Networks of the Megacity
The story of mapping Cairo’s integrated Metro, Bus and Informal transit network.

Egyptian citizens waiting for a bus at an Informal Bus Station at Gamee’t El-Dowal boulevard
Image Courtesy: NASA Goddard Space Flight Center Image by Reto Stöckli (land surface, shallow water, clouds). Enhancements by Robert Simmon (ocean color, compositing, 3D globes, animation). Data and technical support: MODIS Land Group; MODIS Science Data Support Team; MODIS Atmosphere Group; MODIS Ocean Group Additional data: USGS EROS Data Center (topography); USGS Terrestrial Remote Sensing Flagstaff Field Center (Antarctica); Defense Meteorological Satellite Program (city lights).
Policy Gap #1

Public Transport is invisible
Policy Gap #2

Congestion is incurable
Is urban development leading to the urban mobility future we want?

Policy Gap #3
Let's talk about accessibility

Housing policy
New Desert Communities 'NDC'
Walkable
non-motorized transport NMT infrastructure
no traffic lights
improvised mobility control measure
Friday Prayers - by car
Stories about Paratransit

2) Where is my stop?

What if they were centralized in a clear network?
Policy Gap - New urban developments have an accessibility problem

Can you spot people? (or the Suzuki?)
What we do #1

Make public transport visible
What we do #2

Make public transport understandable

PMI
Potential Mobility Index
Speed in Km/H of travel in all directions using public transport
PT is a good use of my time & gives me freedom to change my plans
Integrated Metro, Bus and Paratransit network

What we do #1 - Make public transport visible
What we do #1 - Make public transport visible

Cairo’s metropolitan scale mapped

March 2018
Transit Network visualization of the Greater Cairo Region

How to read this data visualization?

This is a data visualization of the transit network covering five of Cairo’s New Desert Communities. It includes multiple networks:

1. The paratransit network connecting the New Desert Cities with central Cairo and each other, operated by the informal transport sector using blue route numbers.
2. An intercity network connecting the New Desert Cities with central Cairo, operated under a concession of the CTA using yellow route numbers.
3. A community transportation network known as Dandy Mall, operated by the informal transport sector using blue route numbers.
4. A bus network connecting the New Desert Cities, operated by CTA using blue route numbers.
5. A metro network covering central Cairo, operated by the government using blue route numbers.

The network connecting the New Desert Cities to central Cairo is important for reducing traffic congestion and improving accessibility in the area. It is important to note that the map is not for circulation and is for illustration purposes only. February 2018.
A roadmap for making the system better

PARAMETERS OF ADEQUATE URBAN MOBILITY

Affordability: The financial costs associated with transportation in relation to travelers’ paying abilities.

Availability: The route options, frequency and timings.

Accessibility: The ease of using public transportation irrespective of age, physical ability or gender and the availability of information on routes.

Acceptability: The extent to which modes of transportation are acceptable based on travelers’ standards.

Safety: The prevention of harm such as being killed or injured to road users (including pedestrians, cyclists, motorists and vehicle passengers).

Sustainability: The environmental costs and impacts associated with transportation.
PT respects me in the level of safety, comfort, and amenity it provides
How can Transit Mapping contribute to achieving Adequate Urban Mobility?

The case of the Greater Cairo Region (GCR)
Transport for Cairo: An urban mobility lab

Geographic mapping
Temporal Modelling
System Adequacy
Qualitative Research

Research
Product

Cairo Zoo
B Giza, Cairo
- 4 min (8 stops)

Kasr El-Nil
Al Sayeda, Cairo
Walk
- About 5 mins, 300 m

Al-Sayed Zeinab Metro Station
Al Sayeda, Cairo
- 15 min (6 stops)

Al-Shohadaa
Al Fagala, Cairo
1. **Strategy**
   - Geographic mapping
   - Temporal Modelling
   - System Adequacy
   - Qualitative Research
   - Trip-Planning

2. **Outcome**
   - Data & Tools for Industry and Decision-makers
   - Better Planning & More Investments

3. **Impact**
   - Economic
   - Environmental
   - Health
   - Social
   - Better Accessibility ▶︎ for all citizens

4. **Vision**
   - Better Customer Experience
   - Higher Public Transport Ridership & Modal Share
TfC: A chronology
2015 - The Open Source Inspiration

Tools & Technology

GTFS

Methodology & Research
2015 - Humble Beginnings

TfC - Capacity Building at its best
TfC - Capacity Building at its best
2016 - Paper Maps & Policy Papers

Experimental Transit Map:
Visualizing 20 Bus Lines in Cairo
TfC - Capacity Building at its best

2017 - Digital Cairo: A consortium
TfC - Capacity Building at its best

2018 - Scalable Change
Key Messages

Congestion is incurable

(1) A supportive network and shared resources are key
(2) Data is key to a better PT future and adoption
Thank you

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Have a break’ and let others wrestle with traffic
Passengers sitting in crowded bus stop in Downtown, Cairo