

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 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
 - Data cleaning and validation
 - 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 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
 - Web scraping and data cleaning
 - Matching census figures with primary data and accounting for informal employment
 - Documenting the process in reproducible markdown files with embedded code
- Contributed in a research capacity towards a 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
- 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
 - Model 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

- Carried out research on informal transportation on Cairo's Ring Road.
- Worked on gaining insights into transportation sector through data-driven research.

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.**, Arcuate, 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

2020 RGS-IBG GIScience Dissertation Award

*Royal Geographic
Society*

Languages

Arabic: Native.

English: Proficient User.

French: Basic User.