

Benchmarking Efficiency of Urban Transport Systems in China

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April 19, 2009

This presentation:

- **1. Background**
- **2. Main Benchmarks**
- **3. Conclusions**

1. Background

Questions?

- How to identify urban transport development level?
- Is urban transport sustainable in the central cities of China?
- What is the priority for future urban transport with the complex international and domestic background?

1. Background

“Benchmarking” was designed as a tool:

- to provide an important **reference** for decision makers, planners, and operators
- to monitor and evaluate **sustainability** of urban transport on its quality and efficiency
- to **improve sustainable transport systems** at local, regional, national levels

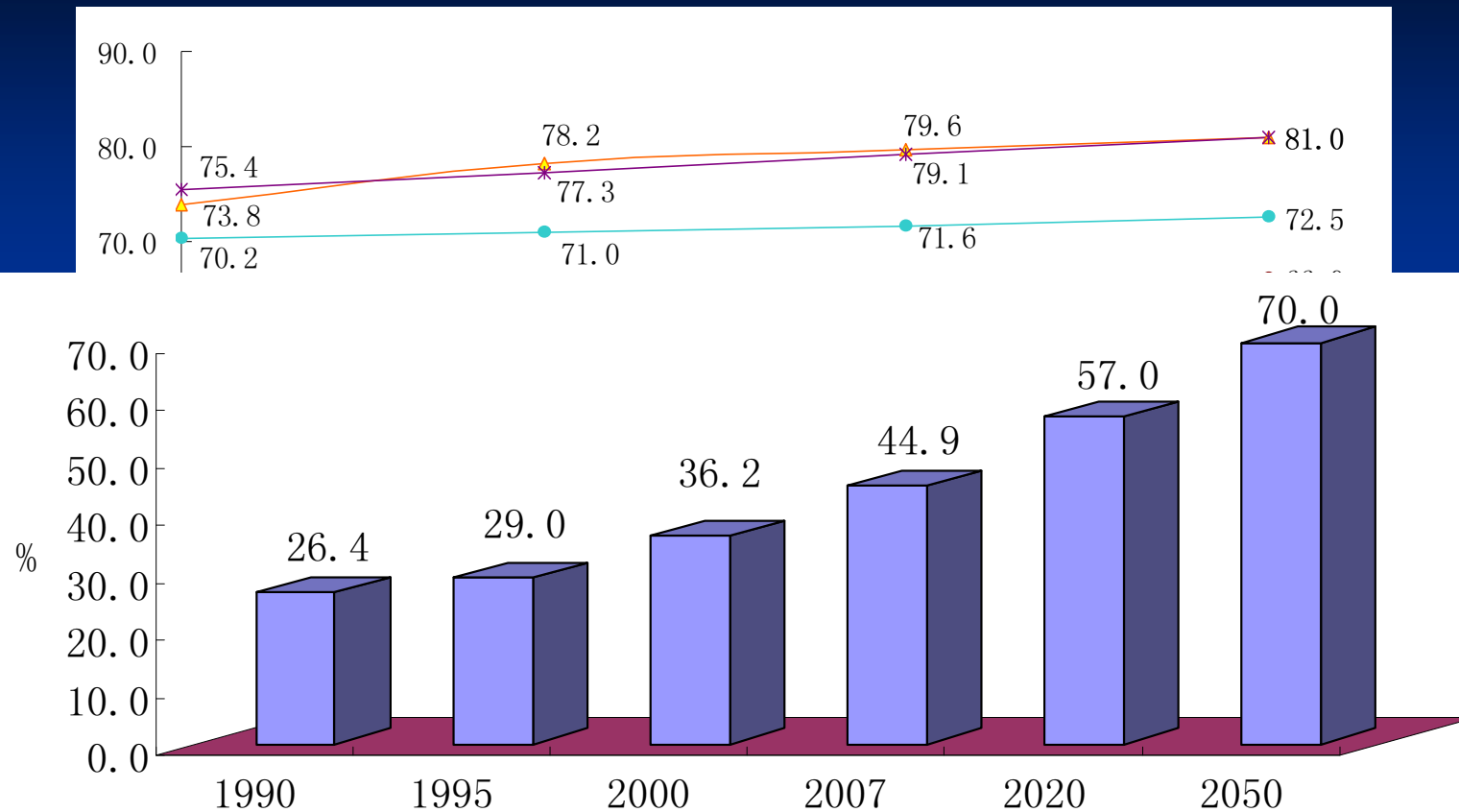
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2. Main Benchmarks

- 2.1 Economy
- 2.2 Urbanization
- 2.3 Motorization
- 2.4 Public Transport
- 2.5 Rail Transit
- 2.6 Modal Split
- 2.7 Travel Behavior
- 2.8 Affordability
- 2.9 Energy Consumption
- 2.10 Traffic Safety

