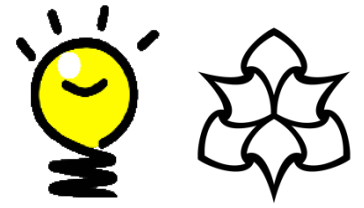


Some MMU Analytic Work

Centre for Policy Modelling

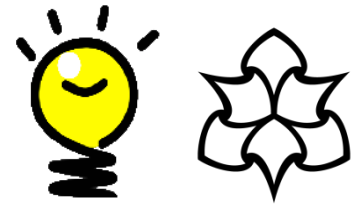
Crime and Well-Being Data Centre

Future Economies Analytics

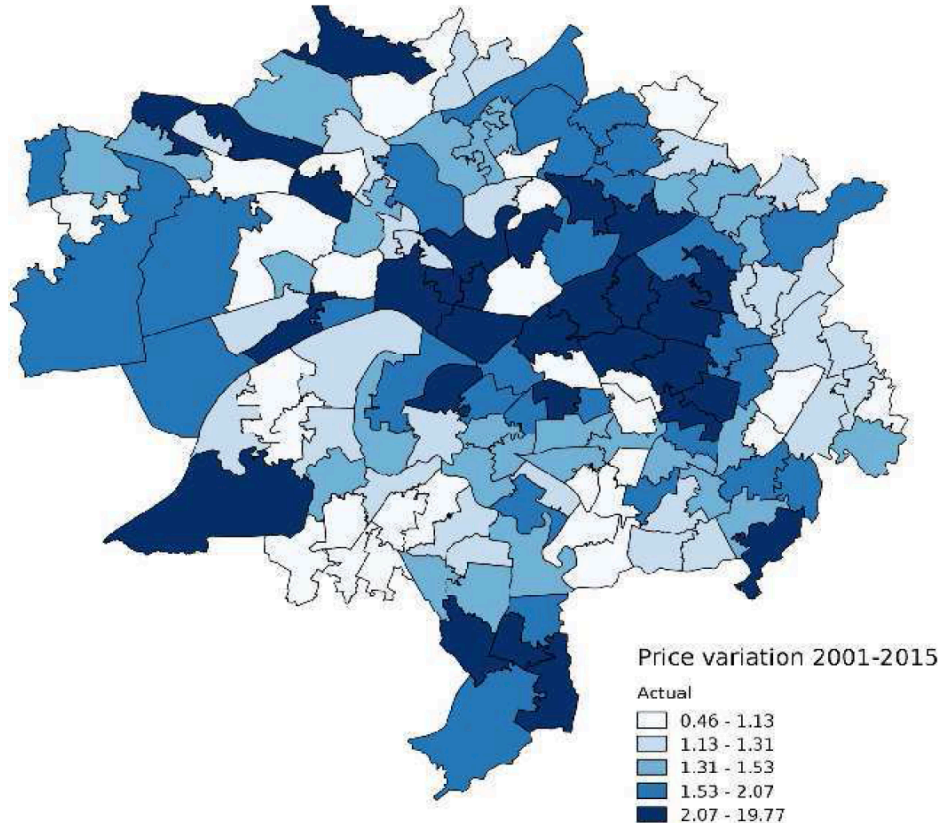


Centre for Policy Modelling

- Founded in 1991
- Uses complexity science, AI-simulation and machine learning techniques to understand issues of policy relevance
- Applies these to a large range of application areas, including: domestic water demand, impact of social networks on disease spread, ecological modelling, digital DIY movement, spread of social influence in new media, housing, immigration, political participation, employment clusters fishing management, and (now) populism!



