



Transit-Oriented Development and Land Value Capture in China

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1 Challenges

1 Challenges Climate Change

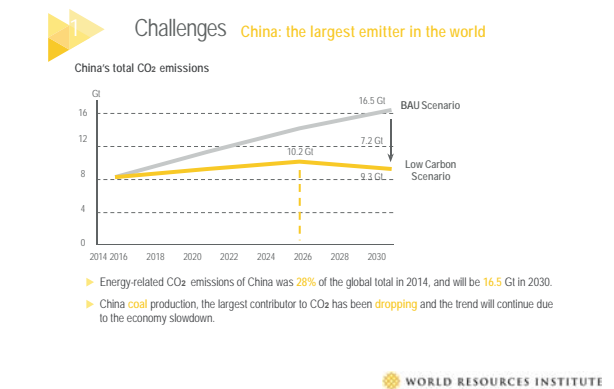


After 2°C of warming

1 Challenges Climate Change



After 4°C of warming

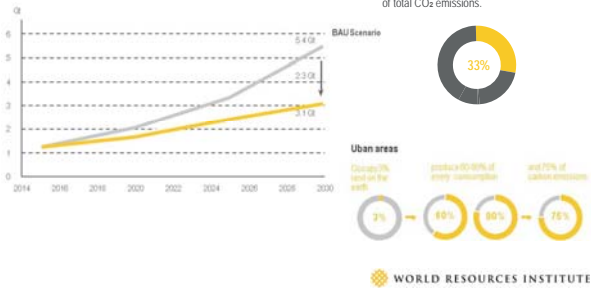




Challenges Transport emissions reduction

Transport CO₂ emissions in China

The contribution of transport sector has been increasing. By 2030, it will be 33% of total CO₂ emissions.

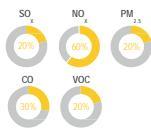


Challenges Air Pollutions

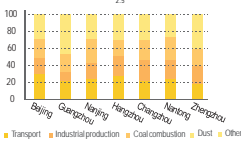


Challenges Transport contributes to air pollutants

Main global transport pollutants



Transport emitted PM_{2.5} in urban China

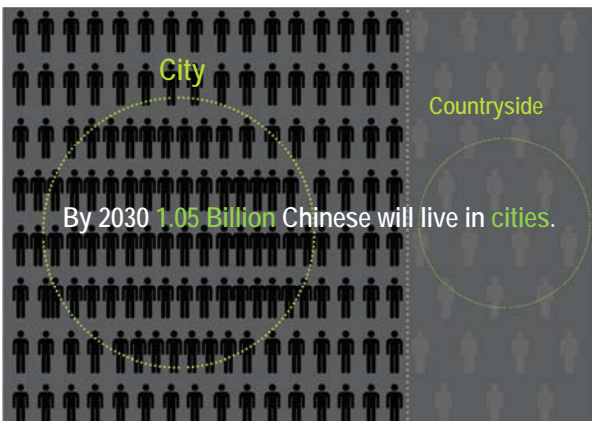


5.5 million lives were lost in 2013 because of air pollution. \$5 trillion aggregate cost associates with air pollution related premature deaths worldwide in 2013.

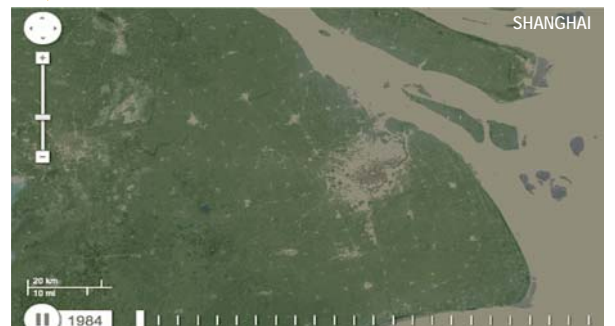
In China, welfare losses related to air pollution were equivalent to 10% of national GDP in 2013.