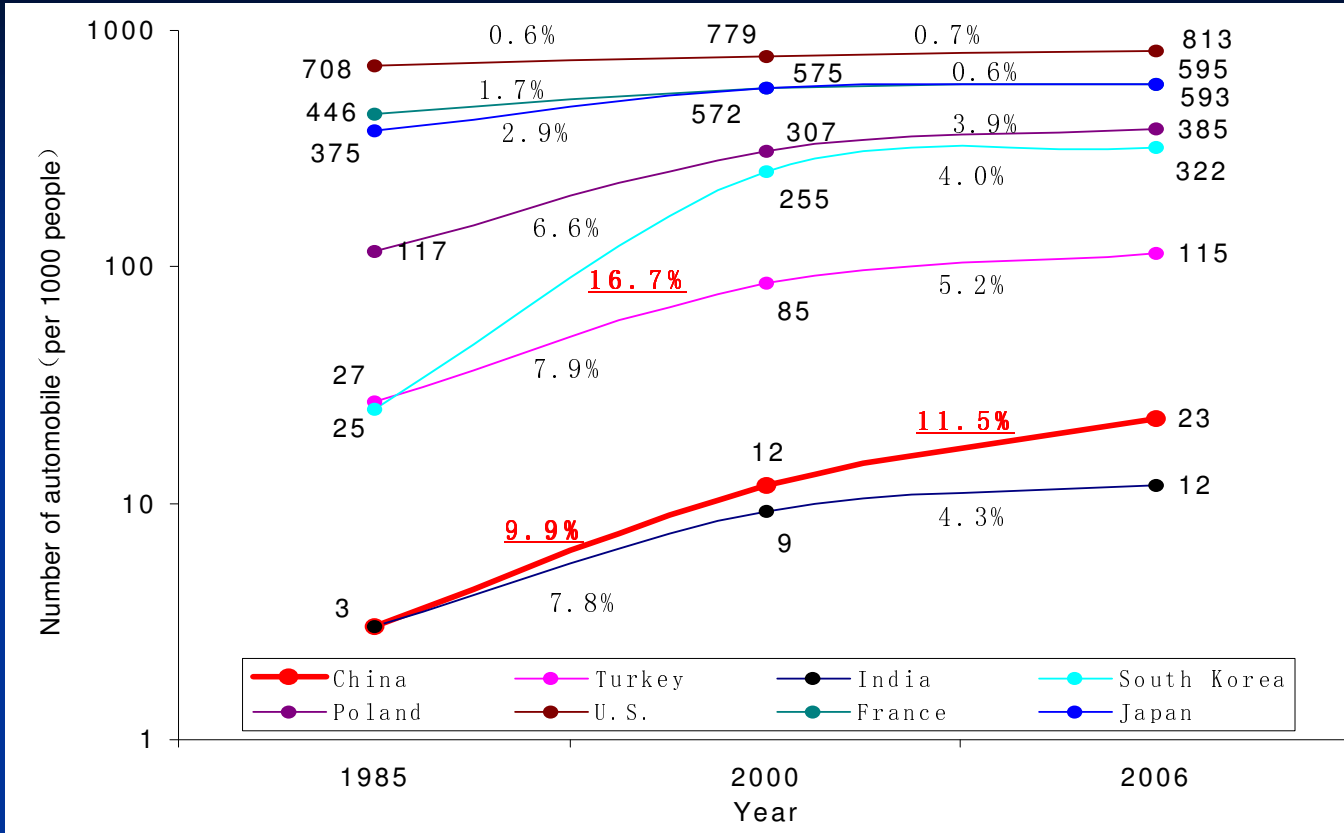
2.2. Urbanization



Benchmark 2: China has experienced the rapidest urbanization in just a decade and a half, If this trend continues, we will expect 70% in 2050, which will reach the 2008 level of urbanization in developed countries

Period | 120 Years | 100 Years | 80 Years | 40 Years | 30 Years | 30 Years | 22 Years

2.3. Motorization



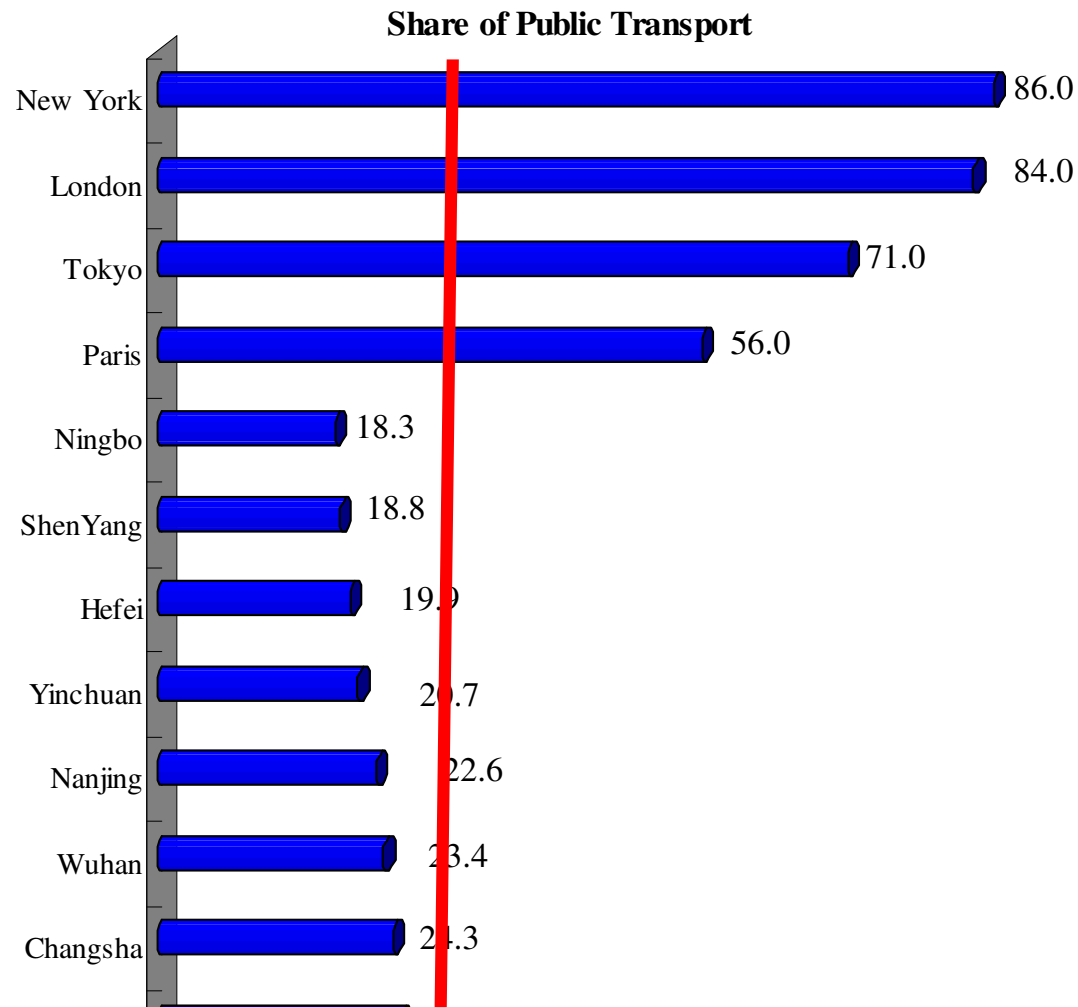
Country	China	South Korea	Poland	Japan	India	U.S.
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Benchmark 3: The overall number of automobile per thousand people in china is much less than that of developed countries. However, with rapid economic development, recent 20-30 years will be the rapid increasing stage.

Ann... of au... from... How... reach... in 20... rema... How... reach... in 2006 if the present growth remain 15% increase per year.

