Building functional and low carbon cities

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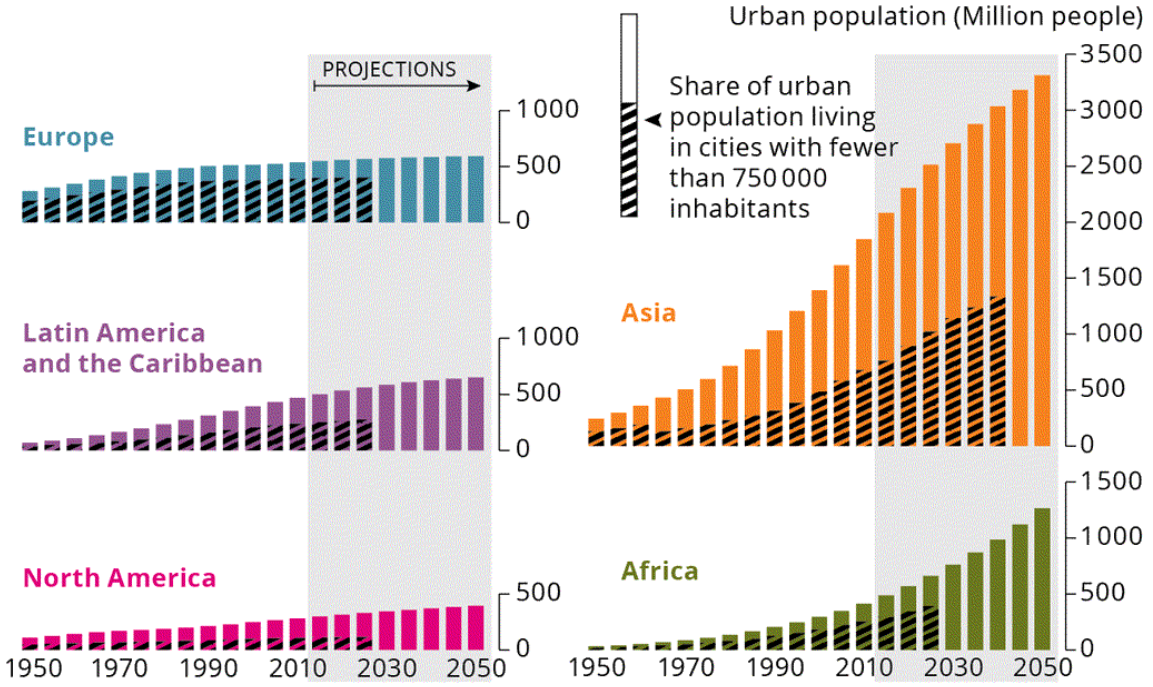
The issue:

- Cities need to be:
    - Functional
        - Productive
        - Liveable
    - Low carbon
- Trajectory for both, one, or neither?
- Shift trajectory seeing city as a whole

Contexts:

- Two contexts:
  - Existing urban areas
  - New/ developing urban areas
- Concentrate on new urban areas – and developing economies
  - Risk of lock-in to inappropriate urban form/ structures.
  - Imperatives of making developing cities productive and liveable.
  - Scale:
    - African urban popn will treble by 2050.
    - Increase in African urban popn ≈ total urban popn Europe + North America.



Cities and development

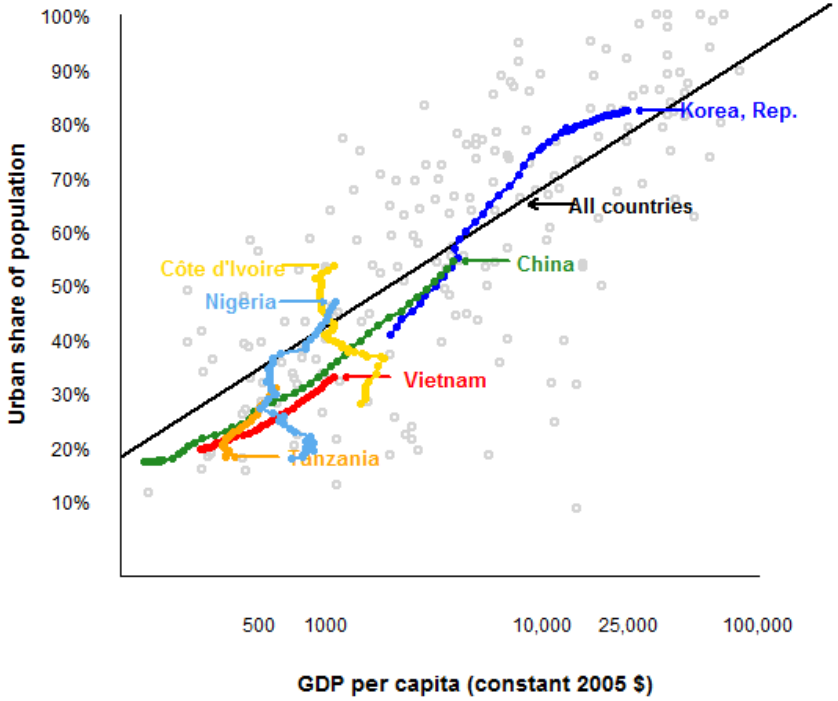
- Urbanisation goes with development: two way causality

