

MAYOR OF LONDON Nesta...

London Office of Data Analytics Challenge Workshop Report



July 2016

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1. INTRODUCTION

The GLA and Nesta are working together to run a pilot to demonstrate that performing data analytics on datasets sourced from multiple local authorities and public sector bodies can help reform public services in the capital. If successful, the pilot will pave the way to create a permanent London Office of Data Analytics.

This report provides a summary of a workshop held on 21 June in London, in which 15 of the 32 London boroughs met with representatives from the GLA and Nesta to determine a public service challenge area that could be tackled with data for the pilot. The report sets out the vision for a London Office of Data Analytics, the purpose of the pilot, outputs from the workshop, and the next steps that Nesta and the GLA will take to make the pilot a reality.

IMPORTANT NOTES:

The GLA and Nesta are well aware of the considerable sensitivity surrounding the use of public sector data. Before work proceeds on running a pilot, the use of any suggested datasets will first be checked to ensure that all appropriate consents have been given, and that the data can be handled ethically, securely and in compliance with all relevant legislation. A key criterion used to assess each potential challenge area was that they can be tackled almost entirely using non-personal data.

All workshop participants recognised that many public services are heavily relied upon by the most vulnerable in society. The summaries of the discussions below should not be taken as the considered view of the GLA, Nesta, or any of the participants. Rather they are notes based on discussions that deliberately encouraged free, creative and lateral thinking. Time was devoted to considering the direct and indirect consequences of potential data interventions. These will be thoroughly explored before trialing any new approach.

2. WHAT IS THE LONDON OFFICE OF DATA ANALYTICS?

In its mature form, the London Office of Data Analytics (LODA) would be a small team, based in City Hall, that had the resources, technology and expertise to bring together, translate, analyse and provide actionable insights from data sourced from all local authority and public sector organisations across the capital. Those insights would be made available to improve data-driven decision-making by the 32 boroughs and the City of London, London's public sector bodies, the GLA and the Mayor. A subset of LODA's data would be made available to the general public as open data via the London DataStore. In addition to an analytics team, LODA would feature a technical team (to manage the federated approach to data sharing between multiple bodies), and a legal team (to provide hands-on assistance in making data sharing arrangements possible). The model is inspired by the Mayor's Office of Data Analytics (MODA) in New York City, founded under Mayor Michael Bloomberg, but adapted for a UK context.

The rationale for creating LODA was outlined in Nesta's open letter to the Mayor of London: <http://www.nesta.org.uk/blog/mayor-whatever-you-want-do-data-can-help-you-do-it-better>

3. THE NEED FOR A PILOT

Nesta and the GLA are seeking five or more neighbouring boroughs to take part in a 100-day pilot to test the viability of LODA. The pilot will entail identifying one or more major public service challenge areas, seeking datasets that could help provide new insights related to those challenges, and then trialing a new service delivery approach based on those insights.

The key objectives of the pilot are to:

- Prove that if London's boroughs and public sector bodies share and analyse their combined data, services can be improved in ways that would not be possible if each acted alone;
- Determine if the Office of Data Analytics (ODA) ODA model can work for London, and if so under what conditions and with what organisational set up;
- Help refine the LODA methodology so that external funding can be sought to scale and institutionalise the model.

4. AIMS OF THE WORKSHOP

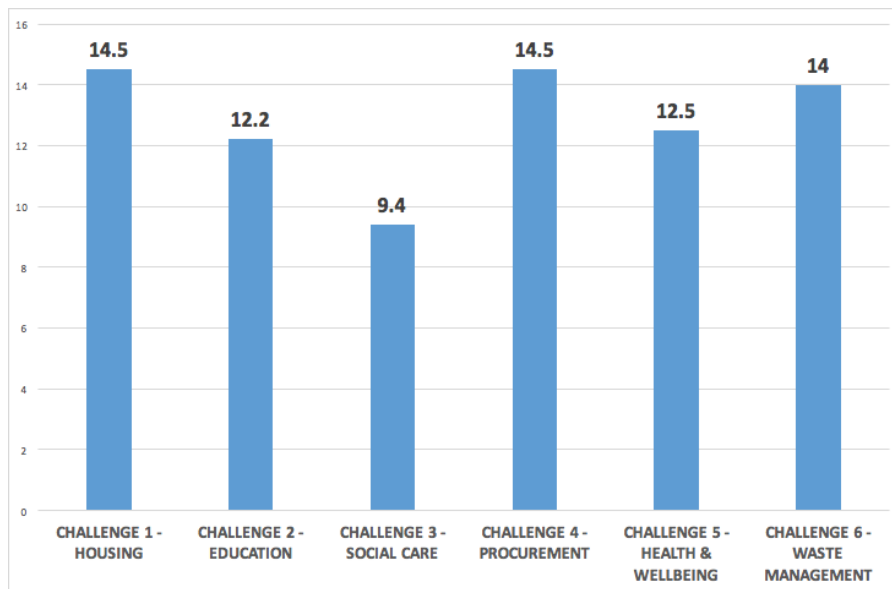
The workshop aimed to bring together London boroughs to help them: 1) understand the principles on which the LODA model might work; 2) think through six suggested challenge areas and flesh out the details of each; 3) identify which ideas have greatest potential for the pilot. The workshop began with a presentation by Mike Flowers, Chief Analytics Officer at Enigma (and the creator of the MODA model) about his experiences in New York City. The advice Mike gave is outlined in the following blog: <http://www.nesta.org.uk/blog/three-lessons-city-data-analytics-mike-flowers>. Paul Hodgson, GIS & Infrastructure Manager, GLA, then set out the key principles for a good data analytics project.

Split into groups, the participants were taken through a series of rapid workshops to explore each of the six challenge areas that had been shortlisted from a crowdsourced list of over 20 potential challenge areas. The boroughs were asked to assess and score each one according to the extent that it would be likely to: 1) save significant money; 2) have good data available; 3) lead to actionable insights that could deliver results in ~2 months; and 4) be tackled mostly with non-personal data.

The six shortlisted challenge areas were:

1. HOUSING: Identify houses not registered as a "House in Multiple Occupation" (HMO) so that correct charges can be made or fines issued.
2. EDUCATION: Optimise routes / provision of Special Educational Needs (SEN) transport to schools.
3. SOCIAL CARE: Join up records from across local authority boundaries to ensure that Troubled Families are identified.
4. PROCUREMENT: Collate demand for specific goods and services across public sector bodies to enable bulk procurement / reveal where the same goods are being bought for the lowest price across the city.
5. HEALTH AND WELLBEING: Improve public health by overlaying datasets concerning patterns of obesity / green space / fast food outlets.
6. WASTE MANAGEMENT: Identify levels of recycling across London to target interventions that increase recycling rates to avoid landfill costs and meet LA targets.

