Cleaner Technologies in Greater Cairo

NOVEMBER 2019

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Transportation constitutes 55% of Egypt's carbon emissions with Cairo alone contributing to 40% of that percentage.

*UNDP 2016
Emissions are reducing our quality of life.

They negatively impact

- Air Quality
- Health
- Climate Change
43,000

Egyptians die annually from diseases related to air pollution

*WHO 2012
versus

34,000

Egyptians dying annually from diseases related to tobacco

*WHO 2012
How do we decrease our emissions?

Avoid
Shift
Improve
Which translates to

Drive Less
Move Cleaner
Dense cities: could they be key to a low carbon footprint?

Take advantage of cities
Emissions per capita decrease in cities with higher density because people drive less
Land Use Matters.

As shown by Atlanta vs. Barcelona
Planning for mixed use developments decreases dependency on vehicles and encourages non-motorized modes of transit.
The Built-up Area of Atlanta and Barcelona Represented at the Same Scale

**Atlanta:**
- 2.5 million people (1990)
- 4,280 km² (built-up area)

7.5 tonnes of CO₂ per capita

**Barcelona:**
- 2.8 million people (1990)
- 162 km² (built-up area)

0.7 tonnes of CO₂ per capita

**Atlanta vs. Barcelona**
### Where is Cairo on this Spectrum?

<table>
<thead>
<tr>
<th>City</th>
<th>Built up Area:</th>
<th>Population density</th>
<th>Total tonnes of CO2</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>4,280 km²</td>
<td>630 p/km²</td>
<td>540 mil</td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>162 km²</td>
<td>11,900 p/km²</td>
<td>3.6 mil</td>
<td>2012</td>
</tr>
<tr>
<td>Barcelona</td>
<td>16,000 p/km²</td>
<td></td>
<td>0.7</td>
<td></td>
</tr>
</tbody>
</table>

- **Tonnes of CO₂ per capita**
  - Atlanta: 7.5
  - Egypt: 2.2
  - Barcelona: 0.7
How does Cairo Move?

13% of trips in Cairo are not motorized

*CREATS 2002
63% of trips in Cairo are public transportation

*CREATS 2002
79% of which are buses and microbuses

*CREATS 2002
How can we move cleaner?

Improve the condition of public transportation and expand the network to meet current and future demand & use cleaner technologies.
Solutions for Existing Transportation

**Use Euro-compliant fuel**
Buses and micro-buses currently use Diesel fuel which has 100 times the recommended sulfur content.

**Explore using Biogas or CNG**
Explore other alternative energy solutions like biogas or Compressed Natural Gas which has a smaller carbon footprint.
Build better sidewalks

*Streets for Walking and Cycling 2018*
Bad vs. Good Practice

*Streets for Walking and Cycling 2018*
Integrated Transportation Network
NMT Report customized to Cairo
What can we do with $1 bn

426 KM OF BRT

14 KM OF ELEVATED RAIL

40 KM OF LRT

7 KM OF SUBWAY
Projects

- BRT
- Bike Share & Bike Lanes
Bus Rapid Transit

Affordable bus service that runs in dedicated lanes and uses real time data to transport an estimate of 126,000 passengers per day.
BRT Render in Faisal Street
Challenges to going Electric

Unreliable because the market cannot risk it when proving the efficiency of the BRT

Double the initial cost (200k vs. 400k)

Battery needs to be changed every 4 years
Bike Lane Render in Talaat Harb
Bike sharing
Electric Bikes Example: Dezba
"We need to build cities for people, not for cars."
Thank You

FOR YOUR TIME

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