

绿色城市化，机动性与可持续发展

Green Urbanization, Mobility and Sustainable Development

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红色城市化→黑色城市化→绿色城市化

Red Black Green



中国城市道路



30年前如何改善城市交通讨论的 Suggestions 30 years ago

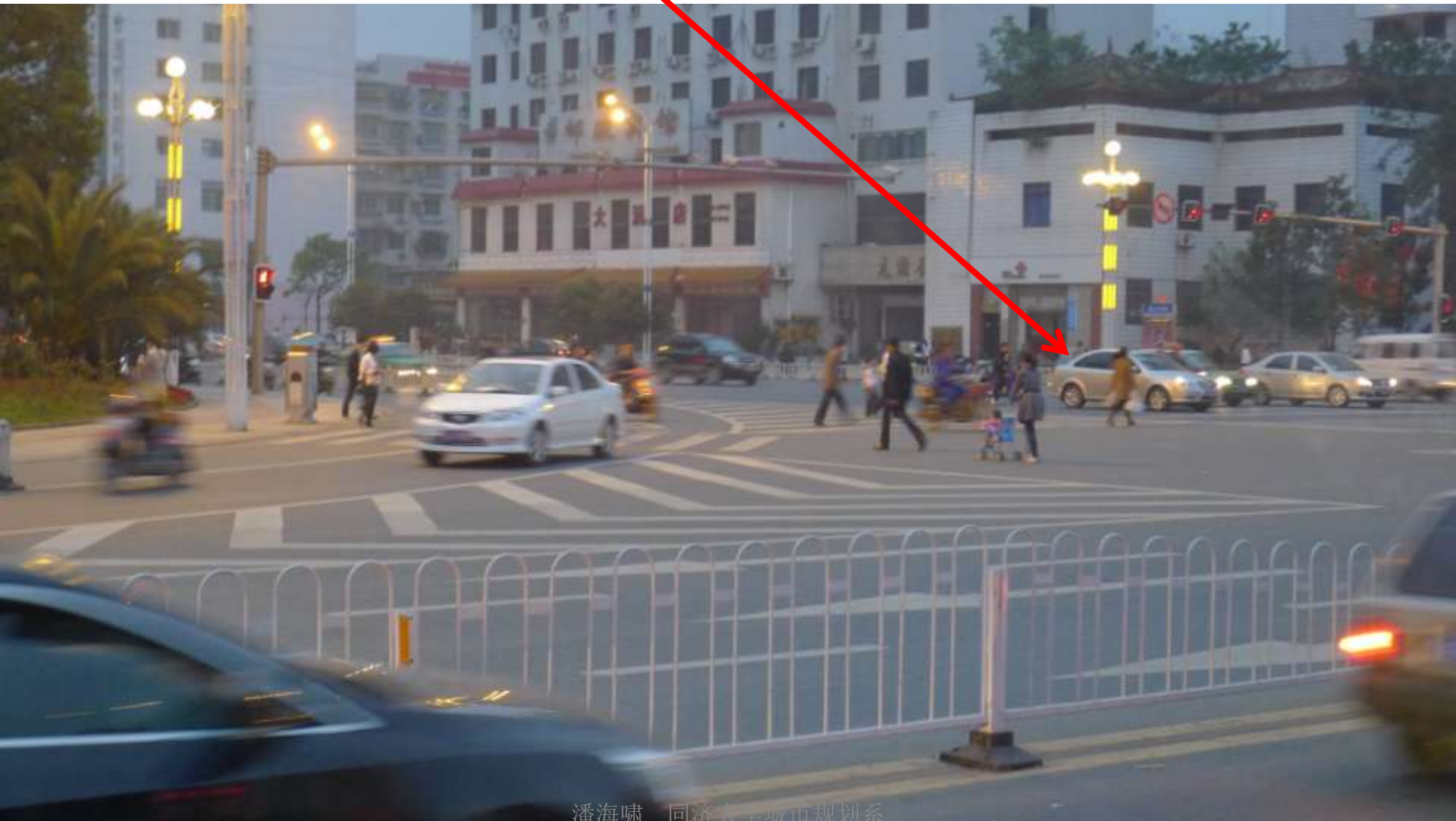
结论：

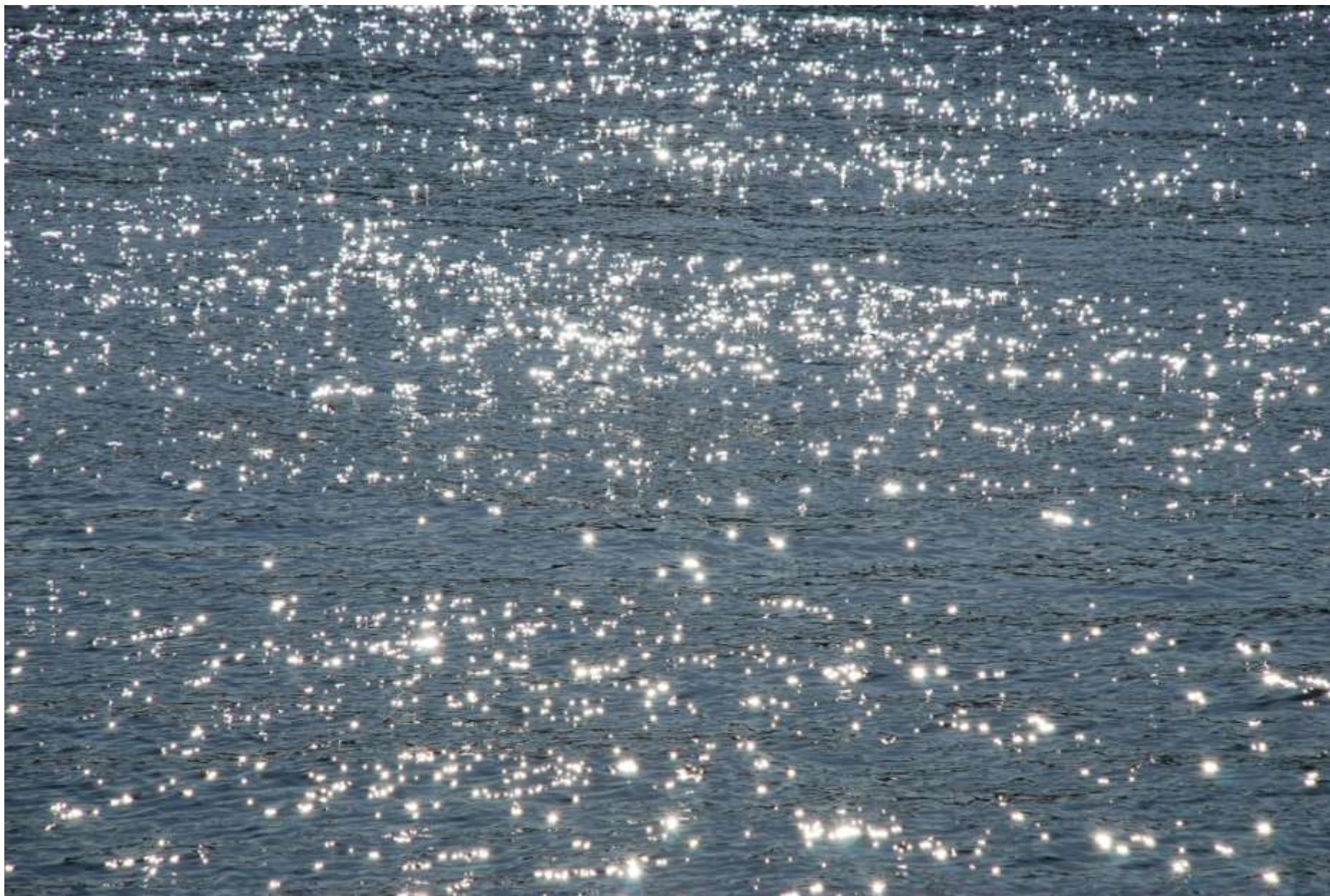
1. 限制自行车 less bike
2. 多建路 more roads
3. 发展公交, 地铁 more bus/metro
4. 交通信号灯改善 signal control
5. 控制城市人口规模, 工厂搬迁
control population, factory relocation