- 'The Triumph of the City'

- BUT: Challenge for developing cities – particularly in Africa:
  - Urbanising early – at low income levels
  - 'Dysfunctional' – failing to deliver either productivity or liveability.
  - Possibly on a path to relatively low-density & high emissions.

THIS TALK:

- Functional cities – key facts.
- African cities – what is going wrong?
- Policies – for growth and for emissions



Functional cities: 3 facts

I: Cities are high productivity:

- Productivity increases with city size (elasticity ≈ 0.05)
  - Evidence base – largely developed countries
- Benefits of scale & specialisation achieved via connectivity & density

II: Cities are capital intensive and infrastructure intensive

- Capital: residential/ business/ public
- Infrastructure: utilities, public services, public goods, transport
  - Necessary to mitigate downsides of human proximity
  - Necessary to promote connectivity
- Infrastructure can be self-financing via taxation of land values

Functional cities: 3 facts

III: Efficient land use:

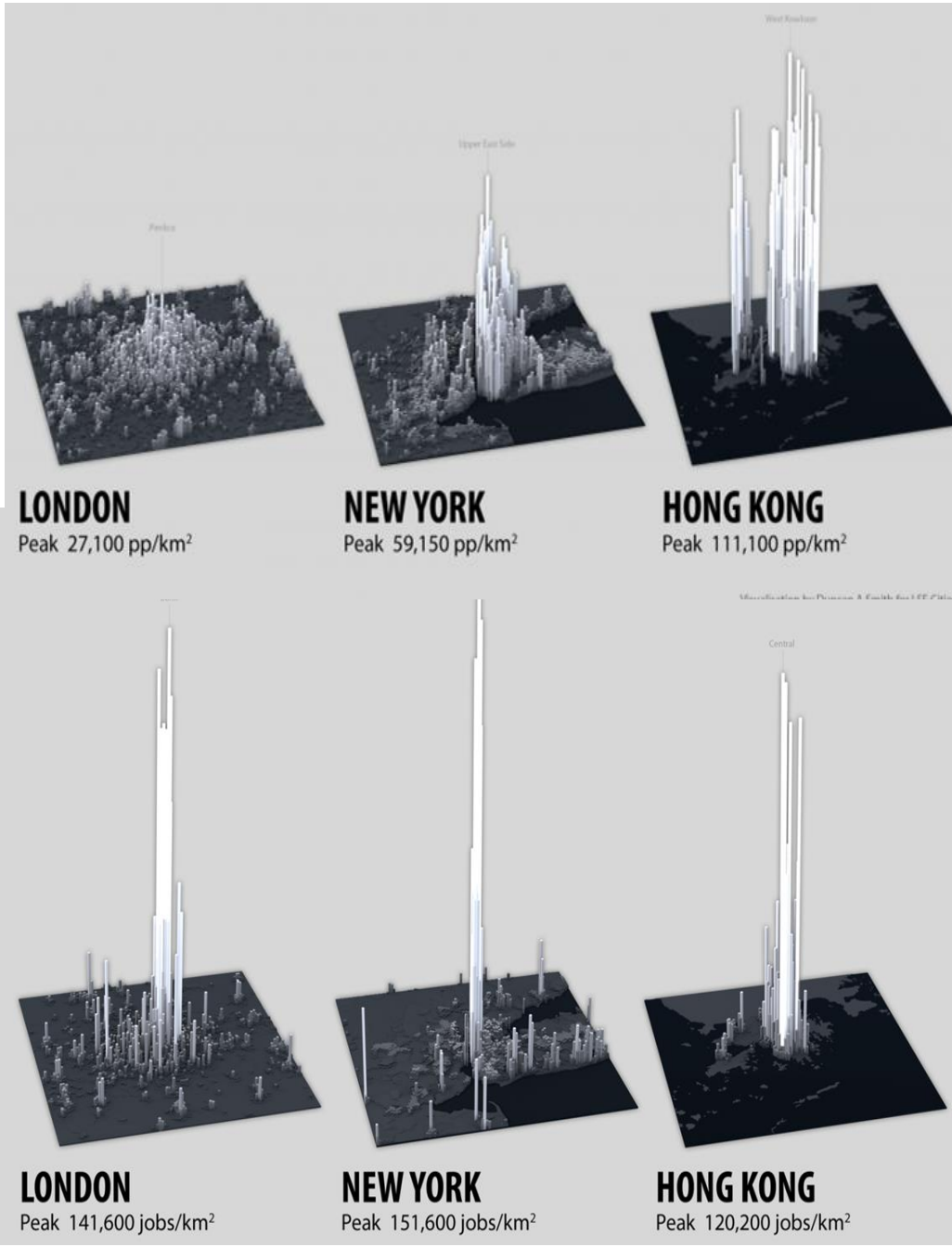
The monocentric city

- Many productive activities cluster ➔ high employment density, esp. at centre
- Residential density gradients
- Efficient use achieved by land-price/ rents

Climate implications?

- Density economises on space, travel.
- But, employment clustering ➔ commuting
- Role of transport technology: density varies hugely across 'well-connected' cities.

(Atlanta/Barcelona; same pop, 12 x area, 6 x transport CO2 emissions)



African cities: what is going wrong?

I: Housing and land use

- 65% of population in slums
- Failure to build formal structures
- Sprawl – leapfrog development
- 'Hodge-podge' of use

Causes:

- Land tenure – competing claims
- Inappropriate regulations and policy
  - Building regulations, plot size: standards too high so are ignored
- Lack of mortgage finance
- Low incomes & low expectations of future growth

Consequences:

- Low liveability
- Low connectivity ➔ high commuting times, high business costs:

