

APPENDIX 1: Letter to Department for Culture, Media and Sport, July 2020

From: Theo Blackwell, Chief Digital Officer

To: Gaia Marcus, Head of Data Strategy

MANDATING INFRASTRUCTURE DATA SHARING WITH CITIES

1. Purpose

- 1.1. The purpose of this briefing note is to first summarise the challenges of data sharing between infrastructure providers and London city leaders and to state the benefits of increased data sharing to central digital tools.
- 1.2. Secondly, it articulates a number of options for mandating infrastructure data sharing with London government to deliver wider public benefits.
- 1.3. We'd welcome your views for progressing with our aspirations.

2. Background and current situation

- 2.1. The GLA is the strategic authority for London. Our work involves assembling world-class evidence and analysis which enable the formulation of policy and strategy to make London a better place, through promoting economic development and wealth creation; social development; and improving the environment. In the past few years the GLA has moved from governing indirectly through strategies, to having a greater role in delivery.
- 2.2. The Mayor has no legal powers to mandate infrastructure data sharing. Instead, the Mayor has secured commitment from the sector to contribute to this agenda using his leadership and convening powers, particularly through his London Infrastructure Group¹, composed of executive level representatives from London's largest infrastructure providers, regulators, the Infrastructure Projects Authority and local authorities².
- 2.3. The Mayor and the GLA is also perceived to be a trusted third party without a commercial or competitive interest, and with a commitment to ensuring the public good.
- 2.4. The GLA's data platform, the London Datastore³, supports policy and analysis as well as specific digital tools to meet different purposes and use

¹ <https://www.london.gov.uk/what-we-do/business-and-economy/better-infrastructure/mayors-london-infrastructure-group>

² The Group have been central to identifying the need for improved data sharing to support decision-making relating to infrastructure in London – beginning with development of the Infrastructure Mapping Application (IMA) in 2015.

³ London Datastore here <https://data.london.gov.uk/>

cases. This paper uses two tools managed by the Infrastructure team to illustrate the need for and benefits of mandating data sharing, but there are other tools which would also benefit from this approach. These two digital projects are managed with specific use cases and under specific legal agreements, that have various degrees of participation from infrastructure providers and local authorities – outlined below.

- 2.5. However, London's complex urban environment and the fragmentation of ownership within and across the infrastructure sector makes this work very challenging as it requires dedicated time to bring all stakeholders on board to ensure consistency and data accuracy. Even with willing stakeholders, organisations are at different stages of technological and organisational maturity around data sharing.
- 2.6. The current approach of voluntary data sharing has limitations and challenges, including: poor data quality; difficulty ensuring data accuracy; high costs of processing and preparing data for sharing for both GLA and organisations; lack of data custodianship in organisations; reluctance to share data due to commercial sensitivities; a reluctance to share imperfect or incomplete data; security concerns, and perceived regulatory barriers. We have spent the last five years documenting these challenges through our direct experience with the digital tools outlined below. Annex 1 and 2 provide more detail on this with examples across sectors and organisations, and a RAG rating of all our infrastructure providers.
- 2.7. We have also found different attitudes toward data sharing in infrastructure, depending on the sector. For example, the Energy Data Taskforce has made a huge cultural difference already, but other sectors such as telecommunications present more complications, particularly when it comes to sharing future investment data, given interpretations of competition law.
- 2.8. While we have high-level support from organisations and we have developed good working relationships with their internal teams, given issues outlined above and in the annexes, progress in this space will be slow unless we can integrate data sharing requirements into clear business practices.

3. Existing digital tools

- 3.1. The GLA Infrastructure Team is currently sourcing data from infrastructure providers (utilities, transport providers, digital connectivity providers and the Environment Agency), and London's local authorities, for two projects (London Infrastructure Mapping Application and the London's Underground Asset Register, described below) that deliver numerous public good benefits, while saving costs to its contributors.