The final scores for each of the six challenge areas as an average of the five tables is shown below.



The graph shows there were three clear preferred challenges. This was mostly due to the availability of non-personal datasets related to each and their potential to have a defined and measurable impact within the two-month timescale of the pilot.

5. NEXT STEPS

Immediate next steps following the workshop are to:

1. Appoint a data science team

Conversations with the GLA and London boroughs have established that it will not be possible to run the pilot solely using in-house public sector data staff. Most are already fully assigned to their current projects and could not be made available for the whole period of the pilot. Additionally, most existing data roles within local government tend to be focused on using data to perform a subset of very specific reporting tasks, and not the much more open-ended analysis of multiple different datasets to explore a new problem. Proposals were sought from several SMEs that have deep data science expertise. The ASI (<http://www.theasi.co/>) has since been selected. In addition to performing the data analysis, The ASI will run a number of training sessions for London Borough Data staff to share their expertise.

2. Confirm the final challenge area

The workshop established that the most viable challenge to proceed with for the pilot was: “Identifying houses not registered as ‘House in Multiple Occupation’ (HMO) so that correct charges can be made or fines issued.” While the procurement challenge received an equal score, there were concerns over its ability to make a definitive impact within the timescales of the pilot. The other challenges (and the long list in Appendix 2) will be held on file as potential future challenge areas for the longer-term proposed LODA programme.

3. Invite participating London boroughs to sign an MOU

Participating London boroughs will be invited to sign a basic Memorandum of Understanding (MoU). This will set out their commitment to the aims and objectives of the pilot, key contacts, their agreement the appointed data science team use their data (with all appropriate security procedures, legal compliance and consents in place), and to support the analysis and publication of the results, with a view to trialing an intervention based on the data science team's insights.

4. Start the pilot

The team is currently working towards officially starting the pilot in late July 2016, and to conclude by the end of the year with demonstrable impact.

6. DISCUSSION OF THE SIX CHALLENGE AREAS

The following six challenge areas were developed in consultation with London boroughs who attended a meeting of the London Borough Data Partnership at Nesta on 12 April 2016. Boroughs were subsequently individually consulted on the public service challenges they face, and where they felt that data analysis could support the development of new insights and solutions. The long list of responses can be found in Appendix 2 at the end of this report.

The long list of responses was reviewed by Nesta and the GLA to select the six that were felt to be the most promising or worthy of further discussion. In the following sections, each challenge statement is set out. These sections then follow with a summary of the workshop discussions and scores from the five tables of participants who were asked to assess each challenge against the four questions set out in Section 4: Aims of the workshop.

AP 1.0 HOUSING

AP 1.1.1 Challenge statement and rationale

Identify houses not registered as “House in Multiple Occupation” (HMO) so that correct charges can be made or fines issued.

A “House in Multiple Occupation” (HMO) is a property rented out by at least three people who are not from one ‘household’ (e.g. a family) but who share facilities such as the bathroom and kitchen. HMO licences place extra responsibilities on landlords to ensure that their properties are safe and suitable for their tenants. The absence of a HMO licence could correlate with poor quality or dangerous private rented accommodation. It also represents a loss of revenue for local authorities. Could data from sources such as the electoral roll, waste management and community safety be used to identify unregistered HMOs and target enforcement activity?

AP 1.1.2 Workshop Summary

Defining the problem and potential for cost savings

According to Local Authority Housing Statistics data returns, there are up to 10,000+ estimated HMOs in some London boroughs. The percentage of actual licensed HMOs varies considerably, but in many boroughs is estimated to be less than 10%. Inspections of unlicensed HMOs frequently reveal conditions with poor standards of accommodation, and sometimes genuine health and fire hazards. These substandard housing environments can lead to associated problems of placing higher demand on GP and NHS services, increased anti-social behaviour and fly tipping. Vulnerable tenants can be financially exploited and may also be less likely to know about and have access to the local services they need. Currently suspected HMOs are investigated by teams of inspectors, but their hit-rate of finding unlicensed properties is low.

Which datasets would be needed to address this challenge?

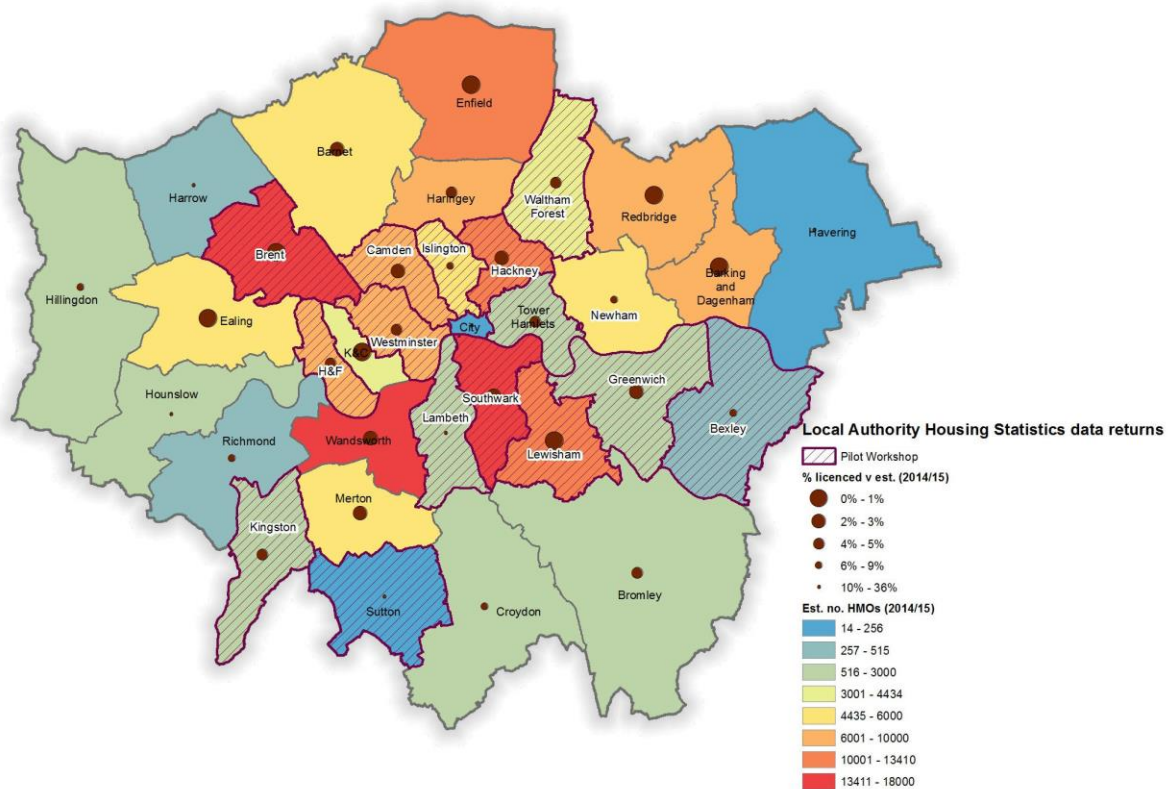
The groups felt that there was a substantial number of datasets that could be relevant to this issue, including:

