Article

Subnational statistics and analysis, current and upcoming work: October 2023

A summary of the ONS' current and future work related to subnational statistics and analysis.

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1 . Overview of subnational statistics and analysis

The Government Statistical Service's (GSS) subnational data strategy, published in December 2021, sets out a framework to guide the GSS in producing and disseminating more timely, granular, and harmonised subnational statistics that meet users' needs. "Subnational" refers to all data and statistics that are provided for the 12 International Territorial Level 1 (ITL1) areas in the UK, which include Northern Ireland, Scotland, Wales, and the nine English regions, and for lower-level geographies. The strategy highlights the crucial role of subnational statistics in ensuring citizens, businesses and policymakers can make informed decisions on the economy and society.

We have delivered an ambitious programme of work over the last 18 months, which was set out in our Subnational statistics and analysis, current and upcoming work: May 2022 article. In part, this has been delivered through the Levelling Up subnational data project, which is being delivered in collaboration with the Department for Levelling Up Housing and Communities (DLUHC). We published our Levelling up subnational data project, monitoring update article in September 2023.

This workplan sets out our plan over the next 12 to 18 months and provides a summary of our achievements from the previous workplan. It is structured around the three ambitions set out in the GSS subnational data strategy:

- produce more timely, granular and harmonised subnational statistics
- build capability and capacity for subnational statistics and analysis
- improve the dissemination of subnational statistics

2 . Progress towards our ambitions

Over the last 18 months, we have delivered a step change in subnational data, statistics, and insights available to local users. We have been working with departments to use these data to associate policy changes with gross value added (GVA), trends in local areas, shown in our Disaggregated UK annual subnational GVA article , enabling users to build their own user-defined areas for the first time. From that work, we will release public code, with some helpful functions written in Python that will enable users to work with these data (alongside a selection of other granular data, such as employment) to understand how outcomes in a place change compared with similar areas after an event (such as policy intervention).

We have worked in collaboration with His Majesty's Treasury (HMT) to deliver completely new insights on educational attainment in towns and explore connections in our Educational attainment and internal migration in travel to work areas article. These insights shed new light on how people move geographically between education and work, and how that varies for different levels of qualification.

We have developed the Subnational indicators explorer further with each (now quarterly) update. Since the first iteration, additional datasets and more levels of geography have been provided in the underlying dataset. We have expanded our Find facts and figures about your area page so that users can easily find links to relevant local content, data, and tools. An element of this includes what structured datasets are available on the Integrated Data Service data explorer, allowing users to filter and download the underlying data, as well as query the data. We have also developed and tested a prototype for the Beta version of our Explore Subnational Statistics service, which allows users to discover and visualise local data by areas and topics, and to compare against other areas and over time.

While these developments have been significant, it is increasingly important that we better service a wide group of users across the UK. We successfully launched our new Office for National Statistics (ONS) Local service in response to the Government's Levelling Up White Paper, which lays out plans toreduce regional inequality across a range of economic andsocial measures. The ONS Local team were recruited over the last year, embedding dedicated analysts in each English region, and in each nation of the UK. The analytical advisory service was established in England in March 2023 (with plans to offer a UK-wide service by March 2024). The service offer includes supporting local leaders in their decision making, ensuring they have access to the data, statistics, and analysis they need.

3 . Current and upcoming work

This section lists the main subnational workstreams planned for the next 18 months across the Office for National Statistics (ONS), providing a short description of expected outputs and indicative timeframe. The workstreams are grouped according to the ambition they meet from the GSS subnational data strategy. For a full list of ONS releases, including subnational, see our release calendar.

Ambition 1: Produce more timely, granular and harmonised subnational statistics

We aim to deliver the following new or improved subnational outputs over the next 18 months:

To better understand the economy at more granular levels, we will deliver experimental estimates of Gross Disposable Household Income (GDHI) at lower geographical breakdowns and make the data available for users. We will implement, into UK Regional Accounts, direct non-market output estimates for publicly funded education at ITL3 and local authority level. We will use the newly available Longitudinal Business Database to deliver insights on subnational business demographics and business location. We also aim to deliver analysis that estimates the value of UK interregional trade in goods and services at ITL1, using our Experimental methodology for producing UK interregional trade estimates, published in summer.