19 20 25 the present growth remain 6.8% increase per year. (year) 20

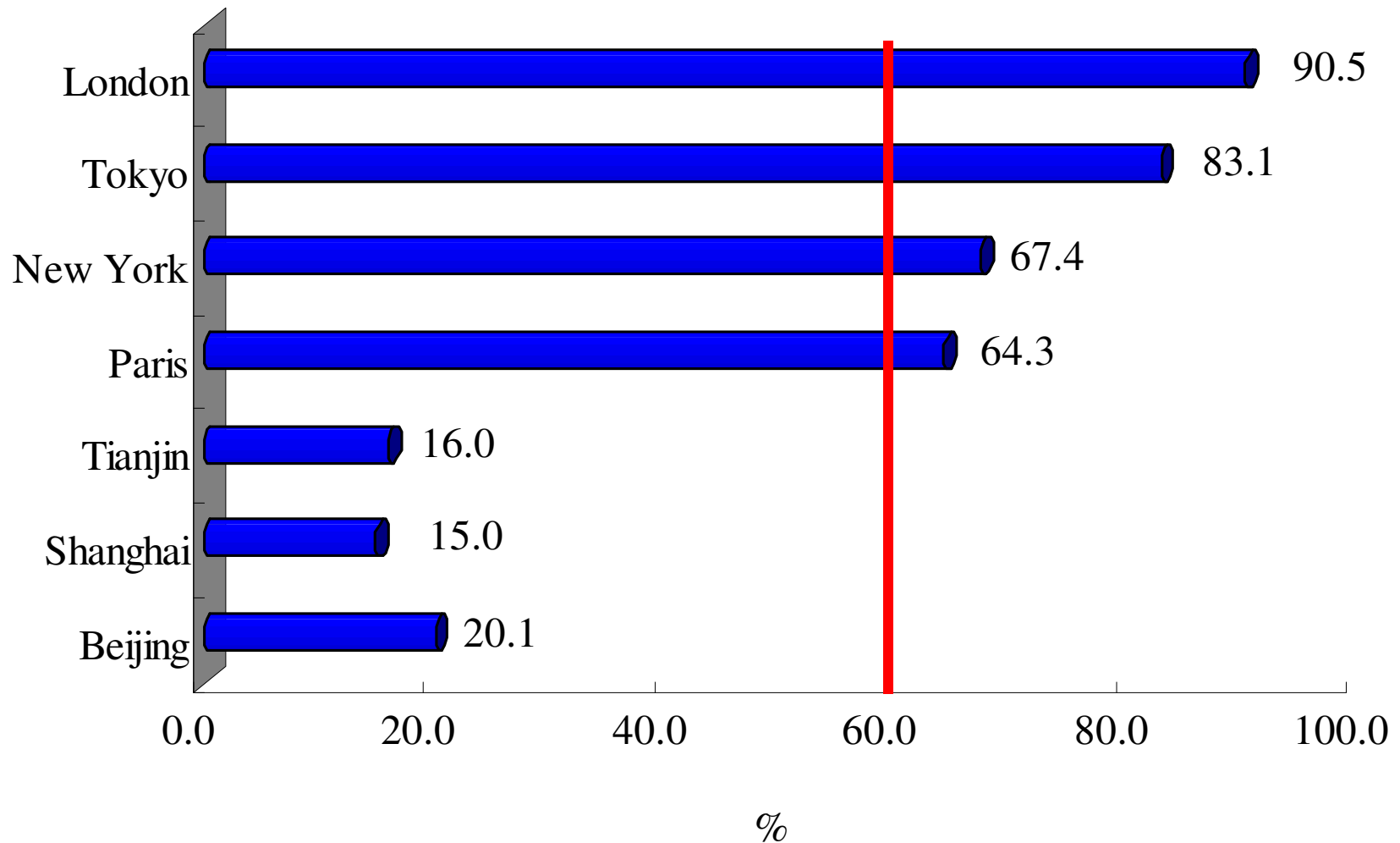
2.4. Public Transport



Benchmark 4: Most of the Chinese central cities fall under 30% targeted objective by the government. Even this 30% objective benchmarks pales in comparison to overall share of public transport in other international cities