- Past cases of unlicensed HMOs
- Private sector landlord licences
- Parking locations
- Library memberships
- Building / Addressing data
- Council tax
- Planning data
- Building control data
- Waste collection
- Electoral Roll
- School register
- House sales
- Change of use

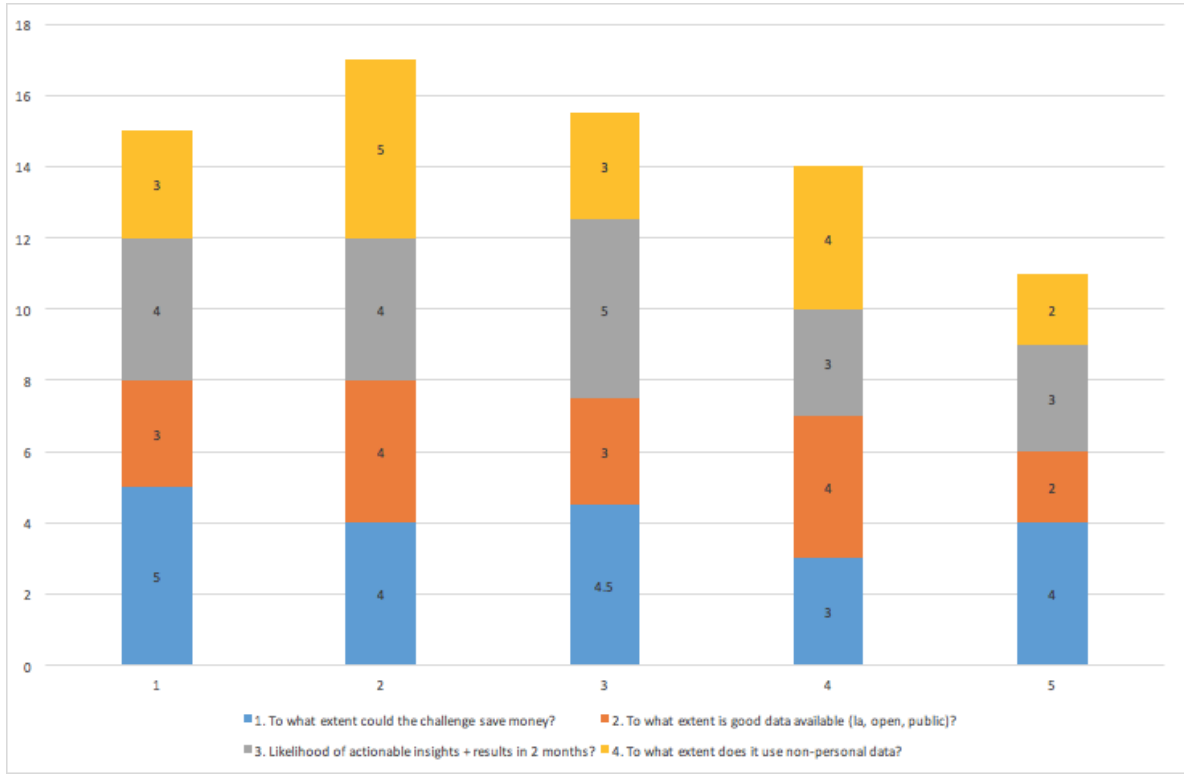
- Gumtree/Room Share
- Utilities data. (Though privately held, there is potential for access. For example, some boroughs have already agreed with the 'big six' utility providers to share usage data.)

Potential for intervention and impact within 2 months

The groups felt confident that using data to predict which properties were most likely to be HMOs would lead to more targeted inspections, enabling more effective enforcement of HMO licences. (This is similar to the highly successful data-driven interventions used in New York City to tackle illegally-subdivided apartments, [described here](#).) Other inventions could involve improving conditions in poorly maintained properties, identifying and fixing Category 1 hazards, and increasing GP and voter registrations. Success measures would include increasing the hit rate of successful inspections with the same amount of resource; and collecting additional income for local authorities through a rise in the number of HMO registrations.



AP 1.1.3 Final scores for the challenge by table



AP 1.2 EDUCATION

AP 1.2.1 Challenge statement and rationale

Optimise routes / provision of Special Educational Needs (SEN) transport to schools.

Local authorities provide free school transport for some children with Special Educational Needs (SEN). Often this is organised for individual children, either by the local authority or by the parent using personal budgets. Could there be scope for savings and better outcomes through cross-borough analysis of the routes taken by SEN children? Parents and local authorities may be unaware of opportunities to optimise the transport required by grouping children together (where this is safe and appropriate, and there is consent from the parents).

AP 1.2.2 Workshop Summary

Defining the problem and potential for cost savings

The cost per head for SEN transport services is high. The groups agreed there was some potential to reduce costs by optimising the planning and sharing of transport to and from schools. However, the scale of the problem - including the cross-borough element - is unknown. It was hypothesised that it is small: e.g. Waltham Forest state that 70 of their 550 SEN transport users go to school in another borough. The groups also noted this area would be difficult to reform as it involves changes to services for children with complex needs. It is also an area where the welfare of children must take precedence over the need to make efficiency savings.

Which datasets would be needed to address this challenge?

Councils have data relating to current SEN transport services, including data on who uses the service, the pickup location and destination, families' personal budgets, and the cost of the transport. Schools are also data-rich environments and have significant amounts of information on each of their pupils. Route data could be available through the smartphones or GPS devices of drivers, but there is some uncertainty as to their incentives for sharing, as their firms would be likely to lose money from fewer journeys made.