Source: CAA, 2016; Song, 2014; World Bank (2016)

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Challenges Urbanization



Challenges Urbanization

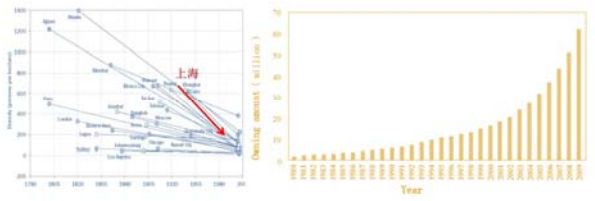


Challenges Urbanization



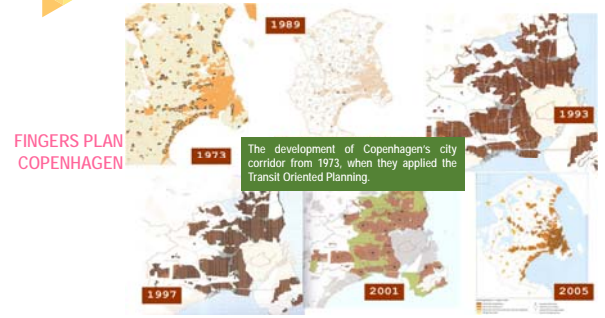
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Challenges Urbanization



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Challenges From Car-Oriented to Transit-Oriented Developments



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Challenges From Car-Oriented to Transit-Oriented Developments



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2 Impacts Transit Metropolis Program



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2 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 13th FYP (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.

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2 Activities Transit Metropolis Program



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2 Activities Transit Metropolis Program



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2 Activities Transit Metropolis Program



城市社区 TOD 导则

50%↓

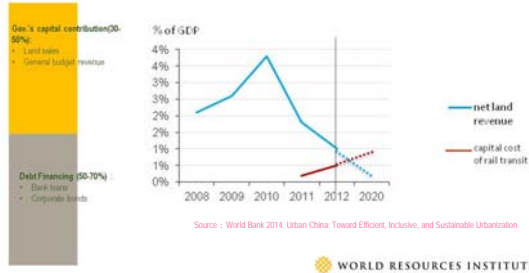
EMBARQ

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3 Land Value Capture Widened Funding Gap

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



3 Land Value Capture Mechanisms and Fund Raised

Table 3: Key Dimensions of Value Capture Mechanisms

Value Capture Mechanism	Contributor	Timing of Contribution	Spatial Extent of Benefit Zone*
Land Value/Property Tax	Property owners	Ongoing	Metropolitan Area
Tax Increment Financing	Property owners	Ongoing	Neighborhood of Improvement
Special Assessment District	Property owners, Businesses	Ongoing	Neighborhood of Improvement
Transit Focused Payroll Tax	Businesses	Ongoing	Metropolitan Area
Transit Focused Real Estate Transaction Tax	Property owners	One-time	Metropolitan Area
Transit Focused Development Fee	Developers	One-time	Metropolitan Area
Development Rights/Air Rights	Developers	One-time	Specific parcels at or near station
Joint Development	Developers	One-time	Specific parcels at or near station

Table 2: Funds Raised for Selected Large Value Capture Projects in Case Study Cities

City	Value Capture Project	Funds Raised or Projected	Percent of Project Cost or Budget
London	Crossrail	£4.1 billion (Business Rate Supplement) (£6.6 billion (Community Infrastructure Levy))	22%
Paris	Grand Paris Express	€21.8 billion**	80%
Washington, D.C.	New York Avenue Metro Station (2005)	\$25 million	28%
Washington, D.C.	Dulles Metrolink Silver Line Extension	\$400 million (Frost's Center SA2) \$300 million (Shaw's Hamilton SA2)	14%
New York	Subway 7 Line Extension	\$22 billion (Pebble Yard, TF-6a)	88%

* The spatial extent of the benefit zone for each mechanism is more fluid than the other characteristics, and can be specified in a variety of ways for each of them. This table reports the most common spatial extent used.

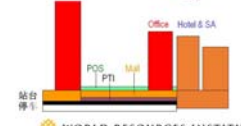
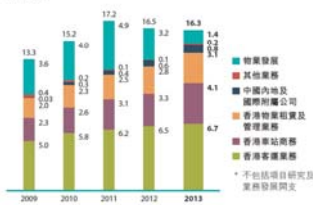
** There is some indication that actual funding may fall short of these projected levels.

3 Land Value Capture Hong Kong Subway System

經營利潤來源*

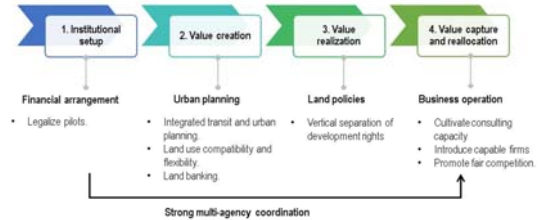
於2013年香港經營性業務繼續成為主要的利潤來源，而非經營性的物業發展利潤則稍遜。

(十億元)



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3 Land Value Capture Shenzhen Subway System



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