Wider effects of urban transport on cities

Use satellite images to compare cities across space and time

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On the one hand....

The geography and wealth of cities affect urban transport.
... on the other hand

Urban transport also affects the shape of cities
Why we care: market failures in cities

Transport: an intervention to also integrate externalities in cities

Positive externalities:
- Agglomeration benefits from density for firms and consumers
- Easier to find good workers and to find jobs
- Innovation

Negative externalities:
- Pollution
- Congestion
- Poor use of land
Main drivers of city change

History of transport infra
• Timing of subway construction
• Car boom

New infrastructure
Public transport vs cars

Urban pop growth
Urban expansion
Density
Inequality

Other factors
• History
• Geography
• Regulations
• Technology
• Income
• Inequalities
• Economic structure
Questions

• What is the relationship between
  ... [public transport] the extent of a subway network or a BRT,
  ... [private transport] informal taxi regulation
  ... [road infrastructure] urban highways or the road grid
  ... [urban logistics]
and cities’ population and its spatial configuration?

• HISTORY What is the impact for cities of having grown before or after the boom of the car industry (Europe vs US)?
New data to capture urban shapes:
Satellite data for horizontal growth (>10000 cities)

Marrakech: 1985

Marrakech: now
New data:
new techniques to produce global elevation maps

Vertical growth (built-up)

Horizontal growth (height)
Which complementary policies?

Other urban market failures:

• Land market imperfections

• Imperfect building sector and real estate market

• Behavioral issues
Disruptive urban mobility

Picture from the movie “the Fifth Element”