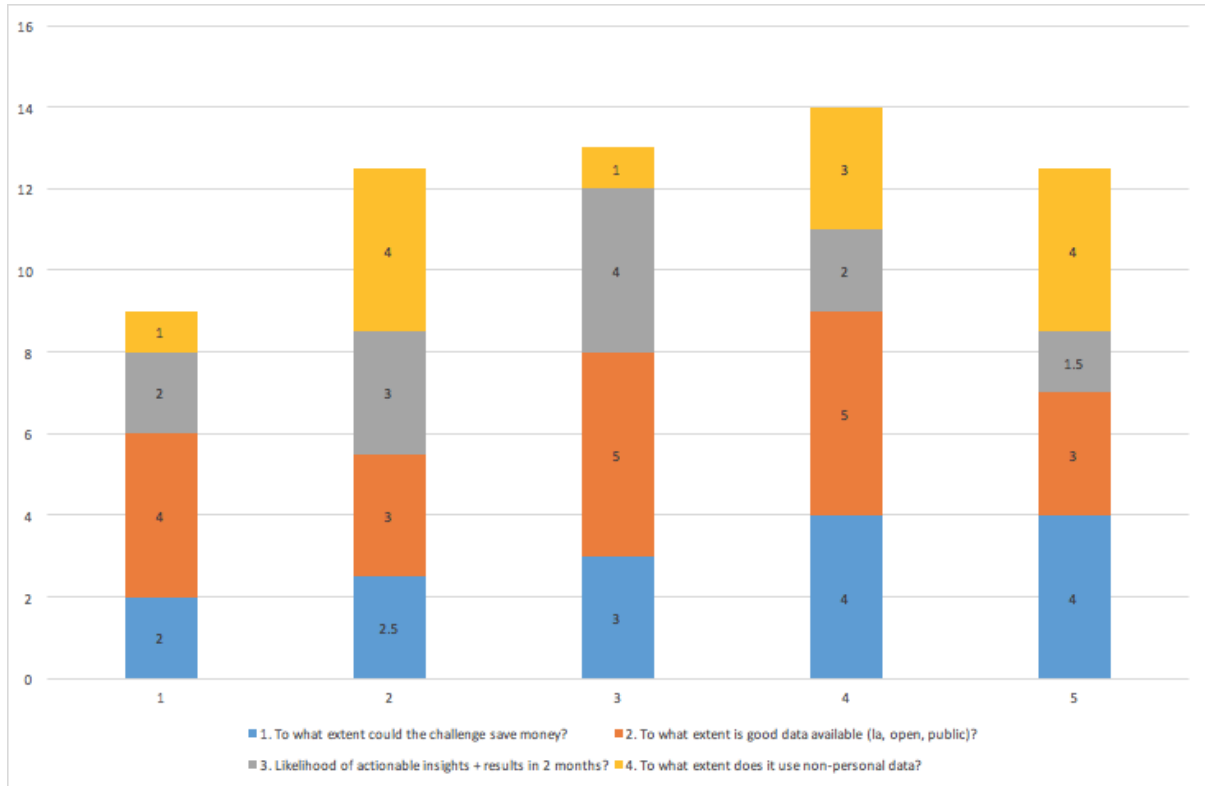
It was noted that much of this data is highly personal and sensitive. While the data could potentially be anonymised and used for analysis, acting on the problem would be likely to require the identification of specific service users.

Potential interventions and impact within 2 months

The most obvious intervention would be a route optimisation exercise that grouped together SEN pupils (where their needs were mutually compatible) so that fewer journeys could be made, larger transport used (e.g. minibuses instead of taxis) and costs lowered. In the first instance, this could be modelled to predict the range of cost savings that could be realised. If this proved successful then new tools could be developed, such as route optimisation software and a transport booking system that could be used by all boroughs.

It was noted that local authorities are likely to be tied into contracts with existing transport providers, so immediate changes might not be possible. While these types of intervention might reduce costs for the local authority, there was thought to be a significant chance that service users would have longer journeys. This negative impact would need to be factored in before a decision to proceed was made.

AP 1.2.3 Final scores for the challenge by table



AP 1.3 SOCIAL CARE

AP 1.3.1 Challenge statement and rationale

Join up records from across local authority boundaries to ensure that Troubled Families are identified.

The Troubled Families initiative seeks to provide support to some of the most vulnerable families in the country. Those in need of help are identified when a number of indicators - such as a criminal record, unemployment and truancy - all combine. Some families fail to be identified when the data that would reveal those indicators are not brought together in one place. For example, if a child goes to school in a neighbouring local authority, the family's council may not receive notice of truancy and therefore miss the fact they need further help. Could finding ways to share data more effectively on criteria related to Troubled Families help more vulnerable households be identified and supported in a timely fashion?

AP 1.3.2 Workshop Summary

Defining the problem and potential for cost savings

Participants agreed that greater data sharing among boroughs could fill information gaps and improve identification of Troubled Families (TFs) across council boundaries. Joining up data could also help councils build a more robust evidence base and secure funding for proven interventions. Furthermore, data analytics could help identify families at the margins and those that remain 'hidden' because they do not access the full range of support available to them.

Through a national payment-by-results scheme, boroughs already have a strong incentive to identify TFs and design effective interventions. As a result, rather than realising cost savings in the short term, by identifying more TFs, councils would have a chance to receive more funding to provide additional care. Potential cost-savings from better or earlier interventions were also considered possible, but only likely to occur in the medium to long term - beyond the scope of this pilot. In addition, while some participants raised concerns about increased workloads from improved identification, others felt that boroughs were already successfully identifying most TFs, and that joint analysis would reveal relatively few additional cases.

Overall, there was broad agreement that while the TF challenge is well suited to a data analytics solution, it is not an ideal candidate for the pilot programme, given its complexity and limited potential for short-term results.

Which datasets would be needed to address this challenge?