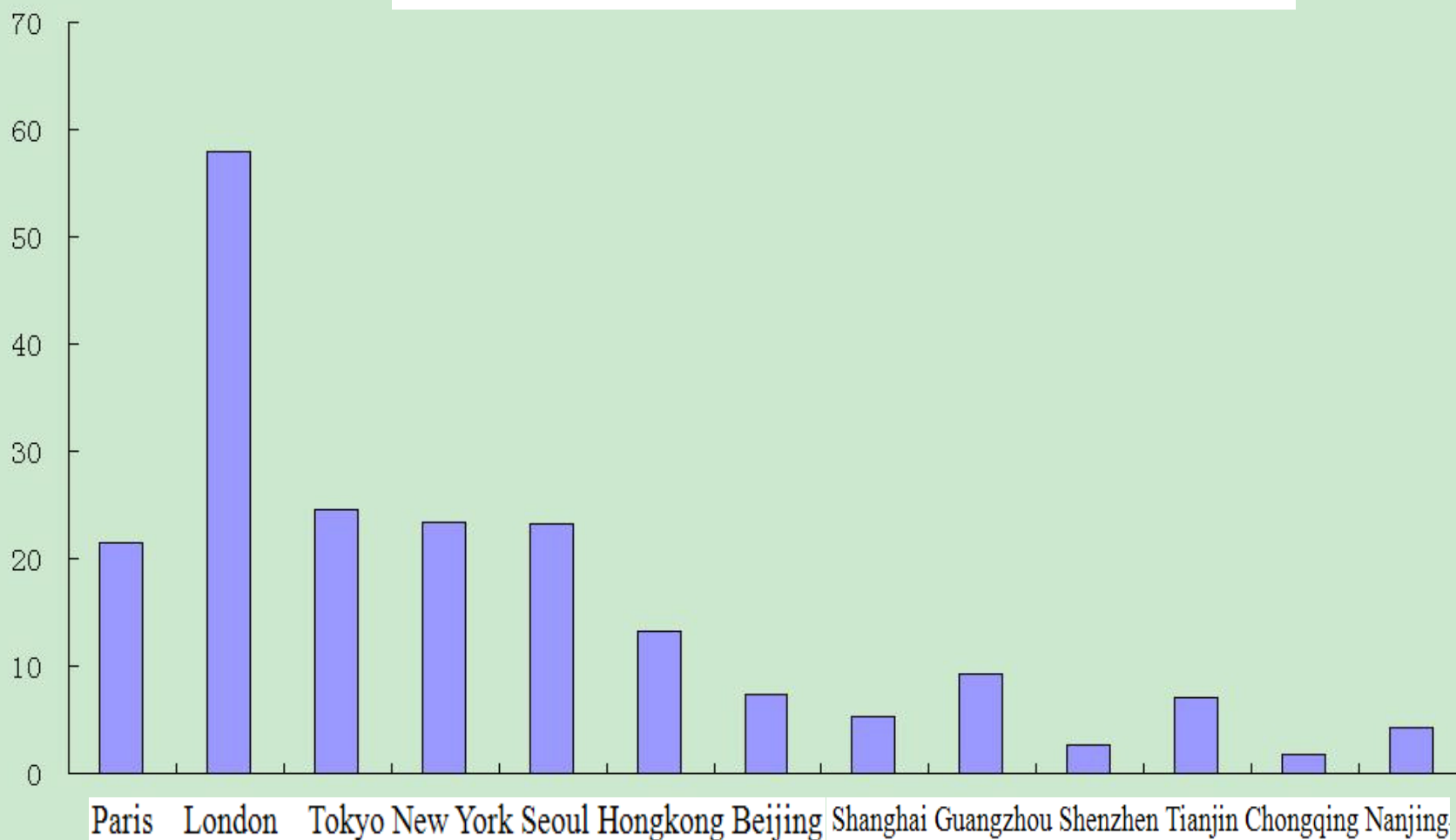
2.5. Rail Transit

Percentage of rail transit in public transport



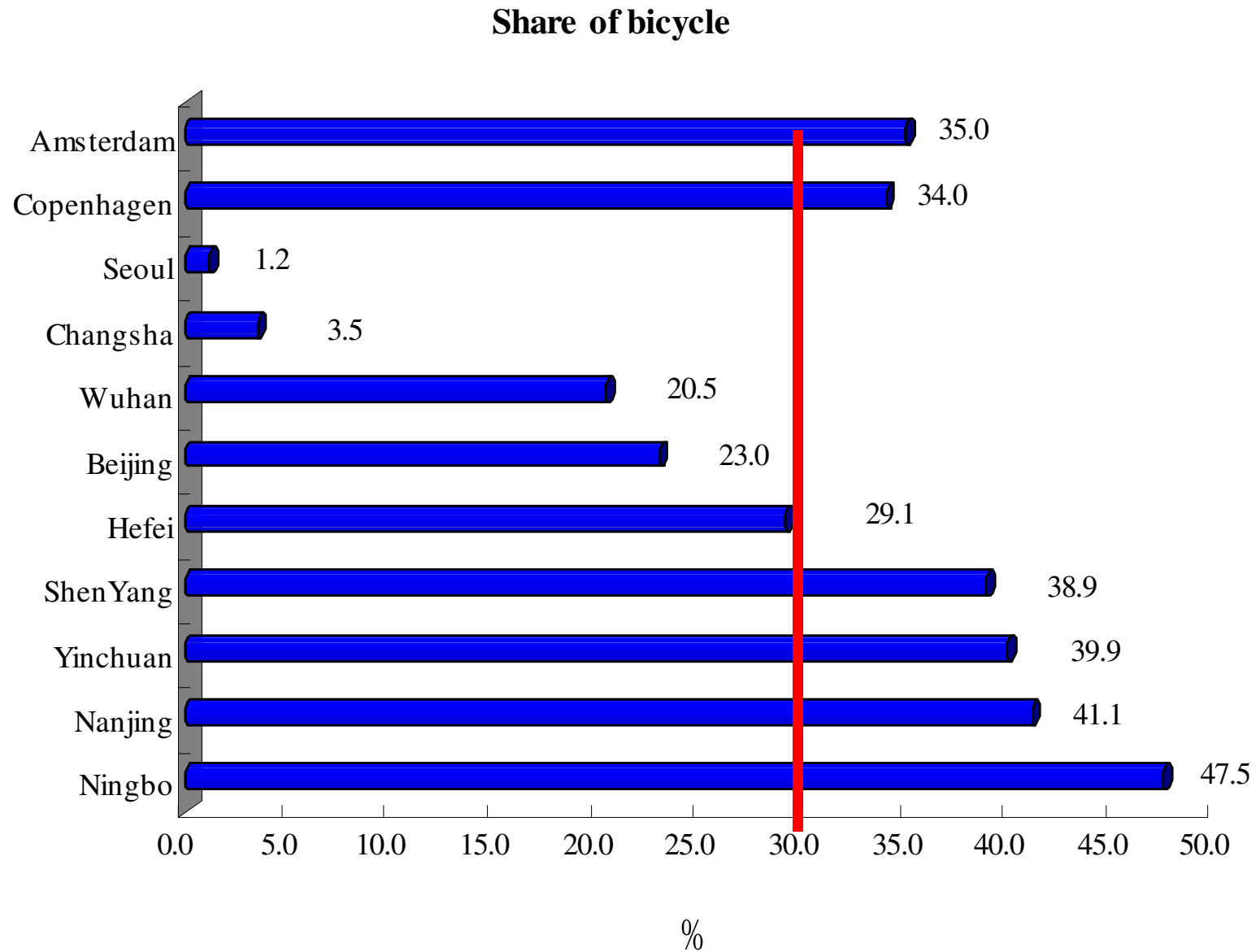
KM/1m people

Metro Mileage per million people

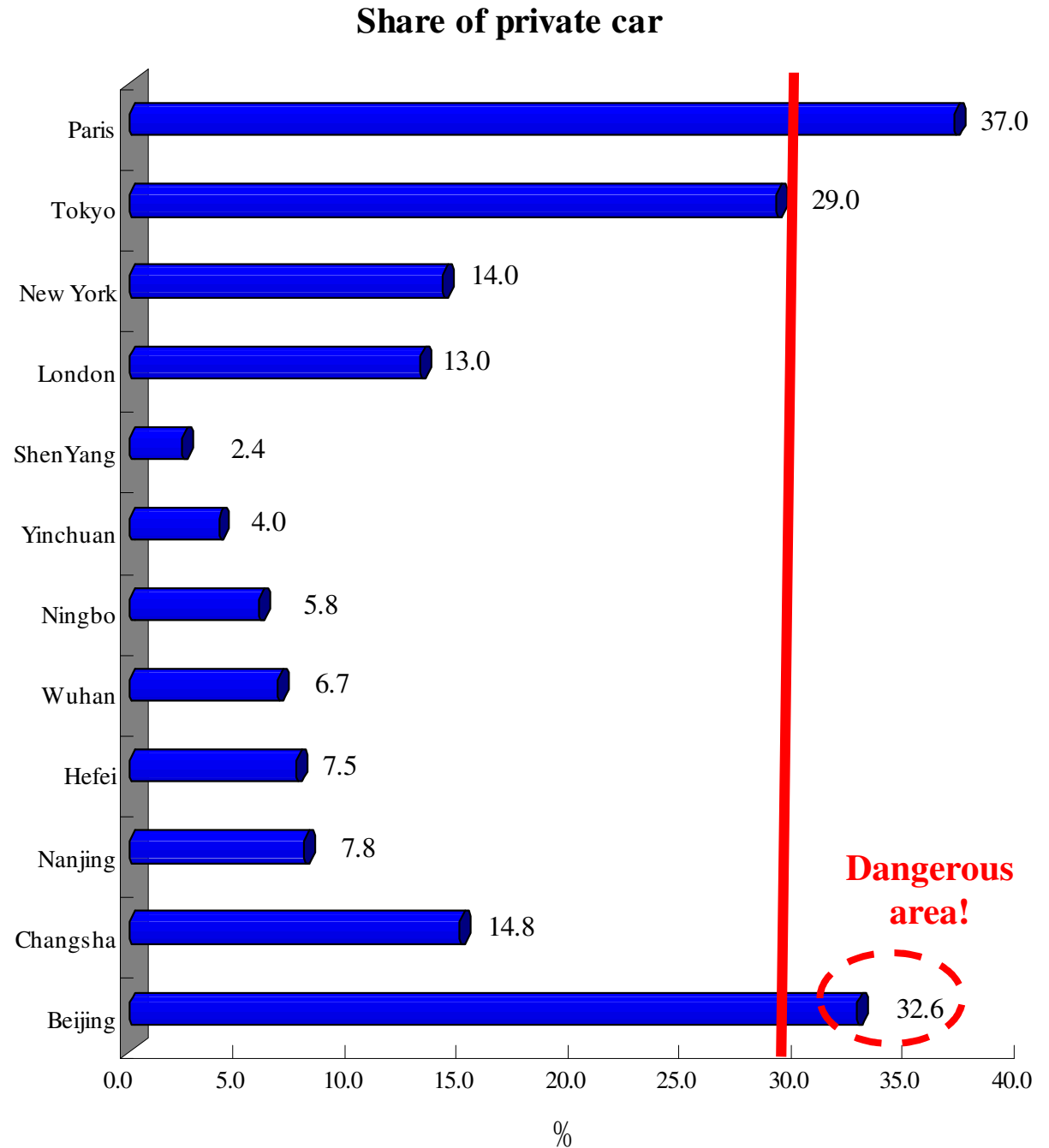


Benchmark 5: Length of metro lines in the central cities of China may increase four times if the level of Singapore or Tokyo is to be reached and may need 27 years if the present economic growth remains 7% increase per year.