大块黑色的路面 useless pavement for more heating

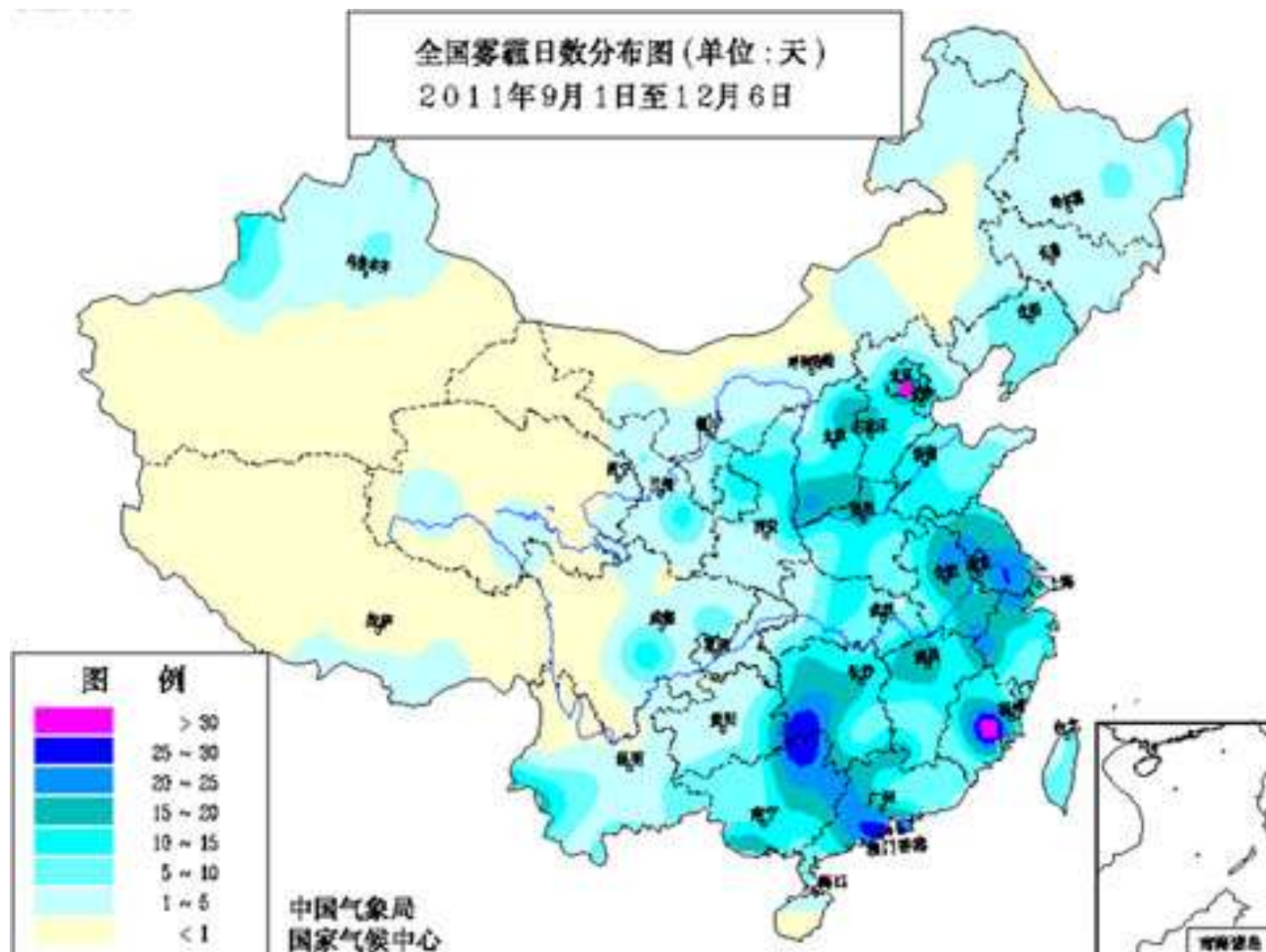


婴儿车 less child on street