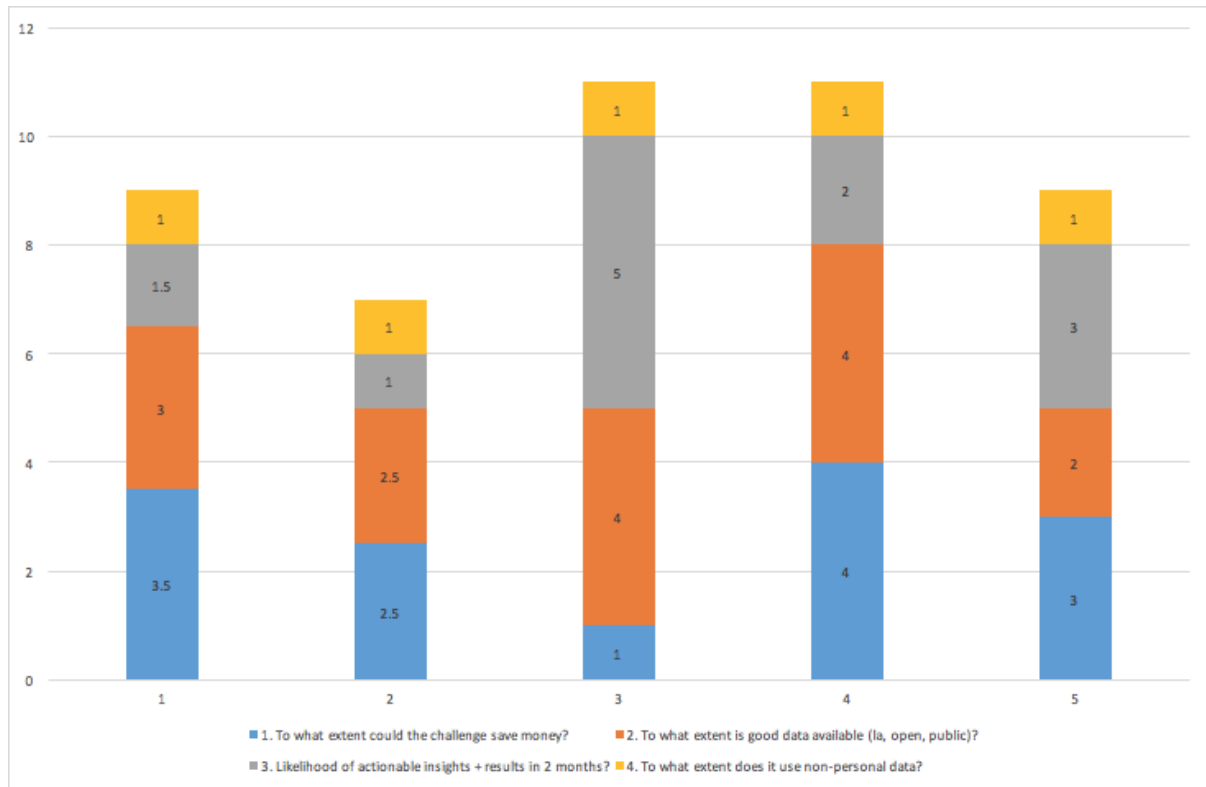
Boroughs identified a rich array of data (most of which they already collect/use) to spot TFs and track impact, including: truancy data, health data, council tax benefits, GP registration, youth offending, police records, attainment levels, complaints (noise, anti-social behaviour), employment support, social care, school meals, council housing repair and maintenance data.

Data inconsistencies (e.g. misspelling of names, multiple residences) already pose challenges for matching individuals across different systems within councils. A lack of standardised data collection across multiple boroughs could further exacerbate these issues and complicate comparison.

Potential interventions and impact within 2 months

In the short term, participants agreed that a pilot could help identify more TFs, more quickly. This could lead to some small actionable interventions, such as claiming money for school meals. However, most participants struggled to identify a larger impact that could be achieved in the pilot phase. Furthermore, though data could be anonymised for analysis, acting on insights would require significant use of personal data.

AP 1.3.3 Final scores for the challenge by table



AP 1.4 PROCUREMENT

AP 1.4.1 Challenge Statement and rationale

Collate demand for specific goods and services across public sector bodies to enable bulk procurement / reveal where the same goods are being bought for the lowest price across the city.

Each year, the local government sector spends £45 billion procuring goods and services. A recent report by the House of Commons Communities and Local Government Committee revealed that councils could achieve £1.8 billion in savings through improved collaboration. Could data analytics support savings by identifying overlapping demand, enabling bulk purchasing and finding inefficiencies in the system? Analysis conducted by Mastodon C showed that the NHS could save an average of £27 million/month by eliminating unnecessary expenditure on two proprietary drugs in favour of generic brands. London boroughs buy many of the same goods and services. What savings could be made through improved understanding of purchasing patterns, demand, and expenditure?

AP 1.4.2 Workshop Summary

Defining the problem and potential for cost savings

Initially, many participants thought this challenge area was promising. Local authorities spend significant funds each year on a wide range of items, often with little knowledge of how their peers are procuring. Joining up that data could help reveal potential for coordination to achieve economies of scale, and/or put councils in a stronger bargaining position with suppliers. Most of the relevant datasets are also non-personal in nature and held by local authorities themselves. It was anticipated that there was potential for quick savings to be identified within the timescales of the pilot.

However, closer analysis of the problem revealed that the problem was not as simple as it seemed.

A few highlighted that joint commissioning already takes place in some areas, such as electricity and parking. The participants suggested that more joined-up procurement was needed *within* each council before moving to further collaborative commissioning among local authorities. While a better understanding of where councils spend money could help them get better deals, it was noted that their ability to support local businesses and SMEs could be hampered. Local authorities already have access to G-Cloud, a framework that helps simplify and standardise procurement, but many did not feel it saved them much money. (For example, it was not easy for a borough to procure quickly through a provider who was new to them, but that another borough had already used.)

It was noted that there would be considerable challenges with trying to coordinate the timing of purchases between councils, as their resource needs change based on the specifics of their area. Existing long-term contracts could also hinder taking short term action. Overall, participants felt that it would therefore be most feasible to focus on one or two specific areas of procurement (e.g. facilities management). Key stakeholders would include the procurement teams, service delivery units, contracts and finance, London procurement network, and health and social care teams.

Which datasets would be needed to address this challenge?

Potential datasets could include procurement and spending data by borough (released as open data for purchases over £500); supplier and contract data with historical performance data (where it exists); supplier certification databases (for SMEs); and Crown Commercial Services for big ticket items. It was noted that there is already a degree of transparency on procurement and contracts data as the GLA has scraped available data from the borough websites (but not yet cleaned it).

However, there were a lot of questions over the quality of these datasets, the consistency of recording, and whether there was enough granularity to identify specific goods and services, and compare like-for-like items.