To provide more insight into towns and cities, we will publish analyses of geographic mobility (in England) based on different educational outcomes, publishing estimates for geographic mobility flows of young people aged 16 to 27 years. We will also continue to work alongside His Majesty's Treasury (HMT) to produce further model-based analysis of the Longitudinal Education Outcomes dataset for travel to work areas and for towns and cities. We will also use Census 2021 data to analyse an updated rural urban classification, exploring the differences between rural and urban areas in England and Wales. There will also be a census article on the differences between coastal and non-coastal communities in England and Wales.

To help enhance and expand our subnational statistics and analysis, we continue to investigate new data sources that provide improved timeliness or granularity. Therefore, we plan to publish a series of subnational outputs based on the analysis of card payments data, with these outputs allowing detailed investigations of spending patterns across the UK.

To improve insights into housing and the differences between areas, we will publish UK private rental prices statistics comparable over time at local authority, using a new, improved methodology outlined in our Private rental prices development plan article. This is part of our continuous programme to transform consumer price statistics. We will also continue to develop UK-wide housing affordability statistics at subnational level, by producing estimates for private rental, mortgage, and small area affordability. We continue to make use of Census 2021 data to develop new housing analysis, such as the number of vacant and second homes and characteristics of people who live in properties with various energy efficiency levels.

In the area of population and migration, we continue to work to produce more timely and coherent statistics using the new dynamic population model. We will compare the Admin-based population estimates we published for all local authorities from 2011 to 2022 with the official mid-year estimates for 2022, and provide further updated estimates alongside provisional estimates for mid-year 2023.

To provide further insights into the labour market, we will publish estimates of human capital measured by lifetime earnings for the economically active population in the UK, for the years 2019 to 2022, at ITL1 level, and continue to explore development of these using new data sources to achieve greater granularity. We will also continue to develop our skills analysis using commercial online job advert data to produce analyses into occupational and skills demand, complementing with separate skills supply analysis, all at local authority level, and which would provide the potential to estimate skills shortages across different local areas.

To develop a better picture of well-being and consider how we are doing as individuals, as communities and as a nation, our upcoming UK measures of national well-being datasets will publish well-being data including breakdowns by age, sex and region where data is currently available. Our future workplans published in July (UK measures of national well-being, current and upcoming work: July 2023) outline our plans to deliver further breakdowns of well-being measures to better highlight inequalities within and across the UK. We are also working with the British Academy to identify causes of health and well-being inequalities to support the Levelling Up Health and Well-being missions.

Finally, in the next two years, we are working towards producing neighbourhood crime statistics, for high crime areas, from the expanded sample size from the Crime Survey for England and Wales (CSEW). This will enable more granular estimates and greater analysis of the sub-groups.

Ambition 2: Build capability and capacity for subnational statistics and analysis

Over the next 18 months:

We will deliver important updates to the GSS Coherence of statistics workplan and the GSS Geography policy in winter 2023 to 2024. We will also continue to develop guidance material to promote greater understanding of the geographic products that we offer.

We will continue to share code, for example, through the Explore subnational statistics Github and other repositories and forums, so that others can use it to build their own products.

As a follow up to our work on hyperlocal transport accessibility, we are planning to release data on transport performance for urban centres across the UK, as well as their international counterparts. As part of this work, we have an open code repository on GitHub which will enable users to run similar analyses in their own areas of interest, assumptions and use-cases. We are also exploring the use of real-time public transport service data to calculate service quality indicators. This will also allow comparisons between timetabled journeys and real-time performance. More information is available in our Comparing international transport performance in urban centres blog post.

