Case Study:

Trafford Data Lab

Type: Team / Website

Organisation(s): Trafford Council

Tags: open data, process, metadata, standards

The Trafford Data Lab (TDL) is a team of three within Trafford Council that manages data releases within the council, explores opportunities for publishing new tools and data sets, and maintains the Data Lab's online portal.

The TDL online portal is a datastore which grants access to a wide range of statistical data and visualisations about Trafford, sourced both from the council and central government. This includes a public-facing webpage encompassing interactive web apps, and a set of 'charticles' that give an overview of some of the most useful graphs tracking local trends.

A wide range of further data sets is available elsewhere on the website, such as care home and defibrillator locations. These data sets are designed for use by residents and data professionals alike.

The team put a lot of emphasis on transparency and reproducibility of the data they work with, and actively encourage developers to use their code and apply it to other purposes.

Background

The Trafford Data Lab (TDL) is a semi-autonomous team within Trafford Council established in 2014. TDL is responsible for running projects to make better use of data on the Trafford district. A key part of their role involves running the Trafford Data Lab online portal.

Originally formed as the Trafford Information and Intelligence Lab, the team was renamed in 2017 as part of a significant overhaul of botht he team and its processes. This included making the website more user-friendly, and embedding the programming language R as a key part of the workflow for importing, visualising and manipulating data.

In 2018, TDL specifically recruited a Data Visualisation Developer to add to the team's technical expertise, successfully advertising for the role on Twitter and Google Groups.

The team developed the TDL website themselves from scratch using HTML, CSS, and JavaScript. GitHub hosts the website's code, which is accessible in full to the general public. TDL also publishes the web applications available on the website using shinyapps.io.

Important considerations

Content and quality

While the TDL website does host data, the website focuses on the use of that data, through apps and graphics. Underlying datasets for charts and graphics are available to view on the website, and as downloads in CSV and JSON format. Key graphs and charts can be accessed as both PNG image files and CSV tables containing the underlying data.

TDL publishes ten datasets on their own, but further datasets are embedded within existing apps. The datasets that TDL publishes generally require publication in order to comply with the Local Government Transparency Code, and additional datasets are added on a case by case basis.

The metadata is of high quality, with a standardised table included in every dataset, providing the source, publisher, open data license, and date of last update. The TDL team also keep datasets updated and complete.

A series of web applications allow a further level of interactivity for many popular datasets, allowing navigation of key information about council districts, such as Indices of Multiple Deprivation, as well as COVID-19 cases by area.

The COVID-19 tracker has been a particular recent success, with a great deal of work put into designing a user-friendly overview of cases across the UK, as well as granular detail about each area of the Trafford district. Filters such as 7-day rolling averages give useful insights into trends around the disease. This shows how TDL also goes beyond merely releasing data to releasing open analysis.

Another interesting feature of the website is a link to a council dashboard. This provides useful visualisations relating to key issues such as environment, housing and local democracy. This includes a graph on housing affordability and a comparison table on total jobs paying below the real living wage compared with other authorities.

Moreover, the 'charticles' – usually dataset analysis based around a chart or graphic – offer access to more specialised data visualisations, particularly on the environment. These include a breakdown of commuting methods, and an air

GREATER MANCHESTER
DOING THINGS DIFFERENTLY

pollution graph. Others include economic indicators, such as the proportion of jobs paid below the living wage by district.

Overall, the website provides an easy overview of the most important features of the Trafford district for residents, journalist and analysts, including detailed socioeconomic and political indicators.

Worklessness and Linked Data

Trafford Data Lab has worked creatively to find real-world applications for their data insights. In 2017, Trafford Data Lab worked on a [web application to show visulaisations of worklessness](#) across Greater Manchester. This work was part of the [EU's Horizon 2020](#) programme and involved cooperation with managers at Stretford JobCentre Plus and Trafford Council leaders. This application has helped to provide employment services to those most in need.

Awareness Raising

A notable additional feature to the TDL website is that the team have devoted time to ['showing their working'](#), encouraging developers to discover ways of creating similar portals and tools. This information is available both in the 'Learning' section of the website, as well as through blog posts. These posts systematically explain some important techniques used by the team.

The team has also worked openly with other services in Trafford Council to explain the importance of data quality, the benefits of using tools like R, and the usefulness of presenting both data and analysis together.

Usage

The Trafford Data Lab does not track user traffic, so it is unclear which data sets are the most popular. However, shinyapps provides some usage data on web applications and these show the COVID-19 tracker has gained particularly high levels of traffic in recent months.

Blockers and challenges

A key challenge for TDL has been convincing council departments and leaders of the benefits of open data. The team navigated this by repeatedly highlighting the concrete, practical benefits open data can have, such as reducing time spent on Freedom of Information requests.

Recent GDPR regulations have increased reluctance within Trafford Council to publish data, due to privacy and legal concerns. This has made it necessary to

reiterate to council leaders that GDPR is by no means incompatible with open data releases.

Furthermore, a reducing national interest in open data – particularly from central government – coupled with other more immediate priorities, has pushed the open data agenda down the list of priority work. TDL continues to make the case for the wider use of open data in Trafford, across GM, and nationally, as well as continuing to provide analysis and visualisations of existing open data.

User experience

The user experience of the website is very positive. Not all aspects of the site (e.g. charts, axes, metadata etc) require detailed explanation, but there is support to understand both datasets and what they show. There is sufficient detail for users to navigate the website quickly and easily, and the team is dedicated to good overall functionality of the website.

In comparison to other open data platforms, there is no way to directly engage by submitting contributions or feedback on the TDL website. However, TDL is strongly active and responsive on both [Twitter](#) and [Medium](#), reducing the need for this interactivity on the website.

What can Greater Manchester take from this?

- It is important to continuously work to ensure that the benefits of open data remain in the spotlight and open data remains a priority for decision-makers and budget holders.
- A few well-chosen and relatively simple visualisations can make datasets much more accessible and attractive for members of the public.
- Publishing open analysis in the form of interactive tools can help further augment a datastore and make it easier to explore data trends.
- It is possible to develop strong internal expertise in data analysis and front-end development with relatively limited resources or budget, through the use of open source tools.
- Allowing teams working on open data projects to work in a more autonomous and self-directed way can bring impressive results and allow room for creativity.
- It is possible to take a 'DIY approach' and build a functional and flexible portal from scratch, using open source options both for hosting and visualising data. This helps save costs and increases flexibility.
- Keeping skills in-house rather than bringing in a contractor to build a website ensures a greater level of control over the development of open data portals. This allows agility and flexibility as goals and priorities change.

- It is important to gather momentum behind open data projects at a regional or local level. This mitigates risks on projects that are reliant on centrally allocated grants and initiatives as the open data agenda moves away from central government's radar.
- Open data projects need to keep stakeholders actively engaged in open data – not just during the initial stage of a project's development, but on a sustained, long-term basis. This can be a challenge in the context of ever-shifting political priorities and budget allocations.
- Showing the workings behind the portal may encourage others to create their own similar tools.

Find out more:

Trafford Data Lab - About page

Github - Trafford Data Lab

Medium.com - Trafford Data Lab