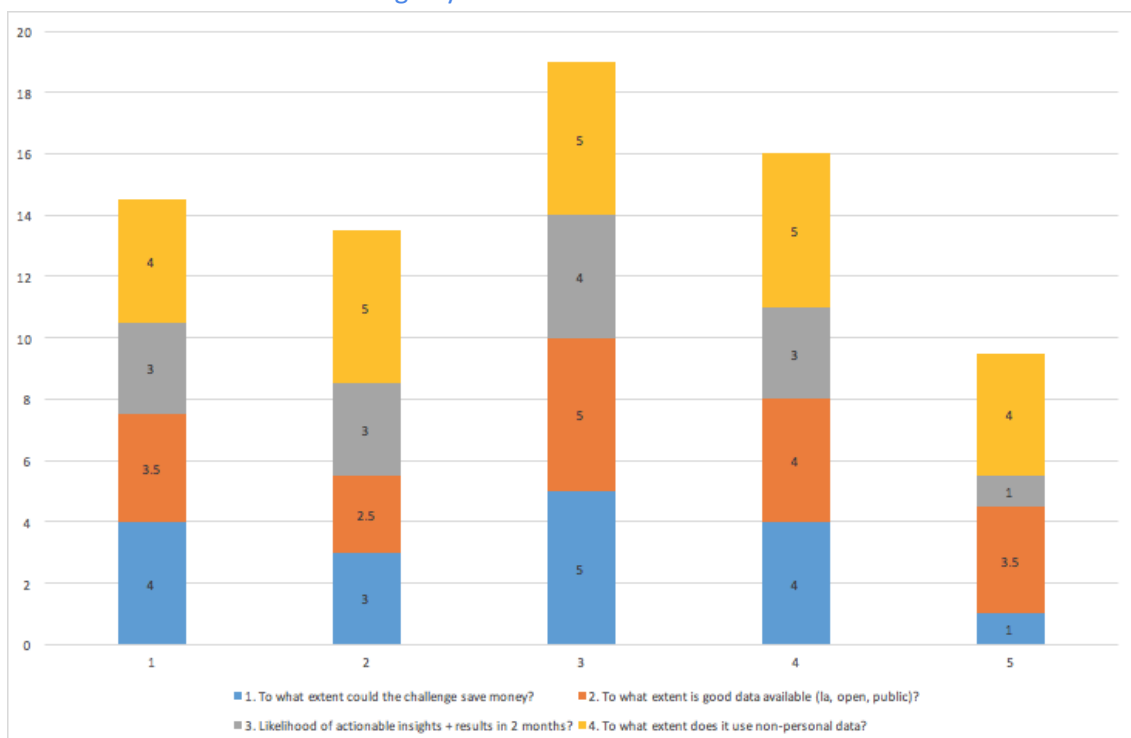
Potential interventions and impact within 2 months

Participants felt the most promising interventions would focus on a specific subset of goods and service types where boroughs procured similar or identical items. Success would be better collective bargaining power, lower unit costs for each local authority, time and staff resources saved (if the procurement process could be shortened), and greater user satisfaction levels.

Two other interventions were identified that would not require data analytics but might form part of the wider project and analysis:

- A potential to develop a Contracts Register that would highlight opportunities to jointly procure. This would allow councils to identify, for example, when they are approaching the end of a contract for the same product/service at the same time as another council, and then have opportunity to jointly procure.
- A central function for all FOIs received by boroughs to decrease the burden on individual councils in answering requests.

AP 1.4.3 Final scores for the challenge by table



AP 1.5 HEALTH & WELLBEING

AP 1.5.1 Challenge statement and rationale

Improve public health by overlaying datasets concerning patterns of obesity / green space / fast food outlets

Rates of childhood obesity in London are higher than the national average. One in four children aged 4-5 years old is obese. This rises to a third of children aged 10-11 years old. The factors affecting obesity are numerous and complex, but we know that patterns of physical activity and the increase in opportunities to eat low price food is a significant part of the problem. Fast food outlets are popular amongst young people (38% of Newham teenagers eat fast food once a week; 12% daily). Some fast food outlets deliberately target school pupils. It is a priority area for many councils as well as the new Mayor of London. Can data be used to provide new insights into the contribution of fast food outlets and green space to childhood obesity?

AP 1.5.2 Workshop Summary

Defining the problem and potential for cost savings

Participants acknowledged that childhood obesity is a serious challenge for many London boroughs. But participants noted that many of the underlying factors that contribute to childhood obesity are already known, therefore the benefits of a new data exercise would be questionable. Beyond helping to better visualise and communicate the problem, many felt maps would be of little value in designing new - or informing existing - interventions. However, detailed obesity mapping could provide an evidence base to support the stricter regulation of fast food vendors within a certain proximity to schools or green spaces e.g. through planning restrictions or requiring outlets to display nutritional warnings.

Similar policies have already been tried in Waltham Forest, but might prove politically difficult in other areas.¹ For example a clampdown on fast food outlets could be poorly received by the local small business community. Participants were unsure how this challenge lent itself to cross-borough data sharing and participation, apart from using mapping to track and compare the effectiveness of different health interventions across London boroughs.

Which datasets would be needed to address this challenge?

Relevant datasets highlighted by several groups included:

- Location of schools
- Location of fast food and restaurant premises
- Location of green spaces and public sport facilities
- Census data
- Childhood obesity data from the National Child Measurement Programme:
<https://www.google.co.uk/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=national%20child%20measurement%20programme>

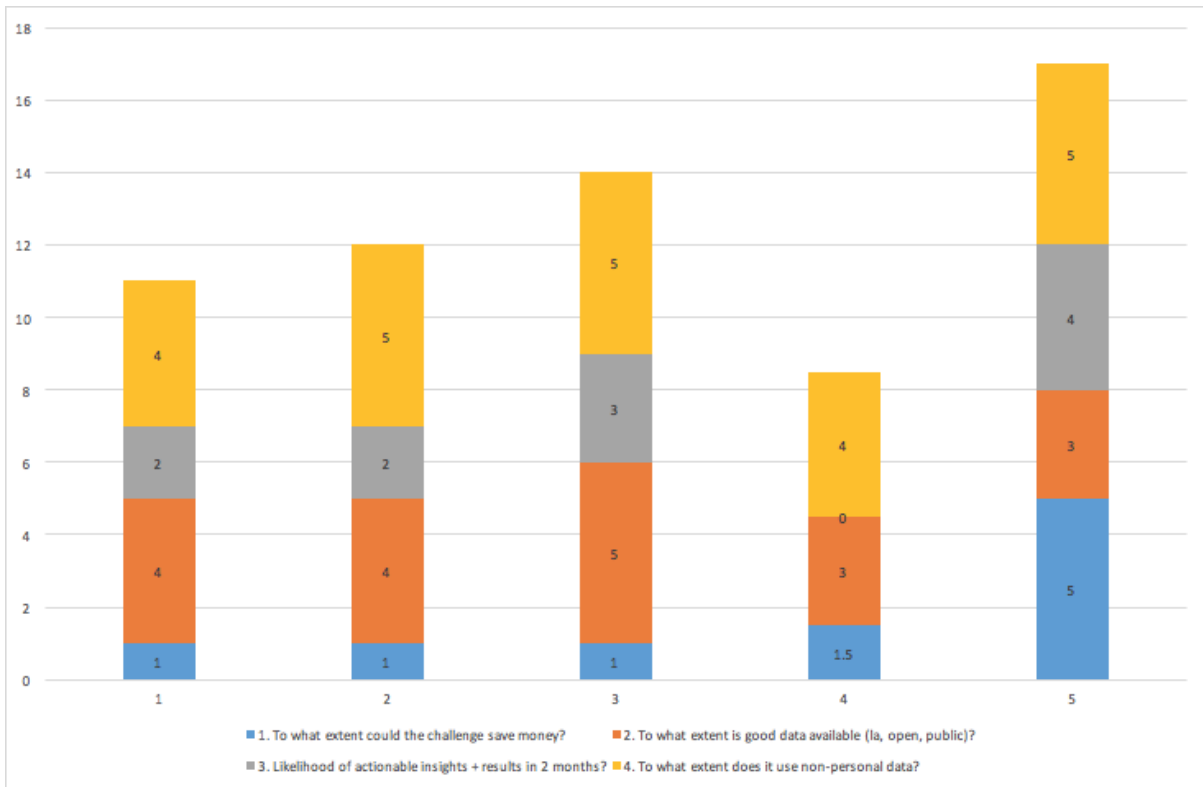
¹ http://www.local.gov.uk/health/-/journal_content/56/10180/3511421/ARTICLE