Our ONS Local and Devolved Liaison Officer service will continue to provide strategic support to local leaders and stakeholders. Building on the establishment of this service in England and the codesign of the service offer in the devolved nations, we will establish a fully UK-wide service by spring 2024. We have a huge range of statistics and analyses that are being produced for the public good, and the ONS Local team are acting as a bridge between the ONS and local users, collecting their priorities, data requirements and helping them access the statistical insights that matter the most to them. We will also work across government to understand how we can collectively fill priority data gaps to support local decision making.

To build capability within local government and in the local analyst community, ONS Local have launched, and will continue to run, a range of online services including a monthly newsletter and weekly webinar series and workshops (in collaboration with the Data Science Campus) to help guide users in accessing data and empowering them with the skills to develop intelligence dashboards. Stakeholder feedback has been paramount to the early success of ONS Local and to strengthen the service moving forward we plan to continue obtaining feedback from stakeholders to be flexible to emerging needs. ONS Local will continue to build local analytical networks that facilitate collaboration and knowledge sharing.

ONS Local will also support building capability in central government by feeding local intelligence back into central government to shine a light on their key priorities and existing evidence gaps that need to be filled to ensure local decisions are based on robust information. We will also publish case studies to demonstrate the impact of having such a service available.

We will continue to improve the subnational data by sharing knowledge and important developments across central government through the Senior Subnational Data Group sponsored by the National Statistician.

Ambition 3: Improve the dissemination of subnational statistics

Over the next 18 months we will work to transition the existing Levelling Up Data Analysis X-Govt platform into the Integrated Data Service (IDS). Details on what data is available to researchers in the IDS will be updated on the IDS webpage. This will provide analysts access to more subnational data and analytical tooling that is currently being developed within IDS, all of which will broaden the range of subnational analysis and insight for policy and decision makers in the future.

We will maintain and expand the range of local-level datasets available on the IDS Data Explorer, our five star Linked Open Data structured data repository, which enables users to programmatically retrieve and query data.

We will continue to develop an area-focussed journey on the ONS website, making use of data visualisation and semi-automated journalism, building on our Employment, unemployment and related statistics for your area article and Find facts and figures about your area page. This will further enable users to find, visualise, compare, download, and understand subnational statistics.

We will expand our Census maps and Build a custom area profile product to include more data and standard geographies, which will allow users to find, visualise, compare, and download more subnational statistics by customer-defined areas.

We will work to improve the search function on the ONS website by supporting more natural language, extending the current keyword search, providing related options to the searched items, and including a new geographic search facility.

We will, alongside ONS Local, create a project tile that will feature on the ONS website to help users locate harder to find subnational products, including user-requested datasets and non-statistical articles.

We will continue to improve the Open Geography Portal and the Linked Data site to enable easier access to geographic data.

All of this work is part of our journey towards the creation of the Explore Subnational Statistics (ESS) service, aiming to publish the ESS Beta service by spring 2024. This will continue to incrementally improve the accessibility of data and statistics for local government where there is less capacity to build these types of products themselves.

We have updated our methodology and the next UK natural capital accounts will include data for the devolved nations across all ecosystem services for the first time. We will also provide subnational (local authority) data on air pollution and greenhouse gas regulation services.

4 . Achievements

This section sets out the detail on the main achievements we have delivered since our last workplan was published.

Ambition 1: Produce more timely, granular, and harmonised subnational statistics

Producing new economic statistics

We produced Gross Value Added (GVA) statistics at Lower Super Output Area (LSOA) and equivalent geographies for the whole of the UK, allowing economic insight at the most granular levels. These data enable users to produce analysis of customisable geographies, using the data as building blocks to build areas of interest centred around hubs of industry or transport routes.

We improved the annual regional gross fixed capital formation (GFCF) data by producing new estimates for the UK ITL3 regions as well as with an asset breakdown. See our Experimental regional GFCF estimates by asset type article and dataset for more information.

We implemented a new measure of direct non-market output estimates for publicly funded education at ITL2 level into UK regional GDP in our Regional economic activity bulletin, building on our previous Measuring subnational education output article.