The London Infrastructure Mapping Application (IMA)

3.2. The IMA is a browser-based GIS tool that serves as a central register for data on growth in London and on asset capacity and future infrastructure investment – enabling infrastructure providers, local authorities, and the GLA to work together to coordinate streetworks and invest in infrastructure ahead of demand. Among other information, the IMA hosts data on location, timescales, scope and nature of future infrastructure investment in London, contributed by local authorities and infrastructure providers. The IMA is funded by the sector via the London Lane Rental Surplus Fund. The IMA also integrates information from the London Development Database⁴.

3.3. Existing data sharing agreement and processes:

- a) Currently 18 utilities, transport providers, Government departments, and local authorities have signed a multi-party non-disclosure agreement (NDA), set up in a way that allows new parties to join the existing signatories over time.
- b) The IMA includes data on infrastructure future investment plans and asset condition (limited), alongside development information (including planning application data with analysis built on top of it) and contextual information.
- c) There are currently over 5,000 planned and potential infrastructure schemes represented in the IMA, and 50 layers of contextual data.
- d) The tool includes a public and private view; only NDA signatories have visibility of 'private' infrastructure investment data.
- e) London's local authorities are being onboarded on an ongoing basis.
- f) It is accessible via maps.london.gov.uk/ima — we can arrange access to the private interface for Whitehall as needed.

3.4. The terms of the NDA stipulate that data can only be used to:

- a) Plan infrastructure investment around growth
- b) Coordinate streetworks to minimise road network disruption

London's Underground Asset Register (LUAR)

3.5. LUAR is a pilot project to map existing underground assets in up to fifteen London boroughs, in order to increase safety and efficiency during streetworks. Data is sourced from 20+ infrastructure providers and local authorities. LUAR is one of two pilots funded by the Cabinet Office's Geospatial Commission as part of NUAR (National Underground Asset Register), which intends to create a national version of the service in future.

3.6. Existing data sharing agreements and processes

- a) 20+ utilities, transport providers, Government departments, telecommunications providers, and local authorities have signed tripartite

⁴ <https://www.london.gov.uk/what-we-do/planning/london-plan/london-development-database>

Data Distribution Agreements with the GLA and Ordnance Survey, who manage the platform.

- b) LUAR includes data on existing assets, including location, material, etc.
- c) Only those contributing data to the pilot are provided access.

3.7. Terms and Conditions within the platform limit data use to:

- a) Utility Strike Avoidance (the 'safe dig' use case)
- b) On site efficiency
- c) Site planning
- d) Data Exchange Efficiency
- e) Coordination

4. Benefits of data sharing

4.1. Utilities see a need for improved data sharing to avoid costly mistakes on site, in the case with LUAR, or in the case of the IMA reducing costs by working together (through splitting the cost of a permit). The benefits of regular data sharing are attractive to both the public and private sector - including cost savings for providers and reduction of disruption to Londoners on the road network and in their homes. Digital tools can also aid the delivery of housing and other mayoral priorities.

4.2. The GLA conducted testing sessions on the NUAR Hub tool with overwhelmingly positive results: the vast majority of the 158 users interviewed, from planners to excavators, immediately appreciated the potential benefits of the platform, expecting it to make the end- to-end process of streetworks significantly safer, cheaper, quicker and more convenient. All respondents surveyed said that LUAR is quite likely or extremely likely to reduce strike rates and save them time. Beyond emergency works, the NUAR Hub brings obvious and immediate time, cost, and effort efficiencies to the end- to-end asset data journey:

- a) Planners are able to get an instant view of asset data, allowing them to plan upcoming works more effectively, without having to wait days or weeks for information from other providers, which is especially beneficial for Local Authorities who are then able to co-ordinate works to reduce road closures and other disruption in the borough.
- b) Excavators are able to get an immediate, combined view of all assets in a works area, which users have indicated is far more convenient to work with than multiple PDFs or paper maps.

4.3. The IMA has been used to create lists of potential 'dig once' opportunities both in particular boroughs and across TfL's strategic road network that form the basis for discussion among work promoters. Currently five collaborative schemes have been delivered by the Infrastructure Coordination Streetworks Team or are actively being planned. Most recently, the IMA has been used to evaluate whether there are collaborative opportunities specifically during the COVID-19 period between utilities' critical works. For the first time, the IMA is

being used as a communication tool to explain collaborative works to residents.