- Joint Strategic Needs Assessment data: <http://www.hscic.gov.uk/jsna>
- Location of derelict land
- Air quality

Potential interventions and impact within 2 months

Insights could be identified to ban or restrict fast food outlets, target nutritional information and compare obesity across boroughs. However, it was agreed that any intervention would be unlikely to achieve impact (certainly not a reduction in childhood obesity) within 2 months, and that there was limited potential for cost savings, even in the medium to long term, for local authorities. One group described this challenge as more of an “interesting research project”.

AP 1.5.3 Final scores for the challenge by table



AP 1.6 WASTE MANAGEMENT

AP 1.6.1 Challenge statement and rationale

Identify levels of recycling across London to target interventions that increase recycling rates to avoid landfill costs and meet LA targets

The UK recycling rate of 'waste from households' reached 44.9% in 2014, rising from 40.4% in 2010. There is an EU target for the UK to recycle at least 50% of household waste by 2020. UK Biodegradable Municipal Waste (BMW) sent to landfill now represents 26% of the 1995 baseline value, with an EU target to restrict BMW landfilled to 35% of the 1995 baseline by 2020. Meanwhile landfill tax in the UK is steadily rising, increasing the cost to councils of disposing of non-recycled waste from £80/tonne in 2014, to £84.40 in 2016. Costs will continue to rise in line with inflation. Could a better understanding of recycling levels at the macro level support targeted interventions into poorly performing areas to boost recycling rates and reduce landfill costs to local authorities?

AP 1.6.2 Workshop Summary - Tom Saunders

Defining the problem and potential for cost savings

While boroughs agreed that clear cost savings could be achieved by diverting more waste from landfills, they acknowledged that the scale of the challenge varies across London, with some boroughs seeing recycling as a low-priority concern. For example Waltham Forest has only 5% of incorrectly sorted waste at collection points.

Some groups suggested greater challenges lay with the private sector. For many business premises rubbish disposal is arranged through private contracts with waste management companies, making it harder for councils to keep track of recycling rates and behaviours. In some cases, this also makes it easier for certain businesses to improperly dispose of waste unnoticed. Another group pointed out that construction generates more waste than households, and that targeting construction companies could be easier than changing household behaviour while also generating greater impact.

Which datasets would be needed to address this challenge?

Participants listed a number of potential datasets:

- Types of bins used and their location
- Weight of bins
- Bulky waste charges
- Flytipping – frequency and location
- Related HMO data (over-occupied properties likely to over-produce waste that can't be accommodated by nearby recycling facilities.)
- Data from waste contractors
- Waste flow
- Business premise data (type, size, location)

- Housing and population data
- Waste composition survey
- Smart bin sensors in some councils
- Locational data from sensors mounted on collection trucks or smart phones of drivers, for route optimisation
- Premises inspection data.
- Data on blocks and flats types and their location.

Though a broad assortment of data is available, the lack of granularity of much of it was seen as an issue, given the difficulty in pinpointing individual household behaviour. Another challenge was that boroughs collect data in different ways. Individual contracts with suppliers dictate how data is collected and shared, which means that some boroughs may have household-level data, while others may only have data for trucks or the local authority area as a whole.

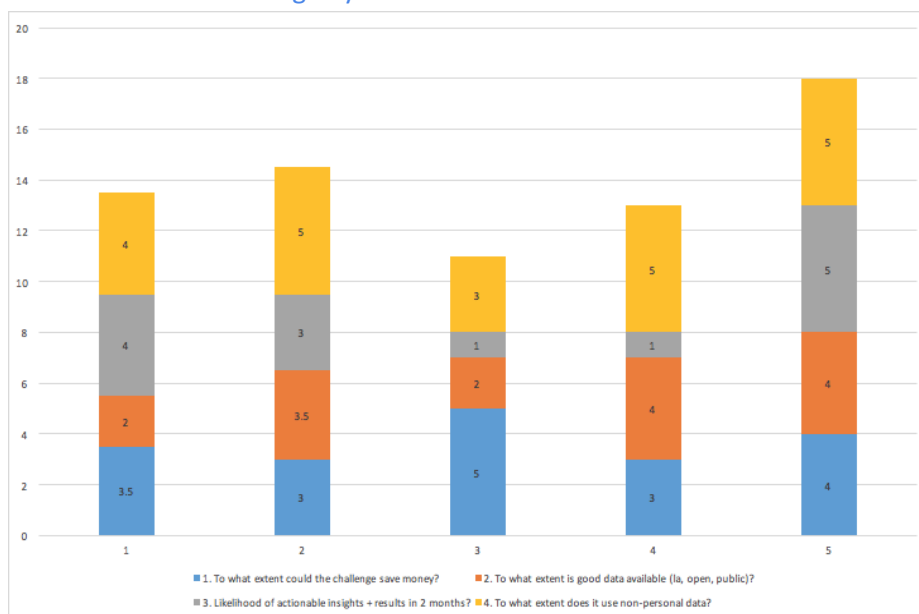
Potential interventions and impact within 2 months

By sharing and analysing more data across boroughs on recycling patterns, participants felt a few interventions could be actionable with impact within 2 months:

- Identifying what bin types/provisions have highest recycling rates and testing those bins in areas that are underperforming.
- Targeting communications to areas which underperform to encourage them and also remind them where/how they can recycle in the borough. Better intelligence on where communications should be targeted also allows boroughs to better prioritise resources.
- Mapping flytipping hotspots to better target inspection and reduce inappropriate disposal of waste.