African cities: what is going wrong?

II: Infrastructure – lagging not leading:

- Local public goods and services: e.g. street layout, utilities
- City wide public services: e.g. transport

Causes:

- Funding challenge
  - The infrastructure gap: requires 15-20% GVA over 30 years
- Weak governance

Consequences:

- Informal housing, sprawl
- Low connectivity – high commuting times & costs

  ➔ high business costs
- Transport emissions

African cities: what is going wrong?

III: Production and productivity:

- Lack of formal sector employment
- Almost total absence of manufacturing exports/ tradable sector

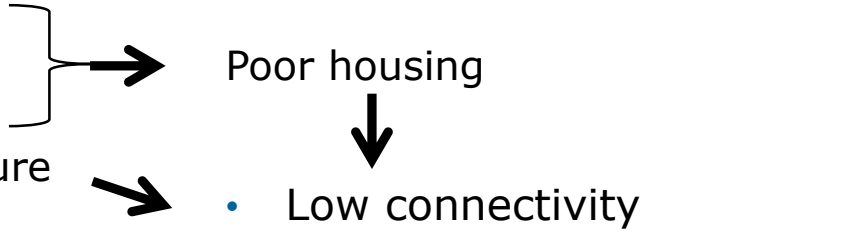
Causes:

- High business costs
  - Low connectivity – workers, suppliers, markets
  - Poor access to land
  - High *nominal* wages (compensating differential)

Consequences:

Risk of being stuck in low-level trajectory:

- Few jobs/ low income
- Low expectations of future growth
- Weak tax base ➔ poor infrastructure



Policies for functional and low carbon cities

Have painted a picture of two cities.... and of risks with current path

Changing the path to avoid a low-level trap?

Long-run complementarities: density/ formal structures/ transport systems/ functionality/ low emissions intensity.

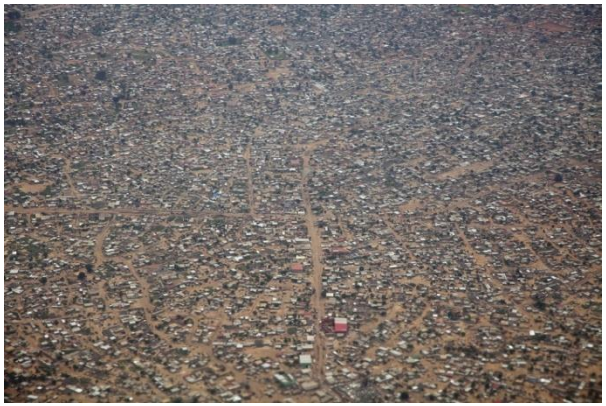
Policies:

- Residential density requires private investment: remove obstacles
  - Land tenure
  - Mortgage finance
  - Building regulations – not too high or will be ignored.

Policies for functional and low carbon cities

- Recognising the value of density – and choosing appropriately

- Luanda (Kilamba):



- South Africa, Dar es Salaam

- Addis Ababa

Policies for functional and low carbon cities

- Infrastructure: leading not lagging:
  - Transport – to facilitate growth but not sprawl
  - To (credibly) coordinate private investment

- Business: lowering costs to enable job creation
  - Ability to assemble land
  - Ability to cluster

- Governance & finance
  - Revenue base – land taxation.
  - Clear authority – authorizing environment