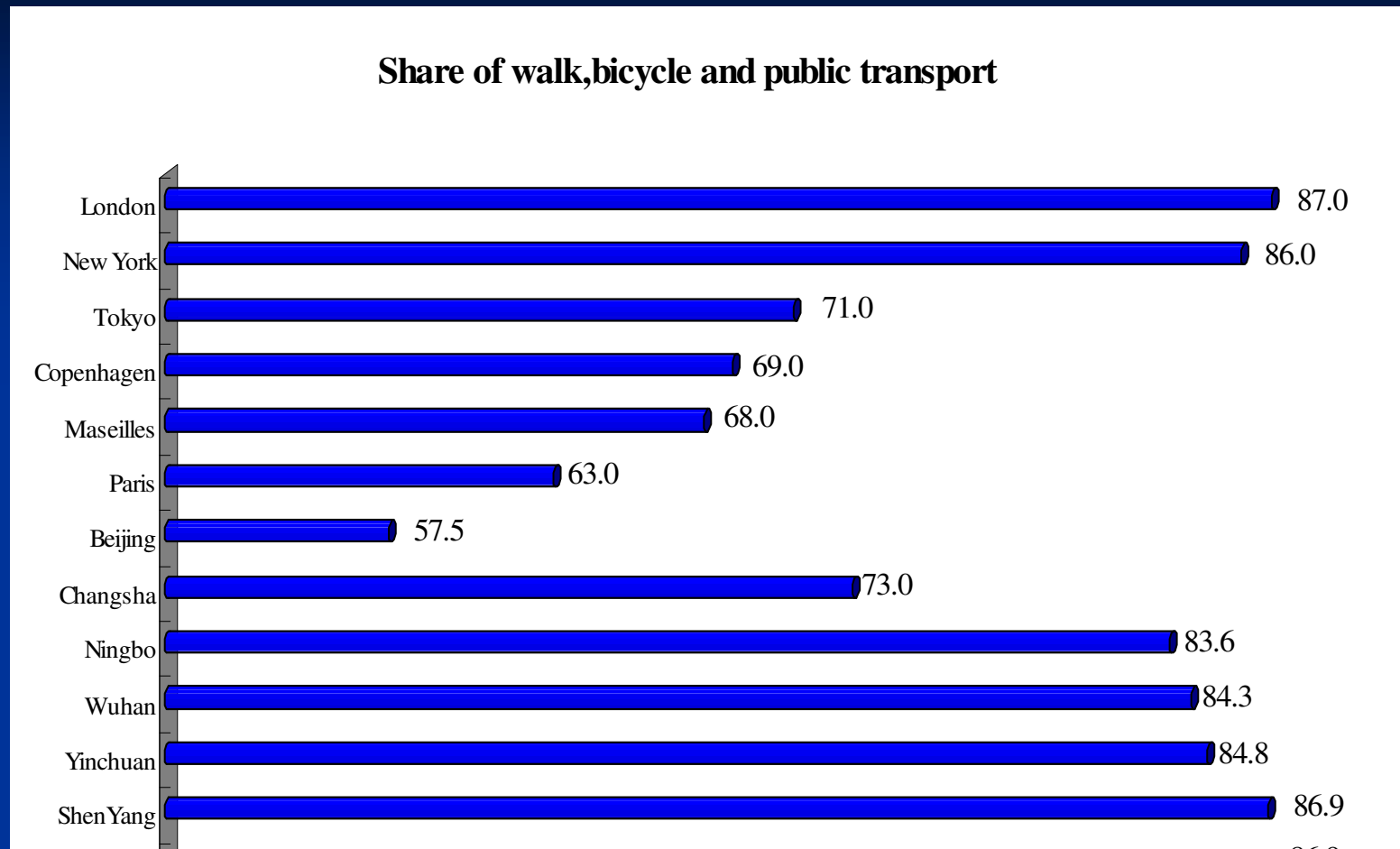
2.6. Modal Split



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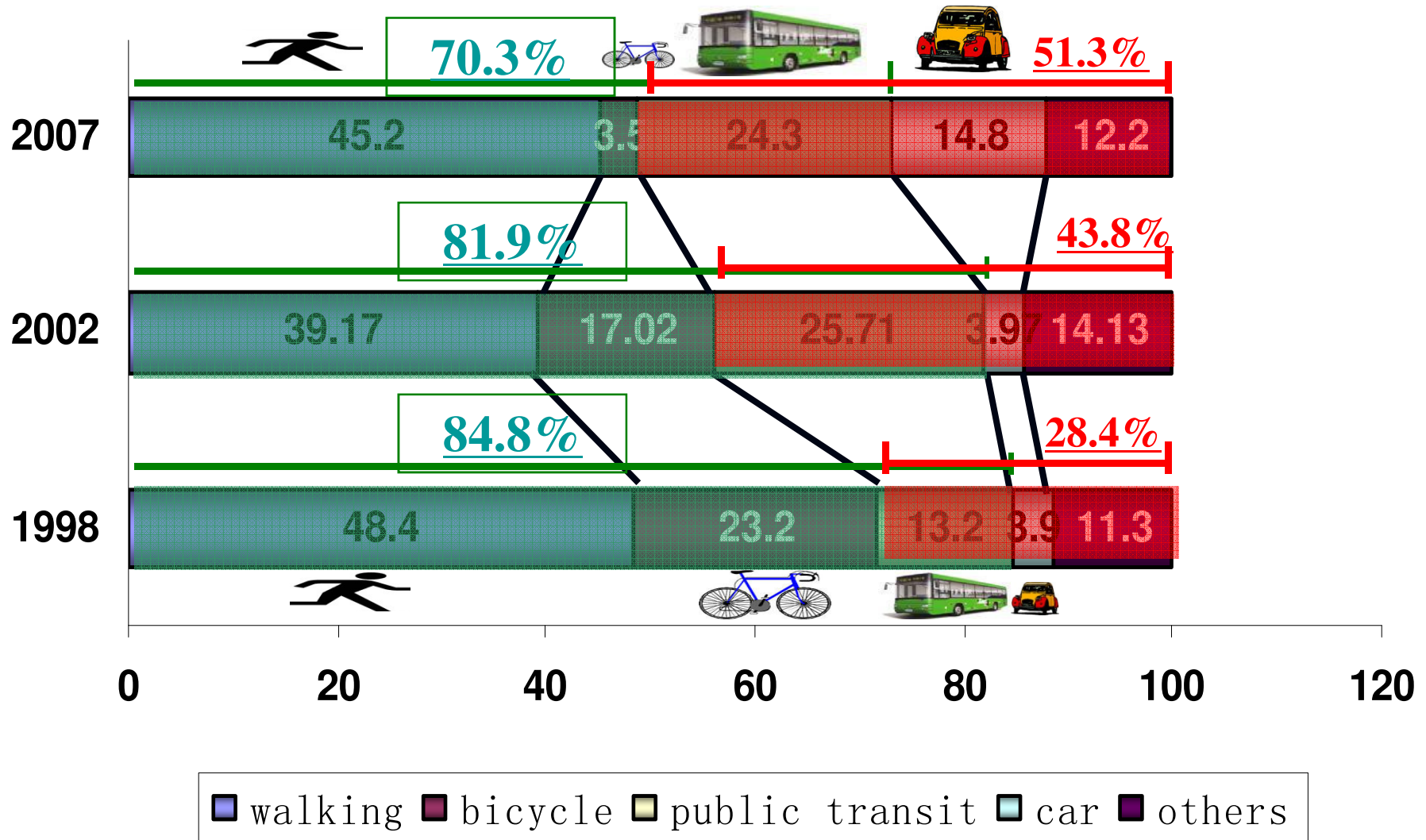
2.6. Modal Split



Benchmark 6: Chinese citizens prefer to sustainable transport modes (such as walk, use a bicycle, or public transport). However, there are growing challenges to keep these trends in place, and priority the proposed modal split (Public transport 30%, Bicycle 30%, and walk 30%), namely the increase in demand and use of private cars.

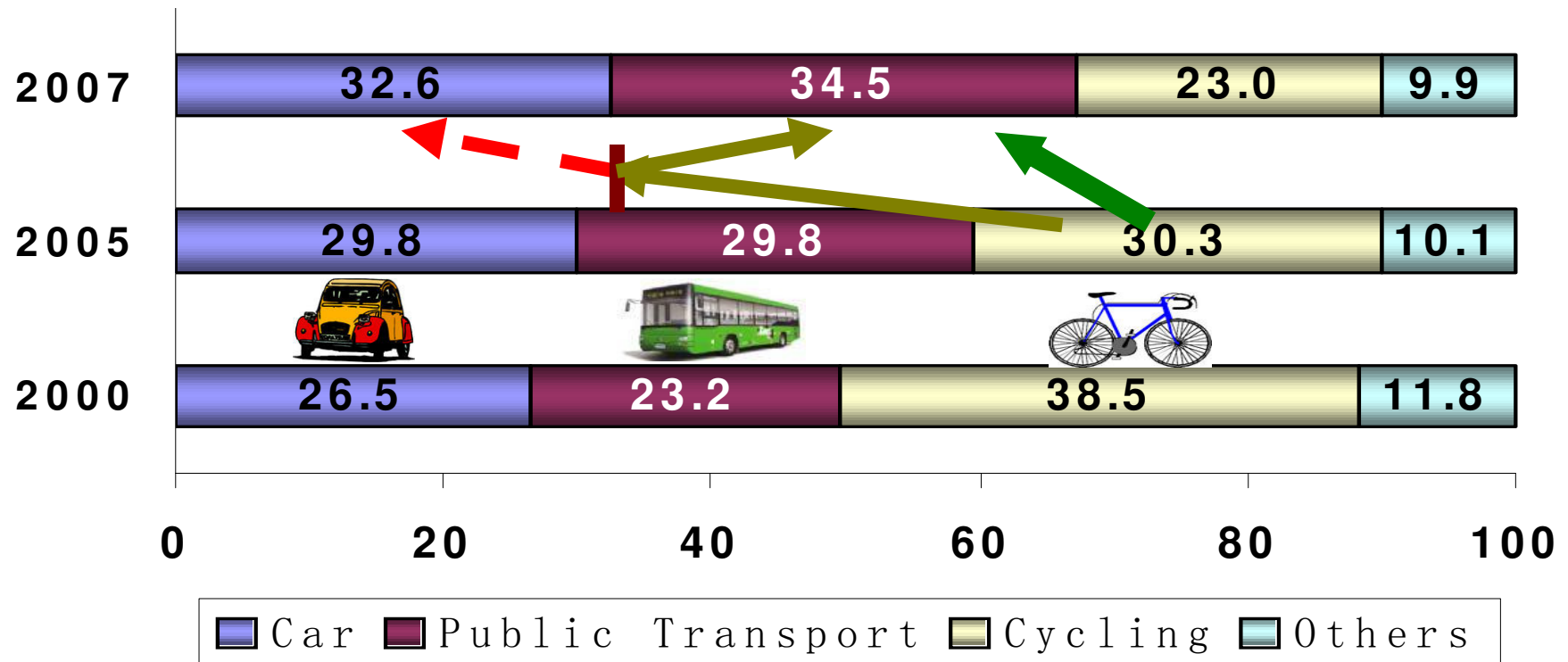
2.7. Travel Behavior

Modal Split in Changsha (%)