Longer term, developing a pan-London dataset where worst and best performing areas might offer insight into what methods work to encourage recycling was also suggested as a possible data product.

AP 1.6.3 Final scores for the challenge by table



APPENDIX 1: List of workshop attendees

| NAME | SURNAME | ROLE | ORGANISATION |
|-----------|---------------|---|--------------------------|
| David | Altabev | Senior Programme Manager | Nesta |
| Lora | Armstrong | Data Scientist Fellow | GLA |
| Ben | Bennett | Commissioning and Business Insight Manager | Sutton |
| Daro | Clark | Business Analyst | Lambeth |
| Andrew | Collinge | Assistant Director of Intelligence | GLA |
| Mark | Compton-James | Head of IT | Southwark |
| Eddie | Copeland | Director of Government Innovation | Nesta |
| Carol | Copeman | Strategic Information Analyst | Brent |
| Nevena | Dragicevic | Researcher | Nesta |
| Martin | Ferguson | Director of Policy & Research | Socitm |
| Mike | Flowers | Chief Analytics Officer | Enigma |
| Chris | Guthrie | Project Officer | Lambeth |
| Noel | Hatch | Cooperative Council Manager (Policy & Communications - Strategic Resources) | Lambeth |
| Juanita | Haynes | Senior Research Officer | Tower Hamlets |
| Christina | Hayward | Policy and performance officer | Bexley |
| Paul | Hodgson | GIS and Infrastructure Manager | GLA |
| Manny | Hothi | Senior Programme Manager | Nesta |
| Alan | Lewis | Analyst | GLA |
| Jo | Lodge | Head of Westminster BI | Westminster |
| Steve | Lorimer | Technology Policy | GLA |
| Ed | Maguire | Insight & Corporate Performance Manager; Service Design Hub | Waltham Forest |
| Allan | Mayo | Innovation Strategist | Greenwich |
| Sandy | Miller | Intelligence Team Leader | Hackney |
| Milan | Ognjenovic | Business Analyst | Hammersmith and Fulham |
| Julia | Owen | Head of Policy & Performance | Bexley |
| Justine | Rego | Team Leader, Data and Information Management, Strategic Business | Kingston upon Thames |
| Tom | Saunders | P&R | Nesta |
| Mahnaz | Shaukat | Head of Health Intelligence | Islington |
| Ronan | Smyth | Principal Policy Officer | Lewisham |
| Sarah | Sturrock | Director | South London Partnership |
| Sudip | Trivedi | Head of Business Intelligence, Open Data and Business Partner | Camden |
| Gareth | Wall | Head of Public Health (Adults) | Hackney |
| Ezra | Wallace | Head of Corporate Strategy | Westminster |
| Michael | Webb | Pricing Strategy Officer | Camden |
| Heather | Yedigaroff | Sustainability and Renewal Manager | Greenwich |

APPENDIX 2: Long list of challenge areas

- 1) Statutory homelessness and temporary accommodation - predicting which tenants are most likely to fall into difficulty in future.
- 2) Model the types of tenants who fall into debt to identify the risk factors to reduce rent arrears.
- 3) Identifying Illegal landlords - i.e. those housing tenants in illegal-converted buildings (c.f. London's "beds in sheds" problem)
- 4) Identifying vulnerable tenants living in privately-rented properties with category one hazards who don't complain.
- 5) Identifying / predicting high value voids - i.e. empty council / housing association properties. As part of the Housing and Planning Bill going through Parliament at the moment, all LAs will have to consider selling off some of their housing stock as and when tenancies come to an end to pay a government levy. Potential to create data model that predicts which will become vacant, and which housing stock it makes most sense to sell.
- 6) Intelligent coordination / prediction and prevention in social housing maintenance. E.g. ensure that maintenance is done according to actual need, and not pre-defined schedules. (c.f. Case of six engineers being sent to fix same boiler, with total cost of interventions exceeding cost of replacement boiler.)
- 7) Analyse and benchmark the costs in dealing with disrepair of social housing to pinpoint where they can reduce costs. (One local authority reports that 20% of tenants have 80% of repairs).
- 8) Correlate flytipping, recycling and demographic data to identify how to target and reduce flytipping and increase recycling, particularly on housing estates.
- 9) Identify the links between good cultural services (libraries, adult education, sports facilities, theatres) and their impact on health and well being. At times when many of these services are at risk, being able to quote facts and figures of their impact is essential.
- 10) Join up data from across local authority boundaries to ensure that Troubled Families are identified. (E.g. some families are missed if child goes to school in neighbouring borough.)
- 11) Collate demand for specific goods and services to enable bulk procurement / reveal where same product is being bought for lowest prices across the city.
- 12) Improving public health by overlaying datasets in concerning health - e.g. patterns of obesity with green space / fast food outlets (c.f. Chicago's data work on mapping nutrition desserts).
- 13) Analyse admissions to A&E which are violent / alcohol related and use data-driven approach to identify nighttime venues that contribute disproportionately to the problem.
- 14) For citizens with complex needs, which service(s) analysis which services they tend to apply for first. Could data be used to predict which individuals in receipt of those services would benefit gaining access to the other services much sooner?
- 15) Use data to better understand the correlations between factors such as active travel, green space, fast food outlets and children's weight (using NCMP data for this part).
- 16) Analysis of population change, in terms of gentrification of inner city and increased deprivation elsewhere as a result of policy changes e.g. welfare reform. Model what this means for demand on different services.
- 17) Analysis of how boroughs use information on external contracts/suppliers.
- 18) Illegal tobacco. Over the last few years 2 groups of London boroughs have conducted population surveys to better understand the prevalence of illegal tobacco in their area.

New ideas arising during the workshop:

- 19) Joining up of the existing Freedom Pass database with people who have passed away meaning that there are many in circulation that could be being used fraudulently
- 20) Variation in adoption levels between different upper tier (social care) authorities
- 21) Real time air quality data linked to route planning for cyclists / pedestrians (potential app)

- 22) Procurement website - a website to openly list then most recent procurements with prices so that other councils could see prices and negotiate better deals