

# Reka Solymosi

Lecturer in Quantitative Methods

## Curriculum Vitae

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📍 School of Social Sciences, University of Manchester  
🏠 rekadata.site  
☎ +44 792 333 6615  
✉ reka.solymosi@manchester.ac.uk  
🐦 @r\_solymosi  
🌐 maczokni

## Education and Qualifications

- 2012-2016 **PhD in Crime and Security Science**  
University College London
- 2011-2012 **MRes in Crime and Security Science**  
University College London
- 2010-2011 **MRes Criminology & Socio-Legal Studies**  
University of Manchester
- 2005-2010 **Bachelor of Arts: Major in Sociology & Spanish**  
University of British Columbia

## Present and previous appointments

- 2016-present **Lecturer in Quantitative Methods: University of Manchester, Department of Social Sciences**  
- Secured grant funding, managed research teams, published in academic journals, attracted high-quality research students, and engaged with industry and public sector to maximise impact. - Taught quantitative data analysis, GIS and crime mapping, evaluation research in policy and practice to undergraduate and postgraduate students, external teaching to professional audiences. - Programme director for Masters' study in the Department of Criminology, Academic Advising, and other public and academic engagement activities.
- 2015-2016 **Data Analyst: Transport for London, Enforcement and On Street Operations Directorate**  
- Gathered, processed, and analysed data on trends and emerging issues by preparing analytical products, which informed TfL's deployment decisions. - Collated data from diverse sources to make them useful by cleaning and writing code for reproducible data pipelines from query to output report or interactive applications. - Used inferential statistics and spatiotemporal analysis to draw meaningful conclusions to ensure strategic allocation of resources.
- 2014-2014 **Data Analyst: London Borough of Camden, Transport and Street Planning Team**  
- Produced a report on quantitative and qualitative analysis of data from a public consultation on Camden's major urban redevelopment project around Tottenham Court Road - Analysed how attitudes varied across different characteristics (eg residents, small business owners, cyclist groups, etc) - Extracted themes from qualitative data about what people supported and opposed, to allow tailored responses from the council.
- 2011-2014 **Research Administrator (part time): University College London**  
Pedestrian Accessibility and Movement Environment Laboratory
- 2011-2014 **Research Assistant (part time): University College London**  
Community-based Open Mapping to Engage Travel project
- 2010-2015 **Teaching Assistant (part time): University College London**  
Department of Geography, Department of Civil Environmental and Geographic Engineering

## Professional memberships

- 2019-present **Fellow: Higher Education Academy**  
Fellowship awarded to professionals who meet the criteria of Descriptor 2 of the UK Professional Standards Framework for teaching and supporting learning in higher education.
- 2017-present **Fellow: Software Sustainability Institute**  
Working to promote open research and credit for research software
- 2017-present **Board member: Economic and Social Research Council Business and Local Government Data Research Centre**  
Data Acquisition Board
- 2016-present **Honorary Lecturer: University College London**  
Research and teaching activities based in Department of Civil, Environmental, and Geomatic Engineering

## Selected Research Activities

My research areas include perception of crime and place, spatial crime analysis, environmental criminology, social data science, transport crime, crowdsourcing, and geographical information analysis.

## Publications

ORCID: 0000-0001-8689-1526

### Peer reviewed publications

1. Langton, SH and R Solymosi (2019). Cartograms, hexograms and regular grids: Minimising misrepresentation in spatial data visualisations. *Environment and Planning B: Urban Analytics and City Science*.
2. Solymosi, R (2019). Exploring Spatial Patterns of Guardianship Through Civic Technology Platforms. *Criminal Justice Review* **44**(1), 42–59.
3. Solymosi, R, K Cella, and A Newton (2018). Did they report it to stop it? A realist evaluation of the effect of an advertising campaign on victims' willingness to report unwanted sexual behaviour. *Security Journal* **31**(2), 570–590.
4. Solymosi, R and K Bowers (2018). "The role of innovative data collection methods in advancing criminological understanding". In: vol. 210. Oxford University Press, pp.210–237.
5. Solymosi, R, KJ Bowers, and T Fujiyama (2017). Crowdsourcing subjective perceptions of neighbourhood disorder: Interpreting bias in open data. *The British Journal of Criminology* **58**(4), 944–967.
6. Solymosi, R, K Bowers, and T Fujiyama (2015). Mapping fear of crime as a context-dependent everyday experience that varies in space and time. *Legal and Criminological Psychology* **20**(2), 193–211.
7. Solymosi, R, H Borrión, and T Fujiyama (2015). "Crowd Spatial Patterns at Bus Stops: Security Implications and Effects of Warning Messages". In: *Safety and Security in Transit Environments*. Springer, pp.156–178.