2.7. Travel Behavior

Modal Split in Beijing (%)

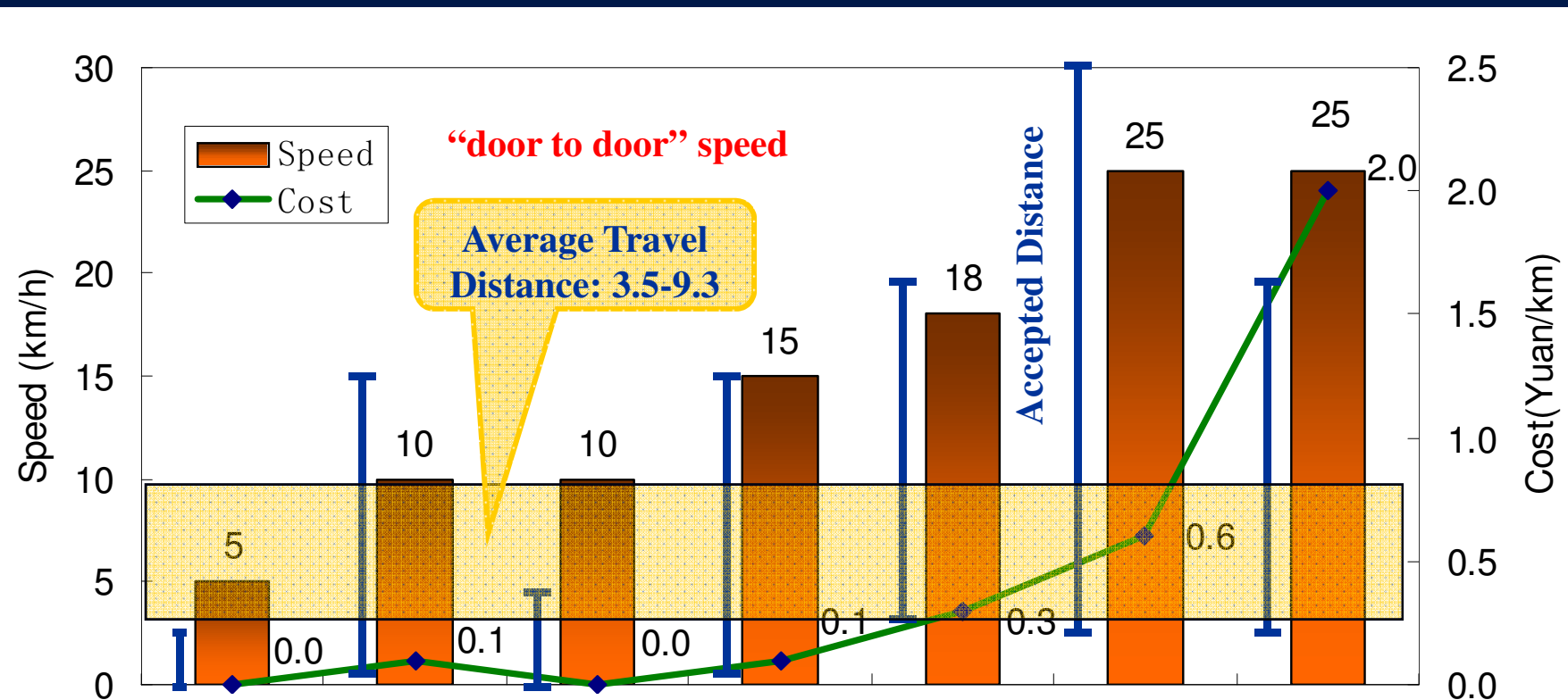


Speed
Cost
Comfort
Punctuality

Key Factors

Speed
Cost
Comfort
Punctuality

2.7. Travel Behavior



Benchmark 7: As people's living wages and incomes increase, we should encourage them, the most cost effective, environmentally friendly and ideal method of travel for most Chinese citizens is using bus transit or bicycle, not private car.

Survey from 10 Central cities, 2006-2007

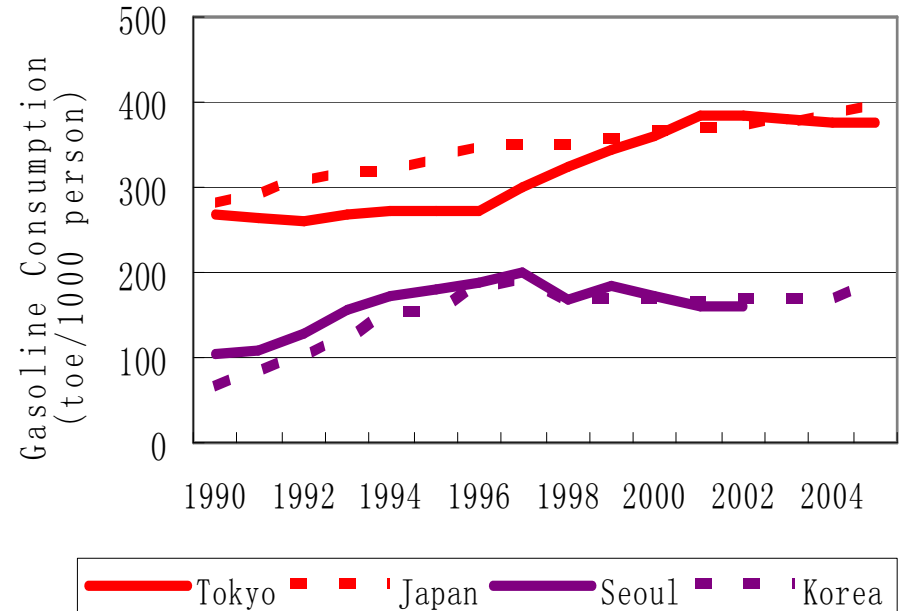
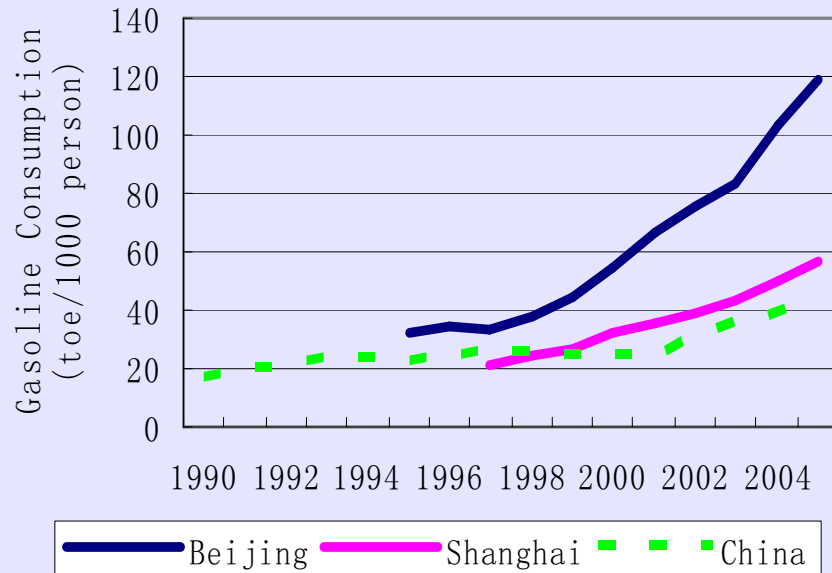
2.8. Affordability

