Transit-Oriented Development and Land Value Capture in China

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Challenges

Climate Change

China: the largest emitter in the world

- Energy-related CO2 emissions of China were 28% of the global total in 2014 and will be 16.5 Gt in 2030.
- China's coal production, the largest contributor to CO2, has been dropping and the trend will continue due to the economic slowdown.
Transport emissions reduction

Transport CO₂ emissions in China

By 2030, it will be 33% of total CO₂ emissions.

Air Pollutions

Transport counts for more than 39% of PM2.5 Emissions in Beijing.

Challenges

Transport contributes to air pollutants

Main global transport pollutants

SO₂ NO₂ PM₁₀ CO

5.5 million lives were lost in 2013 because of air pollution. $5 trillion aggregate cost associated with air pollution-related premature deaths worldwide in 2013.

Air Pollutions

In China, welfare losses related to air pollution were equivalent to 10% of national GDP in 2013.

City Countryside

By 2030 1.05 Billion Chinese will live in cities.

Urbanization

SHANGHAI
Challenges: Urbanization

From Car-Oriented to Transit-Oriented Developments

The development of Copenhagen's city corridor from 1973, when they applied the Transit Oriented Planning.

FINGERS PLAN COPENHAGEN

Photo by Flickr/123518088@N04

How to promote TOD
Impacts Transit Metropolis Program

Target:
To expand the "transit metropolis" pilots from 36 cities to 100 by 2020 through supporting the National "Transit Metropolis" Program in the 13FYP (2016-2020), so as to scale up to all 660 Chinese cities by 2030. It is envisaged that 180 million tonnes of CO₂ emissions will be avoided in this approach.

Partners:
Ministry of Transport, local transport and planning authorities, etc.

Impacts:
- Direct emissions impact resulting from the increased green transport mode share: By 2030, the CO₂ mitigation will be 180 million tonnes for 660 Chinese cities.
- Mode share of green transport increases to 80%-90% by 2030.
- One billion urban habitants benefitted inclusive, accessible, and sustainable urban form and transport system by 2030.

Activities Transit Metropolis Program

Land Value Capture and Rail + Property Joint Development

50%
The capital cost of urban rail transit systems requires 1.5 trillion RMB investments between 2015-2020, and the pricing of the urban rail transit system alone cannot make the end meet.

**Widened Funding Gap**

- **Hong Kong Subway System**
  - Land Value Capture
  - Mechanisms and Fund Raised
  - Table 3: Key Dimensions of Value Capture Mechanisms
  - Financial arrangement
    - Revenue streams
      - User charges
      - Property rights
      - Subsidies
  - Urban planning
    - Land use planning
    - Land tenancy
  - Financial strategies
  - Sources of revenue
    - Direct revenue
    - Indirect revenue
  - Business model
    - Public-private partnership
    - Private financing

**Shenzhen Subway System**

**Thanks!**