### Publications accepted or under review (pre-prints available).

OSF profile: [osf.io/3nzk2](https://osf.io/3nzk2).

1. Solymosi, R, O Petcu, and J Wilkinson (2020). Exploring public engagement with missing person appeals on Twitter. *Under Review in Policing and Society*. Retrieved from osf: <https://osf.io/preprints/socarxiv/wugxs/>.
2. Solymosi, R, D Buil-Gil, L Vozmediano, and IS Guedes (2019). A place-based approach to fear of crime: A systematic review of app-based and crowdsourced measures. *Under review in Environment and Behaviour*. Retrieved from osf: <https://osf.io/preprints/socarxiv/h3n9w/>.
3. Buil-Gil, D, R Solymosi, and A Moretti (2019). Non-parametric bootstrap and small area estimation to mitigate bias in crowdsourced data. Simulation study and application to perceived safety. *Accepted in Big Data Meets Survey Science*. Hill, C. A., Biemer, P. P., Buskirk, T., Japac, L., Kirchner, A. and Lyberg, L. E. (eds.). Wiley. Retrieved from osf: <https://osf.io/preprints/socarxiv/8hgjt/>.
4. Solymosi, R, M Ashby, T Cohen, and A Sidebottom (2017). Alternative denominators in transport crime rates. *Accepted in European Journal on Criminal Policy and Research*. Retrieved from osf: [io/preprints/socarxiv/neaxh](https://osf.io/preprints/socarxiv/neaxh).
5. Enghoff, O and R Solymosi (2019). Making sense of crowdsourced text data using different analytical approaches: a case study of self-reports of sexual harassment. *Under review in Methodological Innovation*.

### Media and other outputs

1. Solymosi, R and M Chataway (2019). Using mobile applications for social science research. *LSE Impact Blog*. Available: <https://blogs.lse.ac.uk/impactofsocialsciences/2019/08/14/using-mobile-applications-for-social-science-research/>.
2. Solymosi, R (2019). How to get a DOI for your teaching materials with Zenodo. *Sage Ocean Publications Blog*. Available: <https://ocean.sagepub.com/blog/how-to-get-a-doi-for-your-teaching-materials-with-zenodo>.
3. Solymosi, R and M Chataway (2019). Webinar: Using app-based and sensing methods for social science research. *UK Data Service*. Available: <https://www.ukdataservice.ac.uk/news-and-events/eventsitem/?id=5461>.
4. Solymosi, R (2018). Women in Data Science: mentoring and applying app-based and sensing methods to cognitive and decision sciences. *Software Sustainability Institute Blog*. Available: <https://www.software.ac.uk/blog/2019-08-13-women-data-science-mentoring-and-applying-app-based-and-sensing-methods-cognitive>.
5. Solymosi, R (2018). Northwest Universities R Day event. *Software Sustainability Institute Blog*. Available: <https://www.software.ac.uk/blog/2019-01-23-northwest-universities-r-day-event>.
6. Solymosi, R (2018). Safe Places Through Technological Innovation. *Software Sustainability Institute Blog*. Available: <https://www.software.ac.uk/blog/2018-11-01-safe-places-through-technological-innovation>.
7. Solymosi, R (2018). TICTeC 2018 – An Introduction to the World of Civic Technologies. *Software Sustainability Institute Blog*. Available: <https://www.software.ac.uk/blog/2018-07-17-tictec-2018-introduction-world-civic-technologies>.