Mode	Commuter Expenditure per Month (Yuan)	Percentage of Commuter Expenditure in disposable income (for urban resident)	Percentage of Commuter Expenditure in total income (for rural resident)
Walk	0	0%	0%
Bicycle	0	0%	0%
Bus	66	5%	14%
BRT	66	5%	14%
Rail Transit	132-264	8-17%	28-56%
Car	138-368	9-23%	29-77%
Taxi	462-1228	29%-78%	97%-258%

**8%:
International
Experience**

Benchmark 8: Affordability is a key factor in choosing modes of transport, the government should balance all factors to meet the various needs of all transport users (include urban and rural resident)

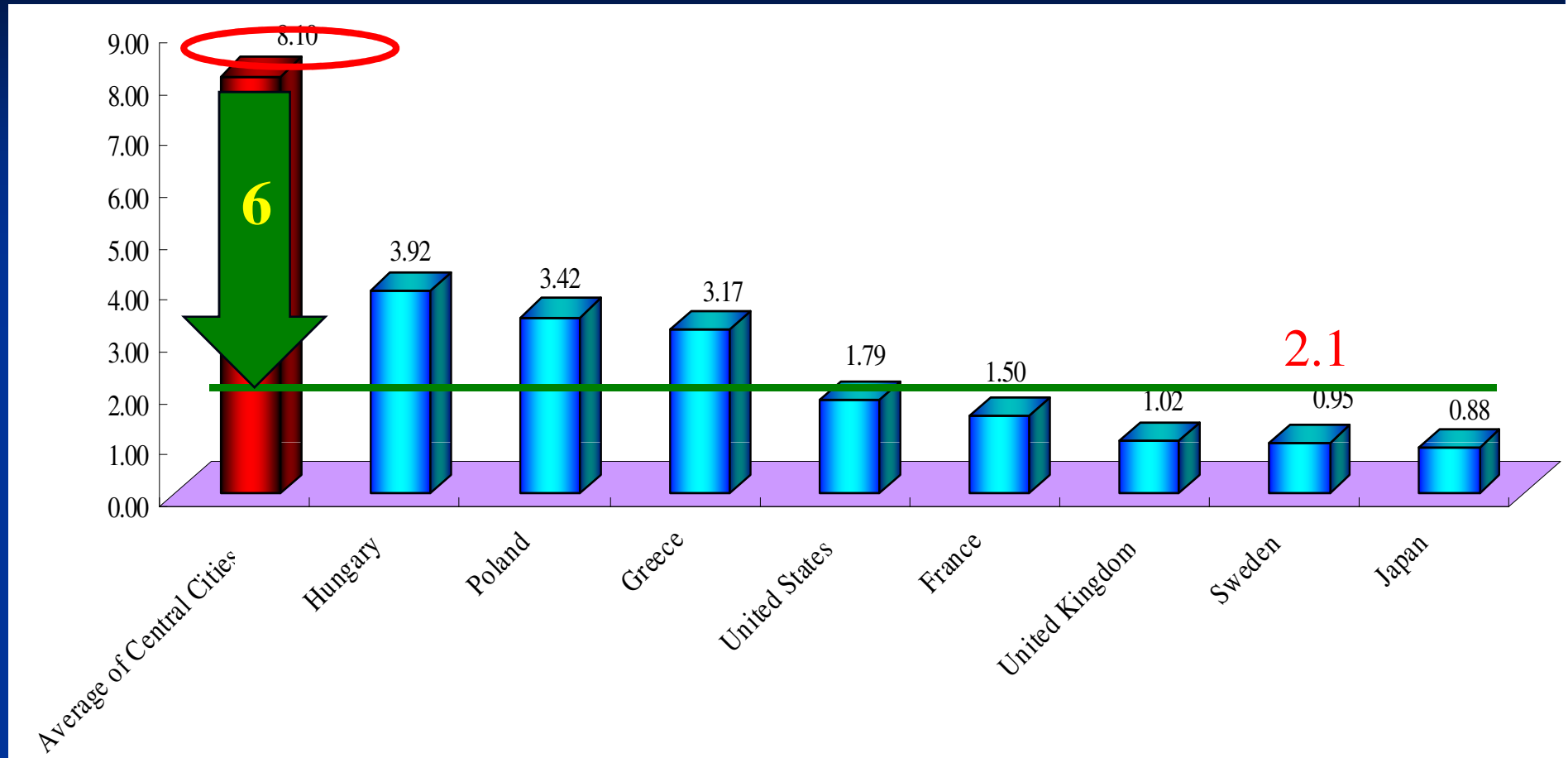
2.9. Energy Consumption



	Beijing	China	South Korea	Japan
Average Increasing rate from 2000-2005	14.9%	12.5%	2.6%	1.6%

Benchmark 9: Gasoline consumption per capita has entered into a high increasing stage in Chinese cities. However, Limited energy supply requires us to encourage the development of high energy-efficient transport systems

2.10. Traffic Safety



Benchmark 10: High traffic accidents require strengthening of traffic safety management to diminish mortality rates from 8.1 to 2.1.

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- **3. Conclusions**

3. Conclusions

- Recommendation for the future



3. Conclusions

- Too slow and too fast planning should be avoided.



Thank you for your
attention!

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