4.4. At the same time, the IMA has helped inform the business plans of infrastructure providers and provided evidence to substantiate investment requirements to support sustainable local growth.

4.5. With proper security systems and processes in place, we'd like to move to a framework that requires clear reporting and quality levels for data shared by infrastructure providers, to aid with the more efficient planning of the capital. A separate but related issue is enlarging the use cases for each digital tool - Annex 3 states additional use cases already identified by utilities and the GLA, which demonstrate there is demand in the sector for using the data beyond the use cases already identified.

5. Recommendations

5.1. Given the challenges outlined in this paper and the particular role the GLA has played to date, there is a need to devolve powers to request or mandate infrastructure data sharing with the Mayor, in London's case. The same logic would also apply to other Metro Mayors or local leaders.

5.2. We have looked at options for achieving this through legislation, regulation or standards and set out the advantages and disadvantages of each approach. We recognise that any data sharing will need to balance security concerns.

5.3. Option one: Improve legislation around data sharing to set legal obligations for record keeping in the infrastructure sector, including data quality and sharing targets.

a) Advantages – Legislation would catalyse organisations in the sector to establish clear and consistent data management processes, including ring-fencing resource for centralised data management and sharing. Legislation would generate change at a national level and is the most legally binding approach.

b) Disadvantages – Legislation would have to go through the bill process before becoming established into law, which could take months.

5.4. Option two: Integrate data sharing requirements into regulation. There is a range of working with regulators – from mandating data sharing in regulation, to regulators exerting soft pressure and bedding in a 'presumed open' data culture, which the market will respond to itself. Ofgem is already engaging with companies on use of data, which is leading to a professionalisation of how data is treated and resetting cultural norms - though we have not seen this actively being adopted by providers. We recommend engaging with all regulators collectively, to prevent a proliferation of bespoke rules constraining each company which prevent data sharing and interoperability.

a) Advantages – potentially most straightforward method that could feed into existing workstreams. For example, Ofgem is now asking companies to

produce digitalisation strategies and plan how their businesses are set up to tackle people's data needs. Ofgem expressed an interest to receive written statements about the GLA's challenges in the sector, to influence their expectations on companies about their use of data and data best practice. As above, changes with regulation would force the sector to implement the appropriate resources around data sharing. The regulators could produce sector specific guidance, ways of working and give a formal place for users to voice their needs.

- b) Disadvantages - even were regulation to devolve data mandating powers to the Mayor, on a practical level, it is still necessary to tie it into the wider infrastructure coordination work that data sharing enables. This will ensure that, project by project, the right data is available to support particular coordination interventions. Even with data best practice there is still a lot of work to do to implement data sharing with current technology and capability. Regulation could also take time and an approach would have to be agreed across all sectors to enable effective change; regulators often prefer markets to solve problems where possible and only mandate things as a last resort. The softer approach of influencing and expecting 'presumed open data' will take time to become a cultural norm and will require a clear and central leadership push.

5.5. Option three: Champion sensible standards to facilitate sharing, both for data and data sharing agreements.

- a) Advantages – there is a vast amount of infrastructure data available but often with different schemas, which makes fitting them to a common model difficult. Setting common standards would enable collaboration between infrastructure providers and local authorities and help realise the benefits of data sharing. A move towards standardised data sharing agreements would streamline sharing and avoid duplication of effort across projects - focusing on the 'right' level of sharing that balances security concerns and expected benefits. The GLA could provide technical support and training to equip the sector with the skills needed to use the GLA's digital tools and supply data to them.
- b) Disadvantages – the complexity and diversity of infrastructure data will make defining common standards challenging. Standards are often not mandated or enforced, so this would probably only be as effective as our current approach and may not generate the change required.

6. Conclusion

- 6.1. We believe greater sharing of infrastructure data sector will create huge benefits for the public good and needs concerted action to enable change.
- 6.2. A combination of approaches may be required – with a mixture of 'top down' directives and a continued 'bottom up' approach of changing cultures by bringing parties together.

6.3. Given complexities across the infrastructure space, DCMS is well placed to influence this across sectors.

6.4. We look forward to discussing how to take forward these issues with you and to agree a plan to implement any recommendations.