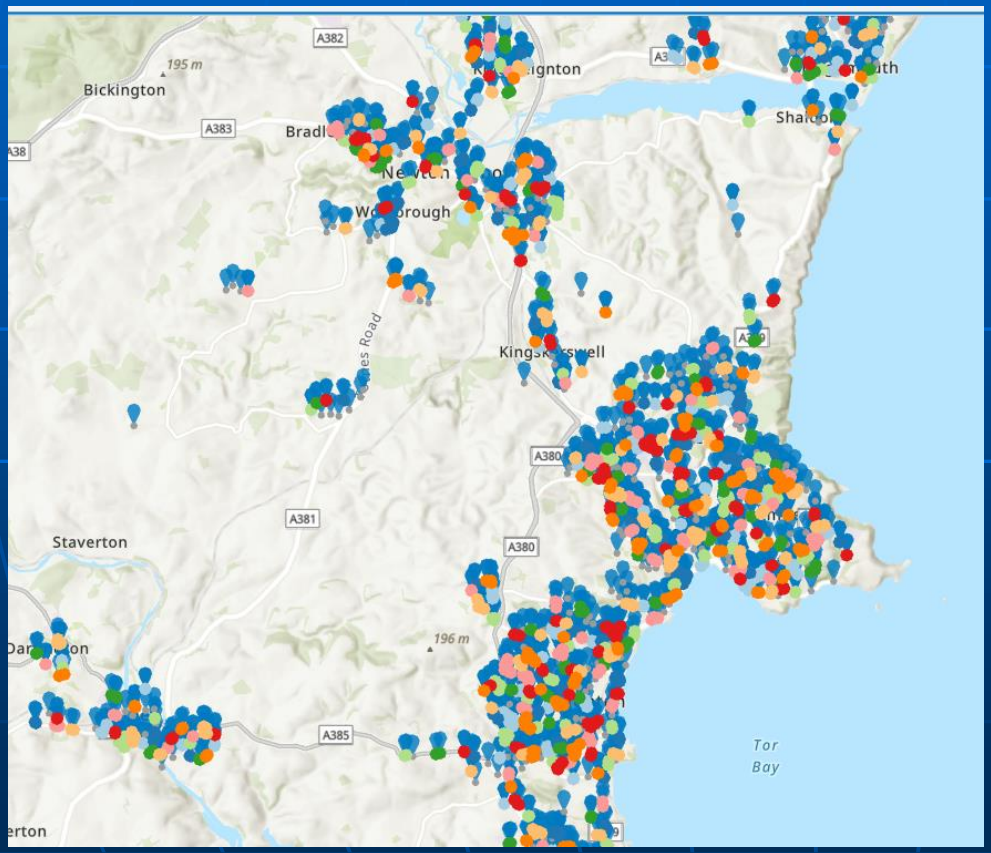
- Basemap TRACC software

- Based on data in the South-West Region of England

- Scalable and with national applicability, but with challenges

Based on Mobility Hubs as being focused on Public Transport core networks

- So NaPTANs and clusters of NaPTANs are key identifiers



Clusters of NaPTANS, and unclustered individual NaPTANs, within Built-Up Areas, in the Torbay area

Clustered using ArcGIS Pro's DBSCAN Algorithm with Defined Distance of 75 metres

Basic Methodology
Identifying potential Mobility Hub locations

- The Critical Factors
  - NaPTANs
  - Within the boundary of a concentration of buildings – BUT……

- Bus Stops
- Railway Stations
- Ferry Terminals

- 'Built-up Areas' (England – other concepts in Scotland, NI)
- But needs additions for these outside
  - Railway Stations
  - Park & Ride sites
  - Superstores
  - Large school sites
  - Business Parks

The Process

Form Clusters of NaPTANs, and also identify NaPTANs not clustered. Produce a total of 'Potential Mobility Hub' locations (PMHLs) (centre of clusters + isolated NaPTANs inside BUAs). Analyse and score the PMHLs by Key Features

Key Features in selecting Locations from the 'Complete set' of PMHLs

- Public Transport service level
  - Various ways of defining – Frequency, no. of departures within a timeband, no. of large communities directly served from the PMHL
- Resident Population
- Economic Activity (some types of Key Features have particular potential for 'Community Hub', including Co-Working spaces and Parcel Delivery Points)
  - Grocery Stores
  - Schools
  - Leisure / Sport Centres
  - Health facilities
  - Office / Business Parks
  - Motorway Service Areas
  - Existing major transport hubs (e.g. Railway Station)

Some key data issues and national strategy questions emerging from developing the process

- Available Data for many Economic Activity features is not consistent / comprehensive: may be misleading
- But Car Park Data (where collected well) appears a good proxy for several Economic Activity features
- However, there is no such reliable database of Car Park locations that is freely available
- Certain aspects of NaPTAN data are unreliable: where should Government focus efforts in getting & keeping it right?
- Potential Interchange nodes (e.g. Car Parking at rail stations and at Motorway Service Areas) have inconsistent pricing and time-length rules that act against interchange

THANK YOU

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