

The CUSP London data dive brings together global student teams to address urban data challenges.

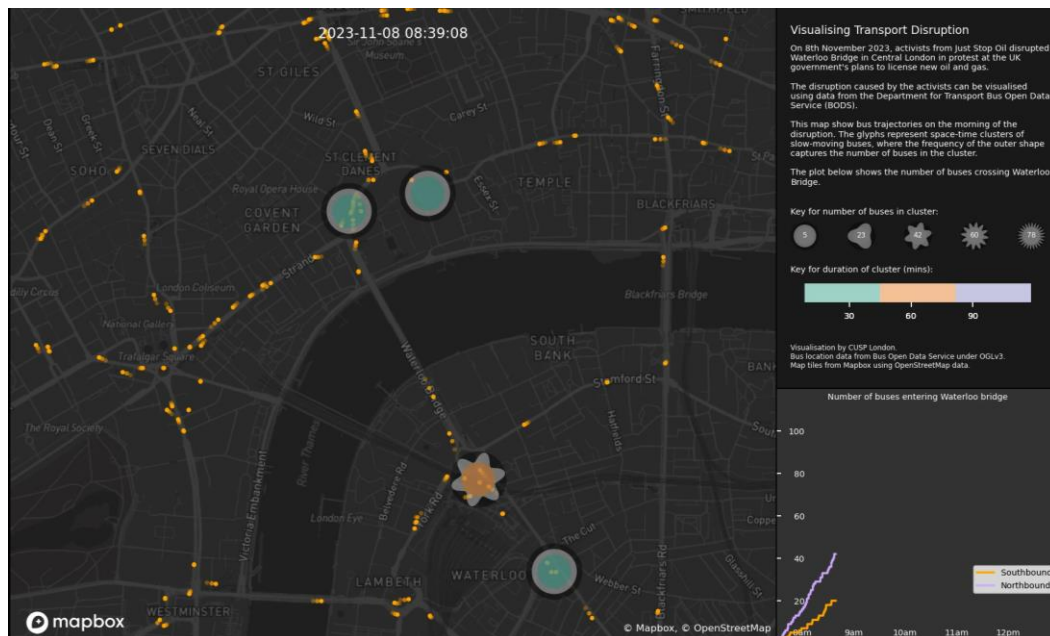
This year we will consider relationships between urban data variables in the domains of:
Transport, Safety, Air Quality, Health

In cities such as:
London, Newcastle, New York.

How can we quantify urban data relationships and what insights can be obtained to make our cities accessible, healthier and more liveable?

Groups will be able to address challenges including:

- Spatial, temporal, and spatiotemporal correlations between congestion, safety, air quality and/or health.
- Longitudinal analysis of urban variables.
- Inter-city and inter-continental comparisons.



A still from the film *"Cognitive Cities: How delays spread bus congestion"*, CUSP London, 2024,
<https://vimeo.com/899483012>

Data Challenges for 2024

The CUSP London Data Dive 2024 brings together students from King's and our global partners to work in teams of around seven over four days on one of a range of data challenges that relate to data from and about healthier more liveable cities. Mentors will help guide the application and technical progress of each team.

The programme of events is designed to be as inclusive as possible across time zones and locations. The event will be hosted in a flexible space to allow remote participation using Teams for some groups.

The Challenges

All the challenges below involve using public domain data so that we can gather in and reuse the outcomes and so that team members can use them to show to future collaborators and employers.

For each challenge the tasks are to:

- 1) Wrangle and understand the data structure.
- 2) Analyse the data and find key messages.
- 3) Design a clear compelling data presentation for an end-user.

You may vary the context and secondary datasets used to address questions that most interest you as a group, in consultation with the mentors and using research in the literature.

Challenges may include:

- **Analysis of spatial, temporal, and spatiotemporal correlations between congestion, safety, air quality and/or health.**
- **Longitudinal analysis of urban variables**
- **Inter-city and inter-continental comparisons.**

Across all questions we will ask groups to produce the technical outcome and an outcome suitable for communicating to the public. The public communication element may be visual or text, or both, but should assume little or no mathematical knowledge.

Potential data sources and other relevant information will be provided before the Data Dive.

The Judging Panel:

There will be 2 prizes awarded: Overall Winners and Best Technical Contribution.

The Judges:

Director of CUSP London King's College London
Reader in Data Visualisation, King's College London
Senior Insights and Reporting Manager, Safety
Health and the Environment,
Transport for London (TfL)
CUSP London Research Software Engineer,
King's College London

Nick Holliman
Rita Borgo

Hannah Bougdah

Peter Baudains



2024 CHALLENGE PROGRAMME STRUCTURE

Theme	Date & Time	Activity
Launching session & Team build-up	Tues 20th Feb 12:00-16:00 GMT 07:45-11:00 ET (ET participants arrive for the talks)	<ul style="list-style-type: none"> • 12:00 Lunch and meet up. • 12.45 Talks from CUSP London, TfL, Imperial & NYU • Introducing teams and facilitators • Warm-ups, meet teammates. • Team Brainstorming, and individual assignments allocated within each team.
4-day Hackathon	Wed 21st Feb 09:30-16:00 GMT 08:00-11:00 ET reports	<ul style="list-style-type: none"> • 09:30 Arrive and prepare for briefing. • 10:00 daily briefing Q&A • Devise methodology; preliminary analyses, expectations. • 12:30 Lunch • 13:00 GMT Team daily online catchup, consult Mentor if needed. • Discussion of preliminary outputs, improvements, and further analyses. • 15:00 Global team reports on descriptive statistics. • Conclusions, hypothesis testing etc 1
	Thurs 22nd Feb 09:30-16:00 GMT 09:00 ET team reports	<ul style="list-style-type: none"> • 09:30 Arrive and prepare for briefing. • 10:00 daily briefing. • 12:30 Lunch • 13:00 GMT Develop key message about the data and the visualizations to present it with. • 15:00 Global team reports on data insights • Consider any policy recommendation. • Presentation video production • Pizza evening on campus for those wishing to stay late and finalise presentations.
Judges review presentations and Closing session	Fri 23rd Feb 09:30-12:00 12:30-16:10 GMT 07:30-11:10 ET	<ul style="list-style-type: none"> • 10:00 Presentation preparations in groups • 12:00 Lunch with partners and collaborators • 12:30 Presentations 10 mins/team • 13:10 Short Break • 13:20 Presentations continue. • 14:00 Short Break • 14:10 Presentations continue. • 14:50 Refreshment break Tea, coffee, cake • 16:00 Winners announced. • 16:10 Close