ASSESSING TRANSPORTATION CONSEQUENCES OF LAND USE TRANSFORMATION IN URBAN CHINA

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THE PROBLEM

- Congestion relief is very expensive and ineffective in most of the world's fully motorized cities because of evolved land use patterns
- How can this be improved in Chinese cities, still rapidly growing and rapidly motorizing

Urban growth and congestion

1984 1991 1997

GREAT DYNAMISM

- Chinese urban population grew by 180% in the 17 years ending 1999
- Area of urbanization has grown even faster
- Motorization is growing at about 15% per year
- Mobility issues not well considered in urban development

STRUCTURES OF CITIES

- Different in China than other countries
- Different among Chinese cities resulting from different influences and strategies

- But Chinese governments have much opportunity to influence urban form and accessibility—through infrastructure investment strategies, land development guidance, and taxation.
  - Already strong or expected to become strong

LAND USE PATTERNS

- Population Density--200-250 inhab/hec, but regulations are shifting these figures
- Separate impacts of affluence and motorization
- Large scale housing projects at periphery
- New industrial investments

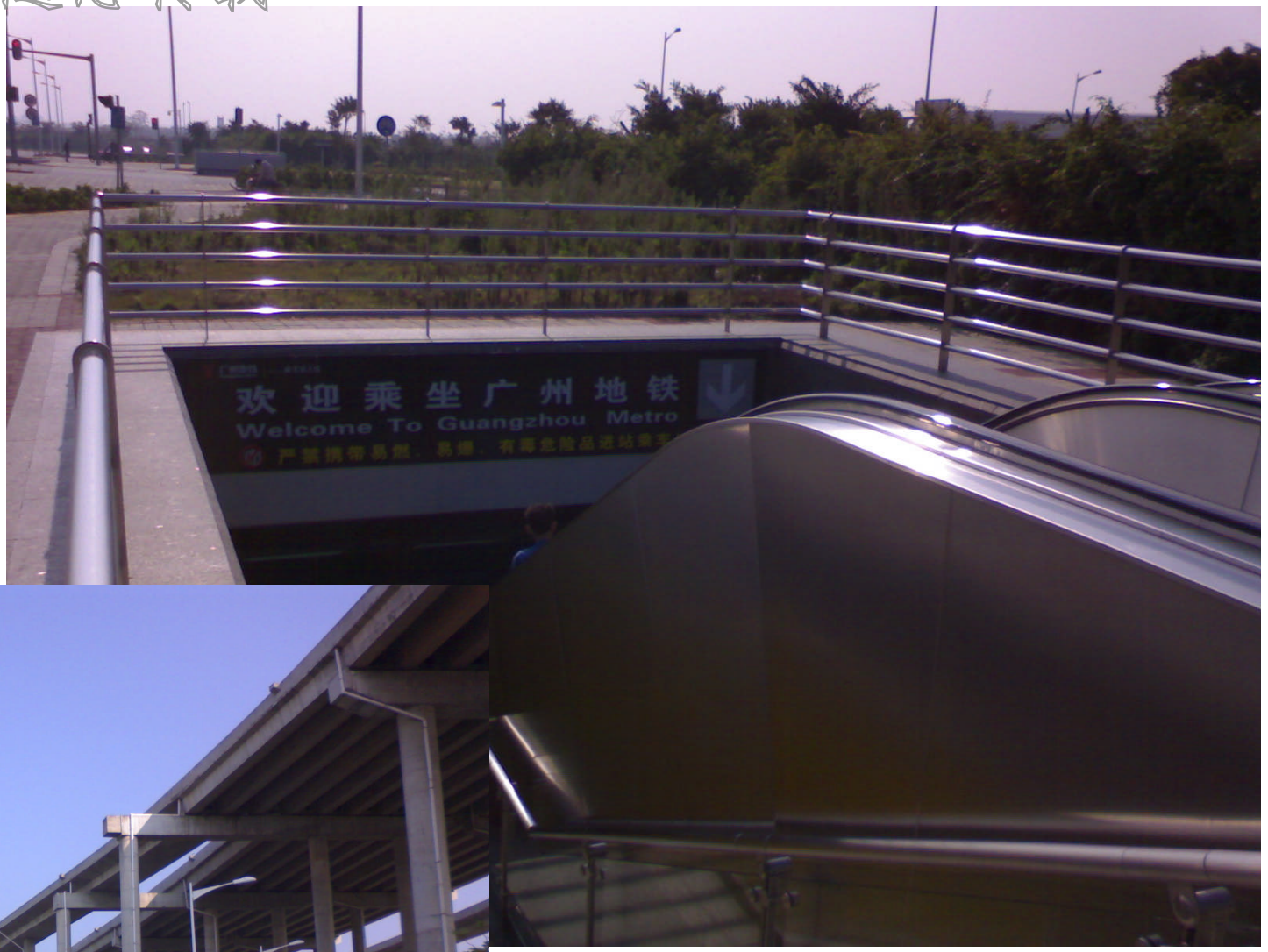
Nanjing
new towns

LAND USE TRANSITIONS (1)

- Dismantling work unit complexes--relocation of work places and housing
- Commitment to developing a central business district--ambiguous consequences
- New development zones, satellites--reduced travel or a form of sprawl?
- New towns in town--as at Chengdu
- Impetus from new industrial development--depends on the kinds of employees

LAND USE TRANSITIONS (2)

- Multi-centered city layout--as proposed at Foshan, or evolving at Qingdao
- Land allocation for motorized accessibility--increased access, growing sprawl



CONSEQUENCES:

Much restructuring of urban areas deteriorates access because of unfortunate isolation of origins and destinations, or because it does not anticipate the form and magnitude of new travel demand

LAND USE PLANNING FOR SUSTAINABLE TRANSPORT

How to complement these urban restructuring initiatives with adequate accessibility

A Consideration:

Autos absorb about 40 sq m each, not much in Atlanta (USA) at 1666 sq. m/pers., but problematic in China av. 100 sq. m/pers

LAND USE ACTIONS TO SUSTAIN TRANSPORT (1)

- Retain relatively high densities in suburban localities
- Cluster development at sufficient scale to make clusters self-sufficient for residents' full needs
- Provide local personal service centers in new residential development
- Link large parcel development with transit stops

LAND USE ACTIONS TO SUSTAIN TRANSPORT (2)

- Plan for adequate pedestrian circulation.
- Provide adequate public transit--Bus rapid transit?
- Review and extend actions to restrain vehicle use where necessary
- Incorporate helpful actions in national urban transport policy

THANKS FOR YOUR ATTENTION…AND YOUR RESPONSE, QUESTIONS AND INSIGHTS!!

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