We published new estimates for foreign direct investment between 2015 and 2021 in our article at ITL2 level and improved estimates for subregional trade in goods and services in 2021 in our bulletin at ITL3 level by introducing partner country estimates and an extra region for offshore activities (such as oil rigs).

We revised our Labour Force Survey (LFS) weighting methodology, incorporating the Real Time Information data to regional labour market estimates (see our Labour market in the regions of the UK bulletins) and to the analysis of regional homeworking patterns in the UK (as seen in our Homeworking in the UK article). We also produced articles on Labour demand and Profession demand, Night-time economy and workforce and a digital tool to understand the Labour market of local authorities.

Using the Inter-Departmental Business Register (IDBR) data, we produced statistics on Public houses and bars for London local authorities and Middle-Layer Super Output Areas (MSOA) between 2001 and 2021, responding to a user data request.

To analyse geographic mobility in England, in collaboration with HMTH, we published an article on How children and young people in smaller towns do better academically than those in larger towns. We also published data on Differences in educational attainment, internal migration, and economic outcomes between travel to work areas.

Expanding household and environmental statistics

We published estimates for UK housing purchase affordability in 2022 at ITL1 level as well as a Admin-based housing stock statistics in 2021 dataset for local authorities in England and Wales.

We produced datasets for Energy efficiency of housing in England and Wales by middle layer super output area.

We released a Natural capital accounts roadmap, assessing how the targets from our previous UK natural capital roadmap methodology were met and providing plans of how greater granularity of these accounts will be achieved.

We published an Income estimates for small areas, England and Wales bulletin, using new administrative data sources.

We published experimental green jobs estimates by bringing together our research and estimates from our Current and upcoming work article defining and measuring green jobs, funded by HMT's Economic Data Innovation Fund. As noted in our accompanying Methodology for developing estimates of green jobs,we will be reviewing data sources to identify potential improvements to methods, or if alternative data sources are available. This work will include looking at improving the timeliness and granularity of the estimates.

We released a Natural capital accounts roadmap article assessing how the targets from our previous Natural capital roadmap methodology were met and providing plans for how greater granularity of these accounts will be achieved.

Our recent UK Urban natural capital accounts bulletin included estimates of urban heat regulation (the cooling effect provided by green and blue spaces in urban environments) for 11 city regions across Great Britain.

We released Climate-related mortality and hospital admissions datasets for England and Wales, at regional level.

Providing detailed health and population statistics

We launched an interactive tool allowing users to see how health has changed in their local area between 2015 and 2021. Alongside this we published a Health in England bulletin, summarising the main trends, as well as a Social capital in the UK bulletin.

We released the Census 2021 data and analysis results and timeline at very granular local levels and introduced several new functionalities to enable users to easily access, view and analyse the data. This included our Create a custom dataset tool, which allows users to select a combination of census variables to make their own dataset.

We published a Reconciliation of population estimates in England and Wales article, comparing the official 2021 Census-based mid-year estimates and the 2021 rolled-forward mid-year estimates (based on the 2011 Census) at local authority level.

We published updated Admin-based population estimates for all local authorities in England and Wales, 2021 to 2022 as an article, using the new dynamic population model. Alongside this, we updated the note on our Improvements to data sources and methodology for local authorities for England and Wales methodology to include options for producing estimates at lower than local authority level. We also released findings from our research in our Developing admin-based ethnicity estimates for England and Wales article, at local authority level, improving timeliness compared with census-based estimates, and granularity compared with survey-based estimates.

We are partnering with health bodies to advance improvements in statistical coherence in health data. We have already produced a summary of ambulance response time data in the UK, which explains how categories differ between countries in the UK.

Ambition 2: Build capability and capacity for subnational statistics and analysis

To increase capability for analysing geographic data, we built the online Geography for Statistics Training that provides courses and guidance on using geography and statistics, and together with the Analysis Function developed a tool to generate accessible spreadsheets for geography data. We also published guidance on building 2021 Census estimates from output areas and producing 2021 population weighted centroids. Additionally, we published a first article showcasing the new version of the Built-Up Area geography that can be used for towns and cities analysis.