8. Solymosi, R (2018). Brexit Data Challenge part 2: presentation at GISRUUK. *Software Sustainability Institute Blog*. Available: <https://www.software.ac.uk/blog/2018-06-21-brexit-data-challenge-part-2-presentation-gisruk>.
9. Solymosi, R (2018). Brexit Data Challenge event. *Software Sustainability Institute Blog*. Available: <https://www.software.ac.uk/blog/2018-04-27-brexit-data-challenge-event>.
10. Solymosi, R (2016). Confidence in transport and policing. Available: <https://www.ucl.ac.uk/transport-institute/pdfs/ConfidenceWorkshop.pdf>.
11. Solymosi, R (2014). Mapping fear of crime dynamically on everyday transport. *JDiBrief Series*. London: UCL Jill Dando Institute of Security and Crime Science. ISSN: 2050-4853. Available: <http://www.ucl.ac.uk/jdibrief/analysis/Mapping-fear-of-crime-dynamically-on-everyday-transport>.
12. Solymosi, R (2014). Transport Streets and Crime. Available: <https://www.ucl.ac.uk/transport-institute/pdfs/transport-streets-crime>.

## Research Grants

### Funding awarded as Principal Investigator

2019-2019	<b>Identifying features that affect public engagement with appeals for information about missing persons on Twitter</b> GBP 5,000 funding from Manchester Statistical Society Champion Grant
2018-2019	<b>Using Bayesian Surprise maps to explore debt and insolvency across the UK</b> GBP 10,000 funding from Consumer Data Research Centre, Economic and Social Research Council
2017-2020	<b>Measuring fear of crime using app-based and sensing methodologies</b> GBP 10,000 funding from British Academy and Leverhulme Small Grants
2017-2017	<b>Building Tools and Training for Crime Analysts using R</b> GBP 3,000 funding from N8 Policing Research Partnership
2017-2017	<b>Data Visualisation in Criminal Courts</b> GBP 1,000 funding from Economic Social Research Council, Festival of Social Sciences

## Invited talks

2019	<b>Mapping and spatial modelling in R for crime prevention and conservation</b> Sheffield R User Group, UK  <b>The role of innovative data collection methods in advancing understanding, and the importance of considering the biases within</b> Women in Data Science: Zurich, Switzerland <b>Keynote: Data-driven insights in law: opportunities and cautions</b> Berlin Legal Tech Conference 2019, Germany  <b>The role of innovative data collection methods in advancing behavioural understanding</b> Cognitive and Decision Sciences, University of Basel, Switzerland  <b>The role of innovative data collection methods in advancing criminological understanding</b> Manchester Metropolitan University Big Data Centre Seminar Series, UK
2018	<b>Crowdsourcing subjective perceptions of neighbourhood disorder: interpreting bias in Open Data</b> TicTec 2018, Lisbon, Portugal  <b>Interdisciplinary Alchemy: Data Science + Social Science</b> Data Kind UK  <b>Everybody Lies but Not Everybody Tweets: Making Sense of the Bias in Your Data</b> Advances in Data Science conference, Manchester, UK
2017	<b>Reproducible Crime Analysis using R</b> Intelligence Innovation Working Group hosted by West Midlands Police  <b>Building Interactive Data Visualizations</b> Manchester Methods Fair, UK  <b>Using open data in the social sciences</b> Her+Data Meetup, Manchester, UK  <b>What is Crowdsourced Data?</b> Methods@Manchester seminar on research methods in social sciences, Manchester, UK  <b>Eyes and Apps on the Street</b> Stockholm Royal Institute of Technology (KTH), Sweden  <b>Keynote: Making Sense of Data using Methods</b> Methods North West Launch Conference, Manchester, UK  <b>Using R for Crime Analysis</b> Greater Manchester Police, Force HQ, Manchester, UK

