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Supporting the government of
Ghana with Call Detail Records
analytics for COVID-19

31st August, 2020

Tracey Li, Data Scientist
Flowminder Foundation

Project collaboration in place since 2018

Data provider
partner



Implementation partner

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Government



Donors



An aerial photograph of a densely populated urban area, likely in Ghana, showing a mix of residential buildings, roads, and green spaces. The image is overlaid with a semi-transparent blue filter. The text is centered in the upper half of the image.

Long-term project goal

“To strengthen capacity within Ghana Statistical Service (GSS), to enable GSS to incorporate aggregated, anonymised mobile phone data into the production of official statistics and indicators.”

Progress by start of 2020

- Legal and partnership framework in place.
- Obtained political buy-in for the project.
- Information about the project disseminated to stakeholders and the public.
- Data pipeline set up, with data flowing in each day.

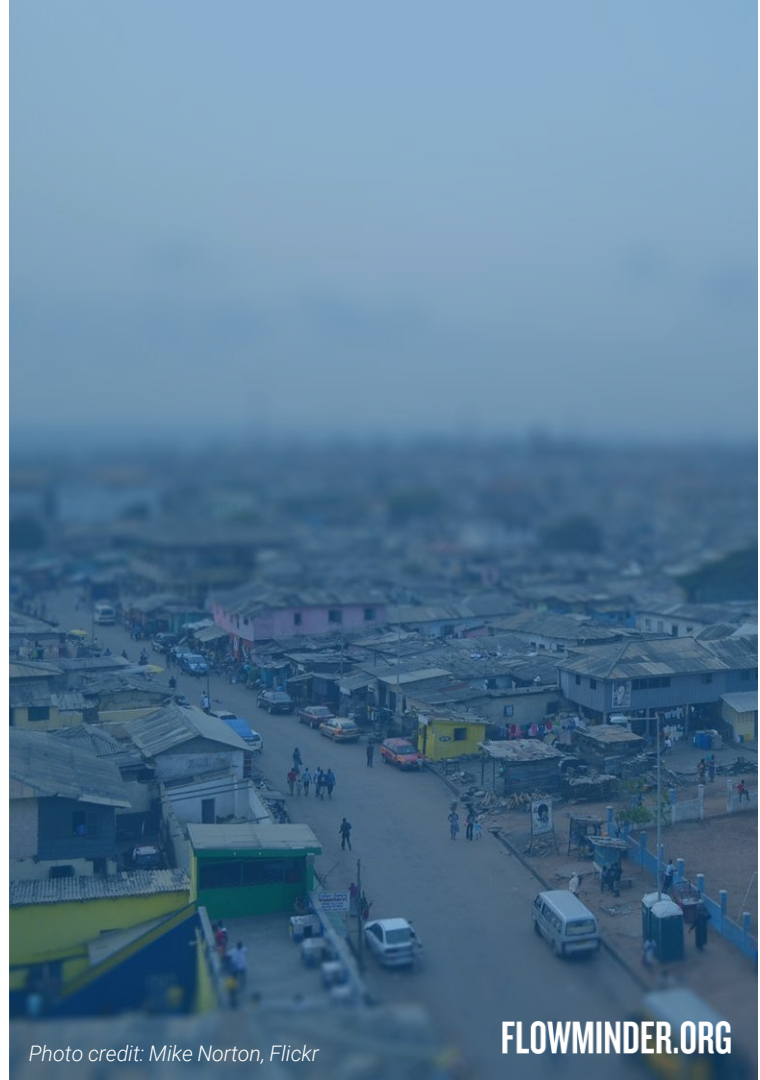
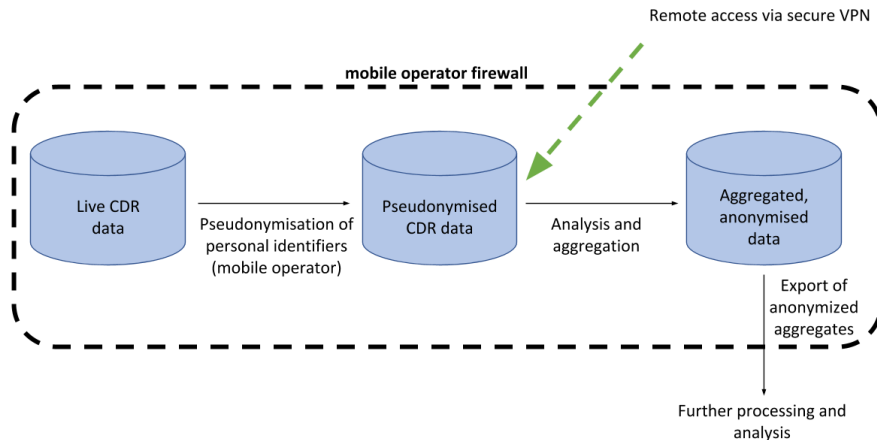