Simulating the Manchester Rental Market

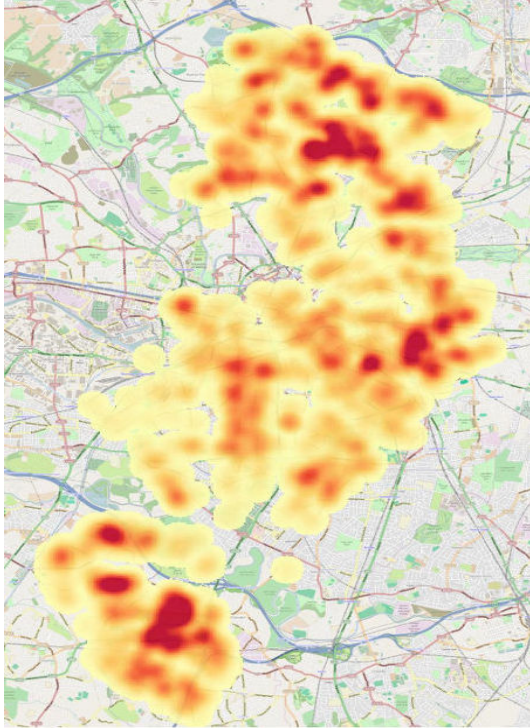
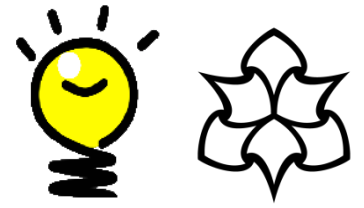


Both renting choice/
movement and landlord
investment represented
to understand price
dynamics in wider
Manchester area