- Mapping fear of crime as a context-dependent everyday experience that varies in space and time**  
Horizon 2020 Project MARGIN conference, Budapest, Hungary
- Using open data to evaluate current approaches to cabs tasking**  
11th International Crime Science Conference, London, UK
- Fighting Crime (and other bad things) on the transport network**  
Manchester R User Group meetup
- 2016 **Practitioner-Academic Seminar on Confidence in Policing**  
Transport for London, UK
- Policing and Public Confidence - Confidence at TfL and the challenges of a transport environment**  
Public Confidence in the Police - University of Warwick, UK
- 2015 **Scheduling student-led learning by enquiry into the curriculum**  
Teaching and Learning Conference 2015, UCL, London, UK
- Alternative Denominators in Transport Crime Rates**  
Transport Statistics User Group Meeting, London, UK
- Using a smartphone app to measure fear of crime on route 25**  
Transport for London Route 25 Joint Transport Action Group (JTAG) meeting, London, UK
- 2014 **Streets, Crime, and Transport**  
EPSRC Impact Award Seminar, London, UK
- A new approach to mapping perceptions of crime along the door-to-door journey**  
Transport Geography Research Group Workshop, Leeds, UK
- Fear of crime on transport**  
PopFest, annual Population Studies conference for PhD students, London, UK
- Using a smartphone app to report fear of hate crime**  
Trans London Meetup, London, UK
- 2013 **Crowd spatial patterns at bus stops**  
Stockholm Royal Institute of Technology (KTH), Sweden

## Outreach

- 2020 **Open Data Manchester**  
I collaborate actively with Open Data Manchester, a Community Interest Company interested in open data and promoting data literacy and supporting data analysis for good. For example we have a joint PhD student researching this topic.
- 2020 **Wirral Hospitals' School**  
One-hour career oriented session about data analysis for students enrolled in a community school, introducing them to crime analysis.
- 2019 **Greater Manchester Police**  
Co-supervision of PhD student with Greater Manchester Police's Force Intelligence Bureau and colleagues in University College London working to improve horizon scanning processes within the organisation and wider in policing.
- 2018 **N8 Analyst Training**  
Training workshop on data visualisation and GIS as part of the N8 Policing Research Partnership training course for police analysts from across northern police forces.
- Representation of women in data roles**  
I consistently give talks and participate in data-related meetups including ones which emphasise representation of women in data roles, such as R-ladies and Her+Data meetups.
- TicTec2018**  
The NGO 'MySociety' invited me to present the work I did using their fix my street platform at the international civic technology conference for researchers, practitioners, and all those with an interest in how technology is changing the way we engage with society. TICTeC is known for its unique focus on the impacts of Civic Technologies where funders mix with practitioners, activists converse with researchers, small NGOs get as much attention as the big players. Since then, I have been working with their research team, who have replicated findings in two of my papers, and are in the process of further joint working.

## Service and Leadership

- 2017-present **Department of Criminology: Programme Director for Postgraduate Taught Programmes (Masters degrees)**  
Strategic oversight of programme direction teaching curriculum for all Masters' streams, alongside day-to-day administrative and pastoral responsibilities.
- 2016-2018 **University of Manchester: Coordinator of the University of Manchester R User Group**  
Direction and organisation of user group activities such as monthly meetings, hackathons, and preparation of joint research outputs.
- 2016-Present **Data Carpentry Social Sciences Curriculum: Curriculum Advisory Board Member**  
Involvement in oversight and development of the social sciences curriculum within the Carpentries programme.
- 2016-present **University of Manchester: Ad hoc administrative duties**  
Undergraduate Open Day, Postgraduate Research (PhD) Open Day, and similar roles assisting colleagues and promoting the university

**2016-present      University of Manchester: Academic Advising**

Pastoral care and academic advising for undergraduate and postgraduate students enrolled in Criminology degrees.

**List of skills**

- Quantitative and qualitative data analysis
- Spatial data analysis and GIS mapping
- Data collection, cleaning, and wrangling
- Written and oral communication skills
- Version control using git
- Coding languages:
  - R (advanced)
  - Java (intermediate)
  - SQL (intermediate)
  - Python (intermediate)
- Software:
  - Microsoft Office Suite
  - QGIS
  - ArcGIS
  - MapInfo