

Hussein Mahfouz

TRANSPORT RESEARCHER

Cairo, Egypt

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Education

University College London

London, UK

MSC (DISTINCTION) IN SMART CITIES AND URBAN ANALYTICS

Sep. 2019 - Aug. 2020

- Studied quantitative geography, network analysis, statistics and urban systems theory.
- Dissertation: Prioritizing Road Segments for Investment in Segregated Cycling Infrastructure - A Methodological Framework [github link].
- Received the RGS-IBG GIScience Dissertation Prize [link].

The American University in Cairo

Cairo, Egypt

BSc (HIGH HONORS) IN CONSTRUCTION ENGINEERING

Sep. 2011 - Jun. 2016

- Focused on Structural Engineering and Construction Project Management.

Work Experience

Transport for Cairo

Cairo, Egypt

RESEARCH ASSOCIATE

Sep. 2018 - Aug. 2019 / Sep. 2020 - Now

- Worked on the World Bank funded *Greater Cairo Region Mobility Assessment and Public Transport Improvement Study (MAPTIS)*.
 - Drafted a sampling strategy for primary data collection
 - Cleaned, validated, and prepared datasets for input into a four-step model
 - Data analysis scripts: travel time estimations and GTFS feed creation; employment accessibility analysis; road segment passenger flow analysis; and boarding and alighting patterns
- Worked on the *Ghana Urban Mobility and Accessibility Project (GUMAP)* component on *Short term technical assistance for the completion of databases and maps of public transport routes and passenger flows in GAMA*.
 - Managed the field research operation
 - Conducted knowledge transfer workshops on data collection and analysis for the local departments of transport
 - Analysed the public transport network of Greater Accra, and co-authored project reports
- Worked on creating a spatial model of employment of Casablanca, Morocco for the World Bank
 - Proposed and implemented a methodology to create spatially disaggregated employment datasets in a data-poor context, accounting for informal employment
 - Documented the process in reproducible markdown files with embedded code
- Worked on the World Bank funded study: *Multimodal Transport Strategy for the Greater Cairo Region*.
 - In charge of fieldwork for mapping entire formal and informal public transport networks of the Greater Cairo Region
 - Developed a methodology to quantify and compare the impact of proposed bus corridors on regional accessibility
- Research and Development.
 - Developing and maintaining software to convert transit GIS data from primary data collection to GTFS feeds that are used for trip planning and analysis tasks
 - Modelling road segment-level travel speeds for different travel modes using gps trackpoints from primary data collection exercises

Access to Knowledge for Development Center

Cairo, Egypt

RESEARCH ASSISTANT

Mar. 2018 - Sep. 2018

- Worked on gaining insights into transportation sector through data-driven research.
- Carried out research on informal transportation on Cairo's Ring Road. The research focused on how informal transportation fills demand gaps, and the role of unofficial access points in accessibility to transport
- Carried out research on the impact of ride-sharing applications on the livelihoods and safety of women in Egypt

UN-Habitat

Cairo, Egypt

INTERN

Jul. 2016 - Dec. 2016

- Worked on the mobility program which supported the government in shifting towards an integrated transportation system. Proposed solutions included a BRT system, bike infrastructure and improved passenger information.
- Worked on a land readjustment project which provided inclusive solutions to the issue of urban sprawl on agricultural land.

Technical Skills

Coding Languages	Software	Markup Languages
R – Python – SQL	Git – QGIS – PostgreSQL/PostGIS	CSS – HTML – \LaTeX – RMarkdown

Publications

A Road Segment Prioritization Approach for Cycling Infrastructure

ARXIV

Preprint

04, 2021

- **Mahfouz, H.**, Arcaute, E., Lovelace, R. (2021). "A Road Segment Prioritization Approach for Cycling Infrastructure." arXiv. <https://arxiv.org/abs/2105.03712>

Multimodal network planning, identification of high capacity bus corridor and park and ride facilities in the Greater Cairo Region

WORLD BANK REPORT

Report

08, 2019

- Hegazy, M., Kalila, A., **Mahfouz, H.** (2019). "Multimodal Network Planning, Identification of High Capacity Bus Corridor and Park and Ride Facilities." World Bank Group.

Awards

- 2021 **rstudio::global 2021 Diversity Scholarship - RStudio**
RStudio is a company that develops free an open source tools for the R programming language. Each years they provide a number of scholarships where recipients attend workshops held by their lead developers.
- 2020 **RGS-IBG GIScience Dissertation Award - Royal Geographic Society**
The Royal Geographical Society (with the Institute of British Geographers) - RGS-IBG - GIScience Research Group is a group of academics and practitioners working on Geographic Data Science. Each year they award a prize for the best postgraduate dissertation in geographic information science in the UK and Ireland.
- 2019 **Chevening Scholarship - UK Foreign & Commonwealth Office**
Chevening Scholarships are the UK government's global scholarship programme. Scholarships are awarded to outstanding candidates to do postgraduate degrees in the UK.

Languages

Arabic: Native.

English: Proficient User.

French: Basic User.