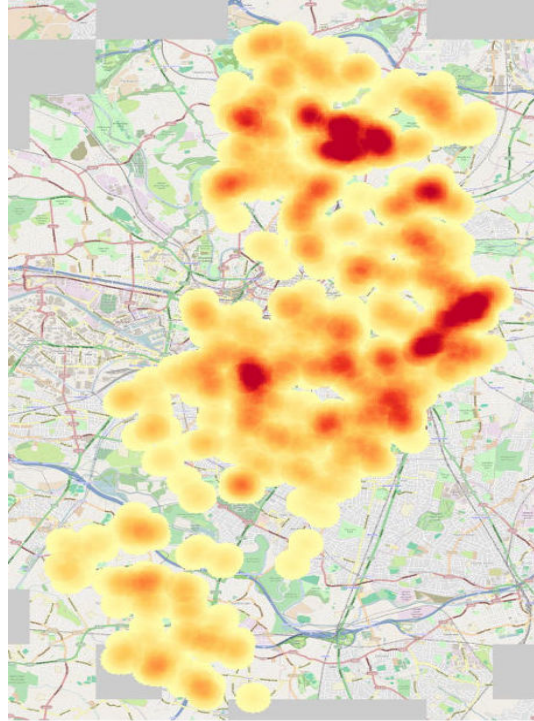
Renters
choosing
where to rent

Landlords
choosing where
to invest

Work with MCC



Location of
interventions

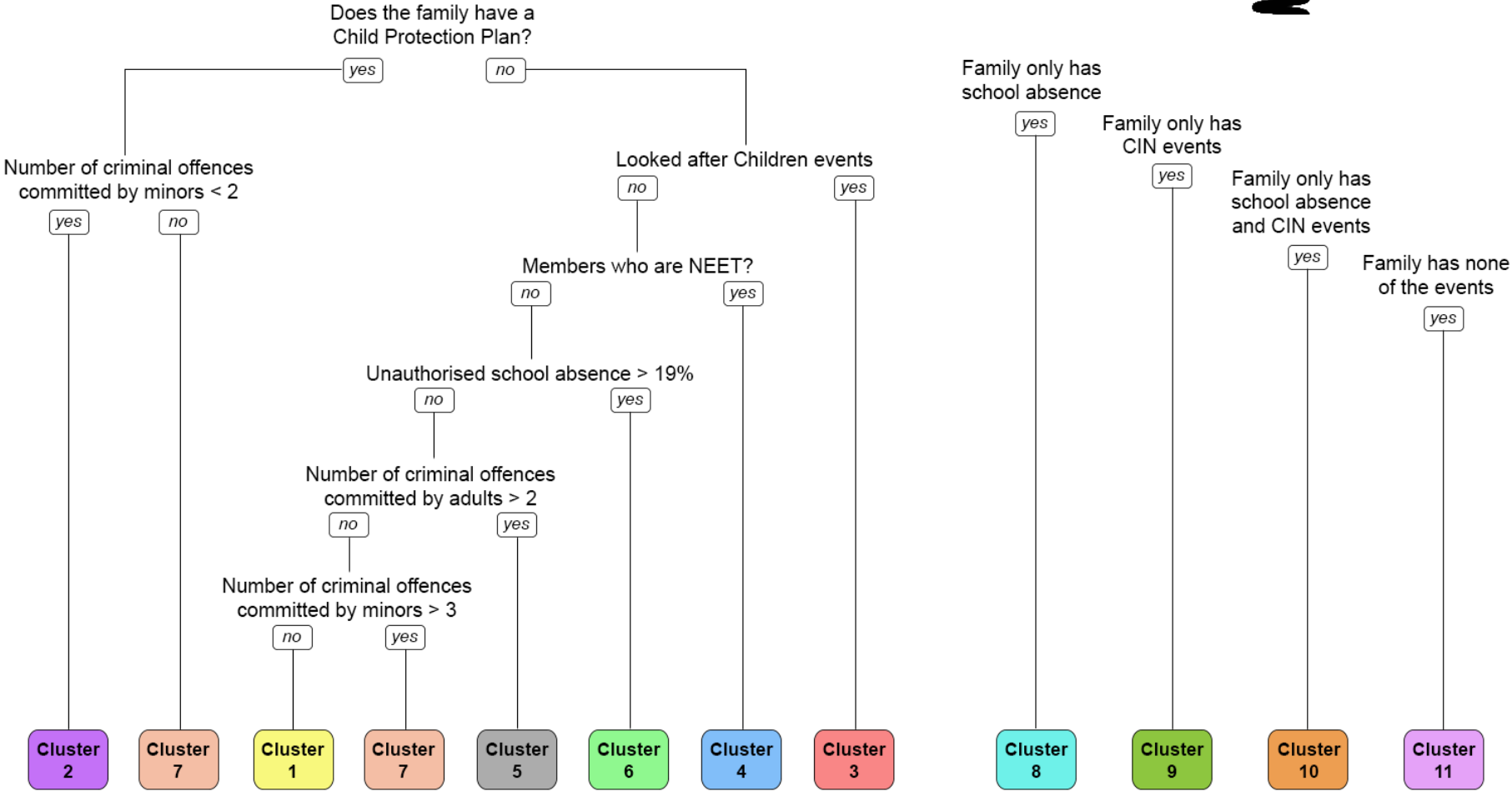
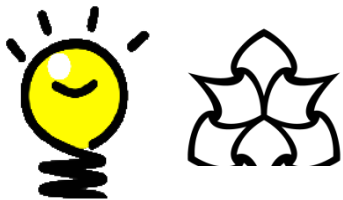