Photo credit: Mike Norton, Flickr

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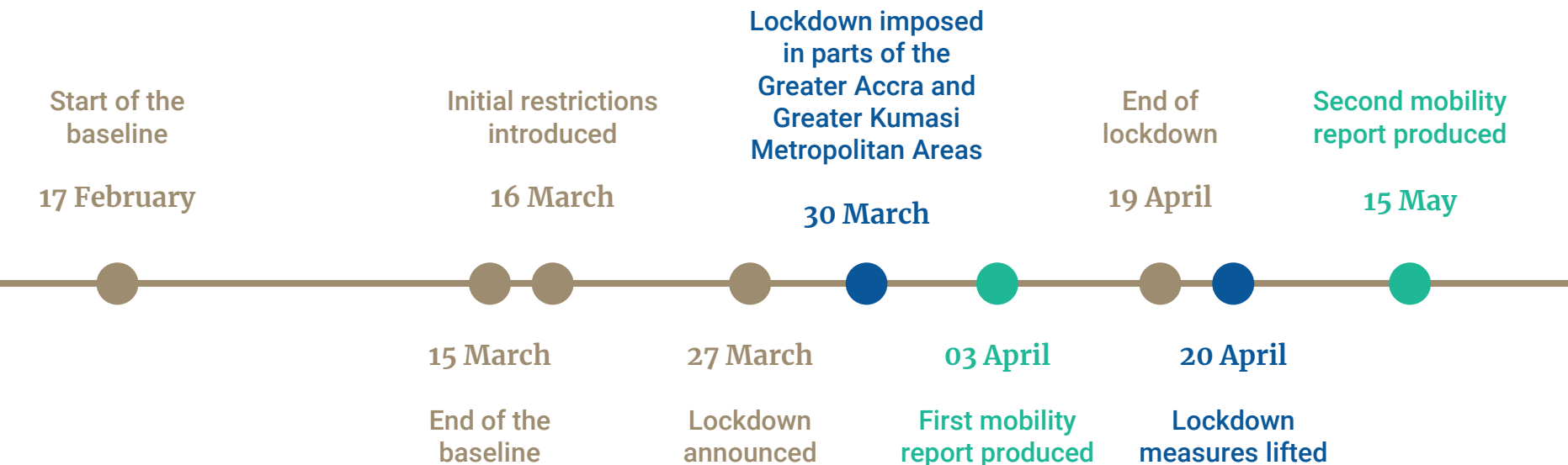
Privacy-preserving data pipeline

- **All data processing is done on Vodafone Ghana's premises.**
- **Only aggregated, anonymised data is released** from Vodafone Ghana.
- The setup has been approved by the Ghana Data Protection Commission.



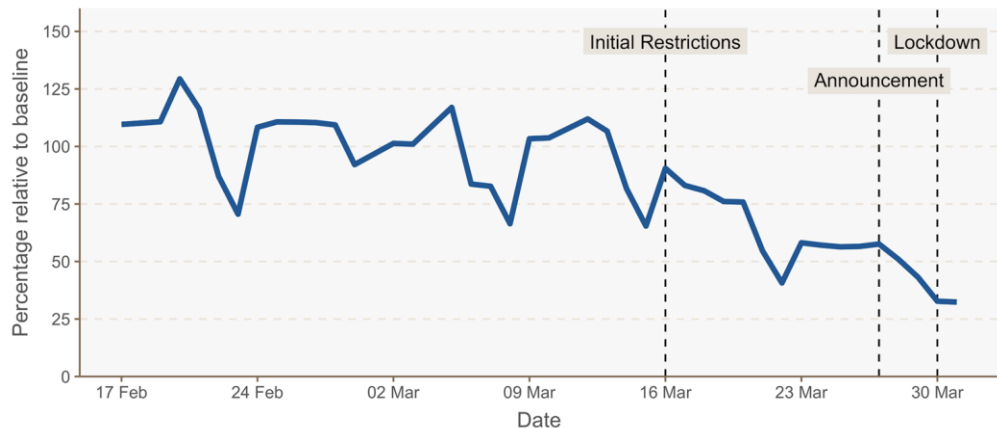
Preparation enabled a timely response

A big advantage of mobile phone data is its timeliness. We were able to exploit this because we already had infrastructure and a strong governance framework in place.



