

Open Data and Open Source tools

This document outlines a number of potential datasets and tools that are relevant to the three themes of the hack. It also provides guidelines for access and use of data.

We appreciate that some of this data might be old, out of date or limited in it's scope. Using historical data to illustrate a novel use of the data for analysis is encouraged.

Data Types and terminology

- XML - eXtensible Markup Language is used to transfer data. [[javascript intro](#), [tutorial](#)]
 - KML - Keyhole Markup Language - extension of XML that supports coordinate systems (e.g. latitude and longitude)
- JSON [[syntax](#), [javascript intro](#), [tutorial](#)]
- CSV - Text format includes a flat structure of Comma Separated Values
- SHP - this is a file containing coordinates that describes geographic shape data. It's great for plotting on maps or being used for spatial analysis
- Meta data - some (a few) of the data sources come with metadata to describe the fields and context of the data.
- API - This is an end point that will allow you to query the underlying dataset. Useful for querying a dataset if you're only after a subset of the data (E.g. certain fields or ranges)

Open Data

Transport for London (TfL) Open Data Repository

TfL data is available through their Open Data repository. This data is useful for working with public transport, understanding real-time trends in London, and thinking about dynamic use of TfL owned locations. This data set includes: cycling routes, bus stops, tube timetables and stops, parking and traffic data. Here are a few examples that we think might be useful:

- [Railway Timetables \(tube\)](#) [zip] [[meta data](#)] Timetabling data for the tube in London.
- [Time tables, Status, Points and Facilities descriptions](<https://tfl.gov.uk/info-for/open-data-users/unified-api?intcmp=29422#on-this-page-1>) [[api](#)] API calls require login via TfL Unified API.
- Stations Facilities [[sample](#) , [meta data](#)] [xml]
- [Station Locations](<https://tfl.gov.uk/cdn/static/cms/documents/stations.kml>) [xml/kml]
- Bus Stop Locations [Example](#)
- [Coach Parking sites/locations](<https://tfl.gov.uk/cdn/static/cms/documents/icm-coach->

[parking.csv](#))

- [Live Traffic Disruptions](#)
- [Cycling Data](#) Data on cycling routes, super highways etc

Office of National Statistics

Making a request... (maybe we should get these datasets and put them in the CitySprint hosted database)

- Data Portal (<https://www.ons.gov.uk>)
- Vehicle Pollution Data - ONS (FTC2050 have this - could share the spreadsheet)
- [Energy and Emissions in the UK \(latest: 2015\)](#)
- [Energy: use by industry, source and fuel](#) [xlsx]
- Road Transport Pollutants (Atmospheric Emissions) [xlsx]
- [Freight Transport by Region \(2008 - 2014\)](#) [xlsx meta]
- [UK Business - activity, size and location](#) [xlsx meta]
- [UK Census Data](#) - useful for thinking about population trends and future planning
- UK Retail Industry
(<https://www.ons.gov.uk/businessindustryandtrade/retailindustry/datalist?filter=datasets>)
- [Other Road Transport](#)

Highways Agency

- [Highways Agency network journey time and traffic flow data](#)

data.gov.uk (UK Government)

The [developer's guide](#) provides details on meta data and how to access the London Datastore

- [All datasets](#) - [pdf, csv, xlsx, zip]
- [Retail Sales Statistics](#)
- [Vehicle Charge points](#) [xml,json,csv,API]
- [Cycle routes](#) [xml, shp]
- British Transport Police Crime details [2012, 2013] [csv, pdf meta]
- Environmental Datasets and services <http://environment.data.gov.uk/index.html>
 - Environmental Spatial Data Catalogue
<https://environment.data.gov.uk/ds/catalogue/index.jsp#/catalogue>

London Boroughs

- [Camdem Parking Bays](<https://opendata.camden.gov.uk/Transport/Parking-Bay->

[Map/miup-aubx](#))

- [City of London repository \(data.gov.uk\)](#) - some really interesting datasets in here, including: 20 MPH zones, 7.5T Weight Restrictions, Air Quality, Car parks, Coach parking, Cycle paths, Pubs, ... [wms, xml])
- [Westminster \(data.gov.uk\)](#): parking, ... [xml]

Other London Data

A collection of other datasets relating to infrastructure and transport in London. Some of these have be sourced via our hackathon partner Geovation [[source](#)].

- [City Pollution Data](#)
- [Vehicles per London Borough](#)
- [Department for Transport Statistics](#)

Other Data Sources

- [Open Charge Map \[API\]](#) provides an open source map of electric vehicle charging points. OCM requires sign up to use their API service and have plenty of examples of using their data on their [website](#).
- Consumer Data Research Centre (CDRC) [[data](#), [user guide](#)] The CDRC provide a number of [Open](#), Secure and Safeguarded data sets relating to consumers and consumption. They also provide "geodata packs" which contain historical data relating to housing, transport, census, population, demographics and other areas.
 - The CDRC requires users to fill out a [proposal form](#) for the use of Secure or Safeguarded controlled data.
- [National Grid](#) - Historical data on the energy demand of the UK. All data is accessible through their data explorer. [csv]
- Met Office - [DataPoint](#) provides APIs for getting data on forecasts (7 Day) and current observations. [api]
- British Geological Survey - [Collections](#) of data including civil engineering, energy, flooding, building control/regulations.
- [World Bank Open Data](#)
- [Open Data Institute](#)
- [UK Data Service](#) Provides qualitative, survey, longitudinal data covering for social, economic and population in the UK.
- [Geolytix Retail points](#) - includes some free data sets such as [postal geometries](#) and public transport, but the majority requires purchasing their data packs.

Maps and mapping tools

- [Open Street Map](#) An open source mapping service, perhaps *the* open source mapping service.
- [Londonmapper - A Social Atlas of London](#) [xlsx] - A variety of socio-demographic datasets and analyses relating to landuse, poverty, wealth, population, identity, housing, education, work, health, environmental & travel, and social harm.
 - [Environment & Travel](#)
- ****Ordnance Survey ****[[open data](#), [resources](#), [roads](#)] - OS have a number of resources, maps and data. Open Data is free to access, but requires "ordering" through their system. These resources are accessible through different plans and commercial licenses.
- [Overpass Turbo](#) - A great tool that allows you to run queries in browser on maps across Europe.

APIs and Tools

Some are free to use, some have limited features for processing or accessing data.

- [transportapi.com](#) - train, bus and tube across the UK, timetables - limited to 1000 requests per day for free account
- [TfL London Unified API](#) [postman, API - requires registration] - tool for exploring public TfL open data
- Marquis De Geek London Tube Map data [[details](#), [API](#)]