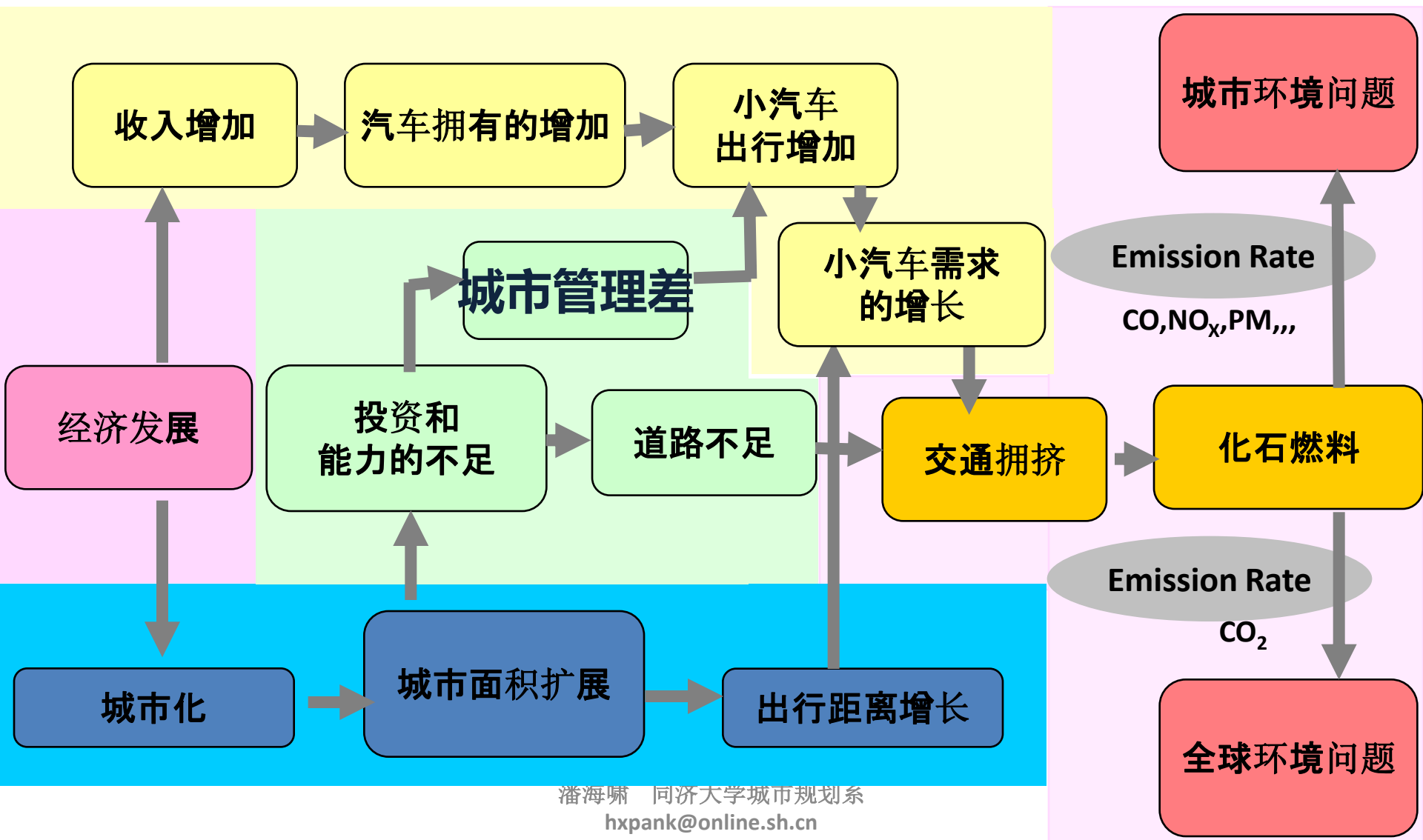
潘海啸，同济大学城市规划系， hxpank@online.sh.cn



PM 2.5 !