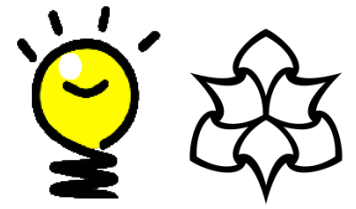
Location of ASBOs

**Living environment
and anti-social
behaviour**

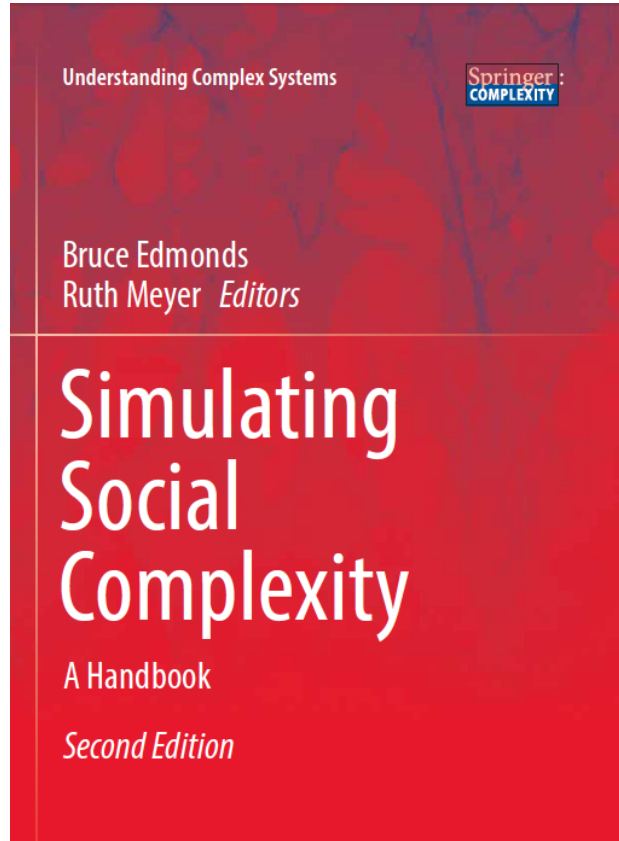
Clustering of
interventions (TF) and
ASBOs consistent
with exceptions

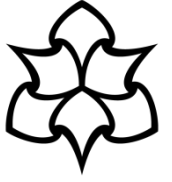
Work identified 13
meaningful clusters of
different kinds of
family with own
patterns of need





Major Centre for Policy Modelling Outputs

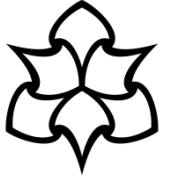




Crime & Well-being Big Data Centre

Big Data brings together crime, health and multiple data to help us gain a better understanding of the drivers of social problems and to identify the potential of integrated solutions.

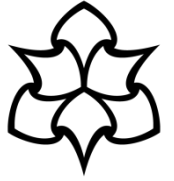
- Recently completed work (on behalf of GMP) – 4 projects:
Domestic Abuse, Missing Persons, Mental-ill Health, Knife Crime.



Crime and Well-Being Big Data Centre

Current Work

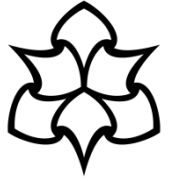
- The BDC has been appointed as the operational analytics partner of the GMCA Violence Reduction Unit.
- The BDC is part of 'Understanding Inequalities' – a range of comparative studies (Glasgow, Manchester, Birmingham) to examine inequalities in the exposure to crime and how these are shaped by place and person-based characteristics.



Future Economies Analytics

Providing big data analytics and data science for economic policy, planning and business development

- New unit within **Future Economies** led by *Christian Spence* that focuses on analysis, modelling, forecasting at small-geographies
- Aggregating data for new data warehouse, combining all ONS & NOMIS data, supplemented by Companies House and a number of private commercial data sources
- Curating official data to LSOAs to provide multi-level estimates of key economic, demographic, business, transport, environmental and health data



Future Economies Analytics Current Work

- First results to be published early-2020
- Will focus on transport, mobility, workforce and population
- Will expand over Q1-Q2 2020 to form an open-source predictive economic model for Greater Manchester
- Will include live, customisable dashboards for easy analysis
- Current plans include making the cleaned and modelled whole dataset available for access via API



Thanks!

Centre for Policy Modelling: <http://cfpm.org>

Crime and Well-Being Data Centre:

<http://mmu.ac.uk/crime-and-policing/big-data-centre>

Future Economies Analytics:

<http://mmu.ac.uk/future-economies/our-expertise/future-economies-analytics>

Copy of these slides at: <http://cfpm.org/slides>