We launched the Office for National Statistics (ONS) Local service and established a string regional presence of ONS analysts in England. During this time, ONS local have invested in building relationships and understanding priorities to develop workplans. The team support users with advice and guidance on subnational products and services available through ONS Local, the ONS more widely, and across government. They have also focused on building a good understanding of local user needs, taking a flexible approach in responding to them and working across the Government Statistical Service to highlight data gaps. ONS Local also works closely with the devolved governments to understand how we can best support existing structures in Scotland, Wales, and Northern Ireland. As part of the ONS Local service, we introduced the ONS Local presents webinar series to share the latest developments in subnational statistics and analysis, as well as the How to workshop series to provide more practical advice for our users and to help build capability across local government.

We updated the cross-GSS Coherence of statistics workplan in summer 2022 by consulting with analytical leaders to ensure the workplan is impactful, inclusive and ambitious. Statistical coherence draws together thematic outputs to ensure statistical producers are working together across the system and our data tell a joined-up story.

Ambition 3: Improve the dissemination of subnational statistics

We launched the Find facts and figures about your area page for England, Scotland, Wales, and Northern Ireland, allowing users to find facts and figures about local areas in the United Kingdom.

We published an article, showing a Cluster analysis exploring similarities between local authorities in England. It included an interactive map that allows users to understand which cluster their local authority is in, its clusters' main characteristics, and to navigate between the different topic area clustering models.

We have worked collaboratively with the Department for Levelling Up Housing and Communities (DLUHC) to identify some example projects from the Coastal Communities Fund, where new very granular GVA data and employment data could potentially be used to test whether the policy was associated with a significant change in these outcome variables. These will continue to progress as set out in the plan above.

We will continue to enable easy access to geographic data, adhering to the FAIR (findable, accessible, interoperable, reusable) data principles, through the ongoing improvements of data provision services and solutions (for example, the Open Geography Portal and Linked Data).

5 . Concluding remarks

Over the last 18 months, we have delivered a step change in the development and use of new local statistics, insights and dissemination of relevant subnational data for local and locally targeted policy making. A huge amount of work has gone into codesigning the new service offering of Office for National Statistics (ONS) Local with local government and other stakeholders. Over the next 18 months, we continue to have an ambitious and exciting programme of work that brings together a wealth of new statistics and insight alongside key services to ensure all of that is easily accessible and the capability to make best use of it is developed and supported through ONS Local. This combination of products and services will continue to ensure decision makers have the right information at the right time to make evidence-based decisions.

6 . Provide feedback

If you have any feedback or suggestions, please contact us atsubnational@ons.gov.uk.

We will review this content between 12 to 18 months from publication.

7 . Related Links

Subnational statistics and analysis, current and upcoming work: May 2022
Article | Released 16 May 2022
A summary of the ONS' current and future work related to subnational statistics and analysis.

The cost of living, current and upcoming work: February 2023
Article | Released 8 February 2023
A summary of our current and future analytical work related to the cost of living.

Subnational Statistics and Analysis
Web page | Updated as necessary
The Subnational Statistics and Analysis Division coordinates and develops statistical analysis of local areas and other smaller geographies.

Nomis – Official Labour Market Statistics
Web portal | Updated regularly
A service provided by the Office for National Statistics (ONS) to give you free access to the most detailed and up-to-date UK labour market statistics from official sources.

Northern Ireland Neighbourhood Information Service (NINIS) Statistics
Web portal | Updated regularly
A service provided by the Northern Ireland Statistics and Research Agency (NISRA), giving access to statistical and locational information relating to small areas across Northern Ireland as well as Northern Ireland as a whole.

Scotland's official statistics
Web portal | Updated regularly
Statistics from a variety of organisations such as the Scottish Government, National Records of Scotland, NHS Information Services Division and Transport Scotland.

Official data on Wales
Web portal | Updated regularly
A free-to-use service from the Welsh Government that allows you to view, manipulate, create and download tables from Welsh data.

8 . Cite this article

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