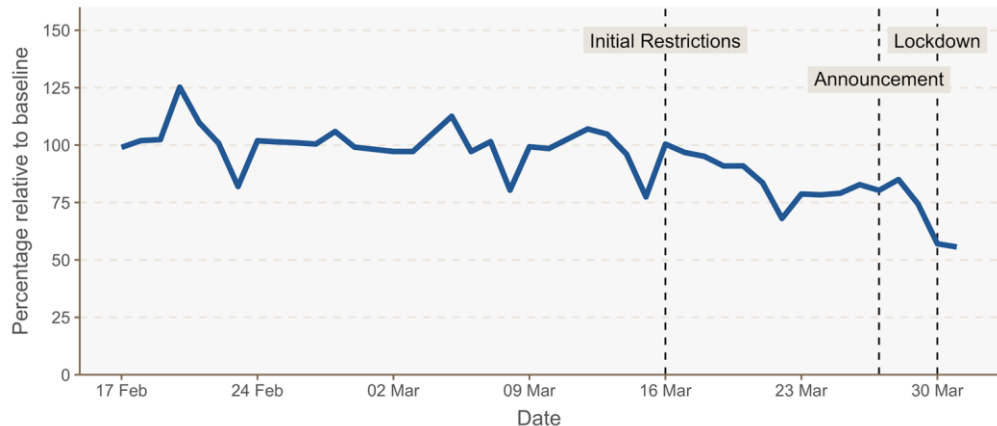
Baseline period used for analysis:
17 February - 15 March inclusive

Number of active subscribers in Ayawaso West each day



Analysis by Flowminder. Data from Vodafone Ghana

Total number of trips between all districts



Analysis by Flowminder. Data from Vodafone Ghana

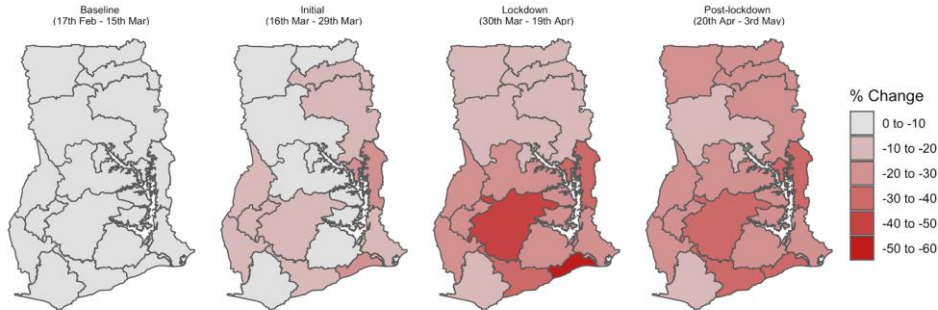
First report released four days after lockdown

- Analysis based on two key, simple to understand indicators (subscriber presence, and number of trips).
- Able to obtain insights about travel behaviour over the whole country.

Follow up report released after lockdown lifted

- Analysis based on comparisons across four distinct time periods.
- Report includes comments on policy implications.

Change in the number of trips between any two districts in each region



Analysis by Flowminder. Data from Vodafone Ghana

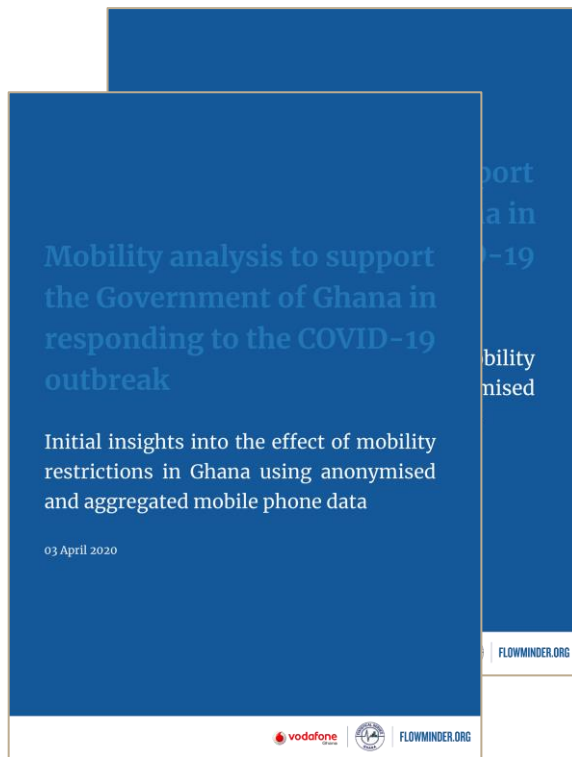
“The observation that mobility after the lift of the partial lockdown remains at levels well below mobility during the periods of the baseline and the initial restrictions (including sanctioning social distancing and adherence to public health hygienic protocols) endorses the effectiveness of the use of moral suasion as a complementary intervention in the fight against COVID-19.”

Residents in Ghana deserve commendation for not reverting to the ways of living prior to the imposition of the initial restrictions and are therefore urged to continue with change in behaviour in order to contain the pandemic. „

*Professor Samuel Anim, Government Statistician,
Ghana Statistical Service*

Open, transparent data usage and analysis

- Both reports are publicly available from GSS's site: tinyurl.com/yyodusfy
- More information on analysis methods is available from Flowminder's COVID-19 site: covid19.flowminder.org/
- For any further information, contact tracey.li@flowminder.org



The future

- The collaboration between Vodafone Ghana, GSS, and Flowminder will continue.
- Flowminder has been providing training to the GSS team, so that GSS have the skills to access and analyse the aggregated CDR data themselves.
- Together, we intend to continue supporting the Government of Ghana.