Motorization, Urban Sprawl and Envir. Problems

机动化，城市扩张和环境问题



小汽车的过度使用是我们规划设计和管理的结果

Car dependence by urban planning and design



畅通工程的短期效果---大连

当时

short effect of traffic smooth projects



三年后





新区建设，屋大，路宽， 树绿， 天蓝



上海某新城：20条公交线路



苏黎世：42条公交线路



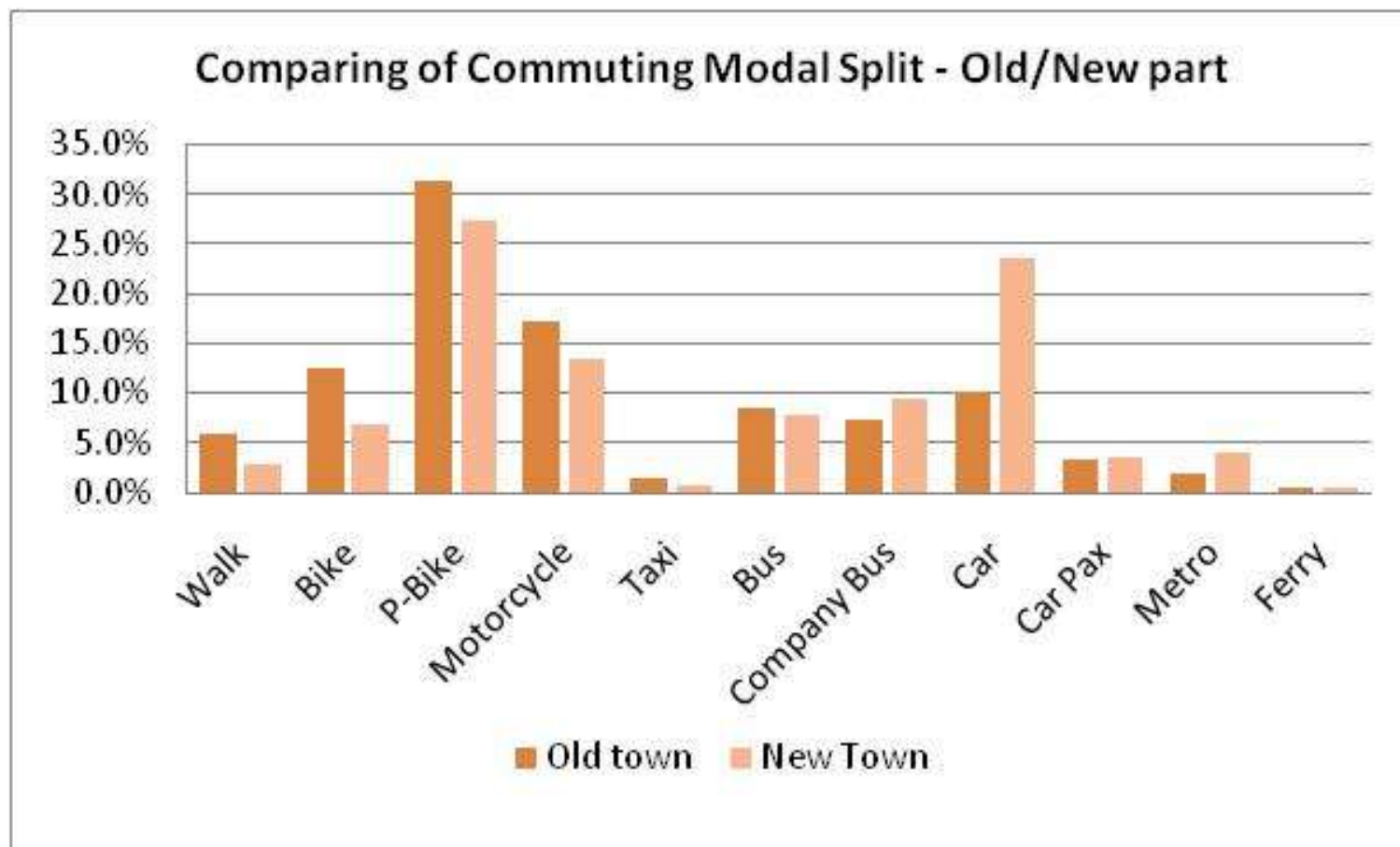
上海某新城：0条电车线路



苏黎世：11条电车线路

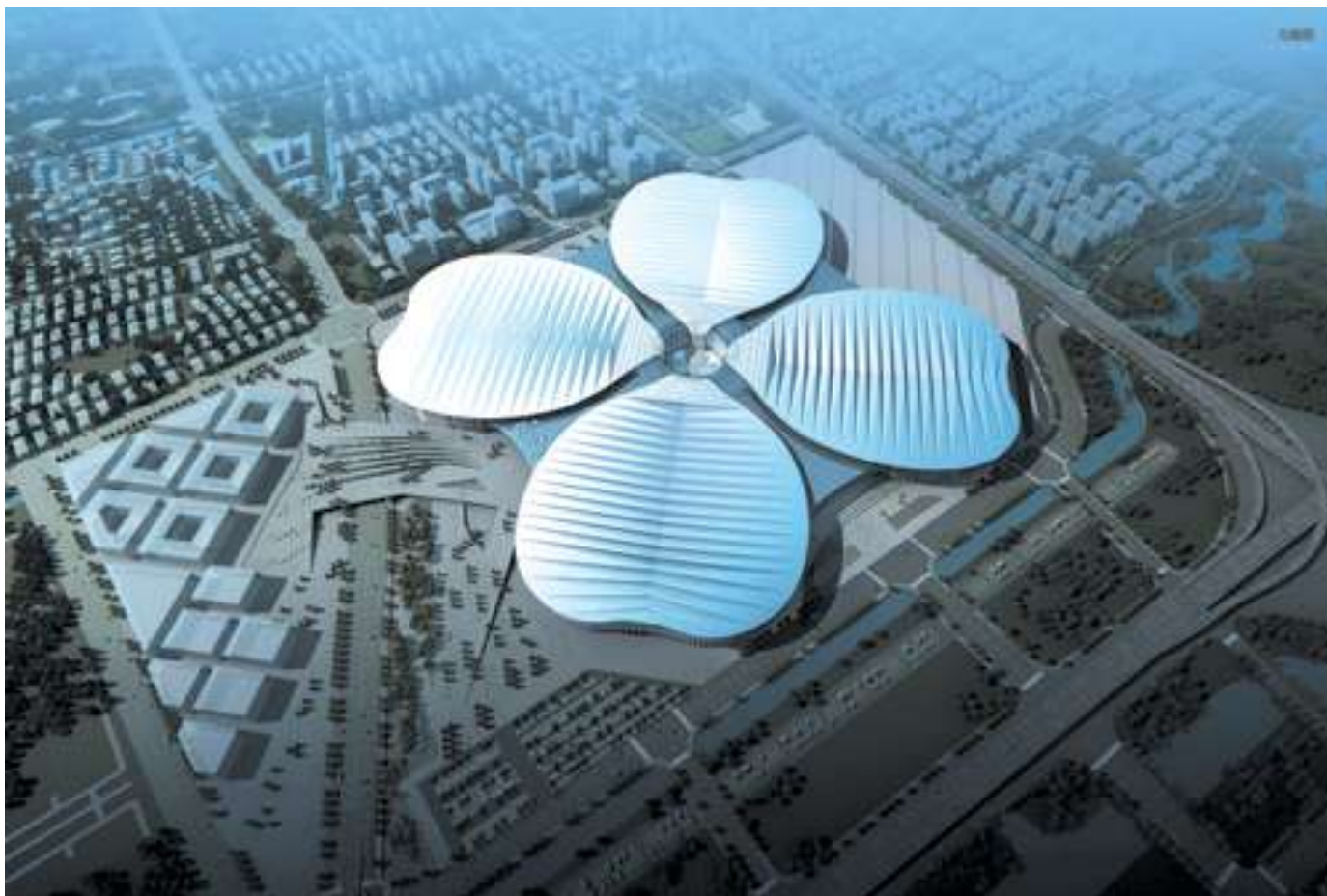
人少，车多，味乏

Less People, More Car and Less Attractive



上海松江老城和新城的比较





项目目标——世界上**最具规模、最具水平、最具竞争力**会展综合体

室内有效展示面积达**40万**平方米，室外有效展示面积**10万**平方米

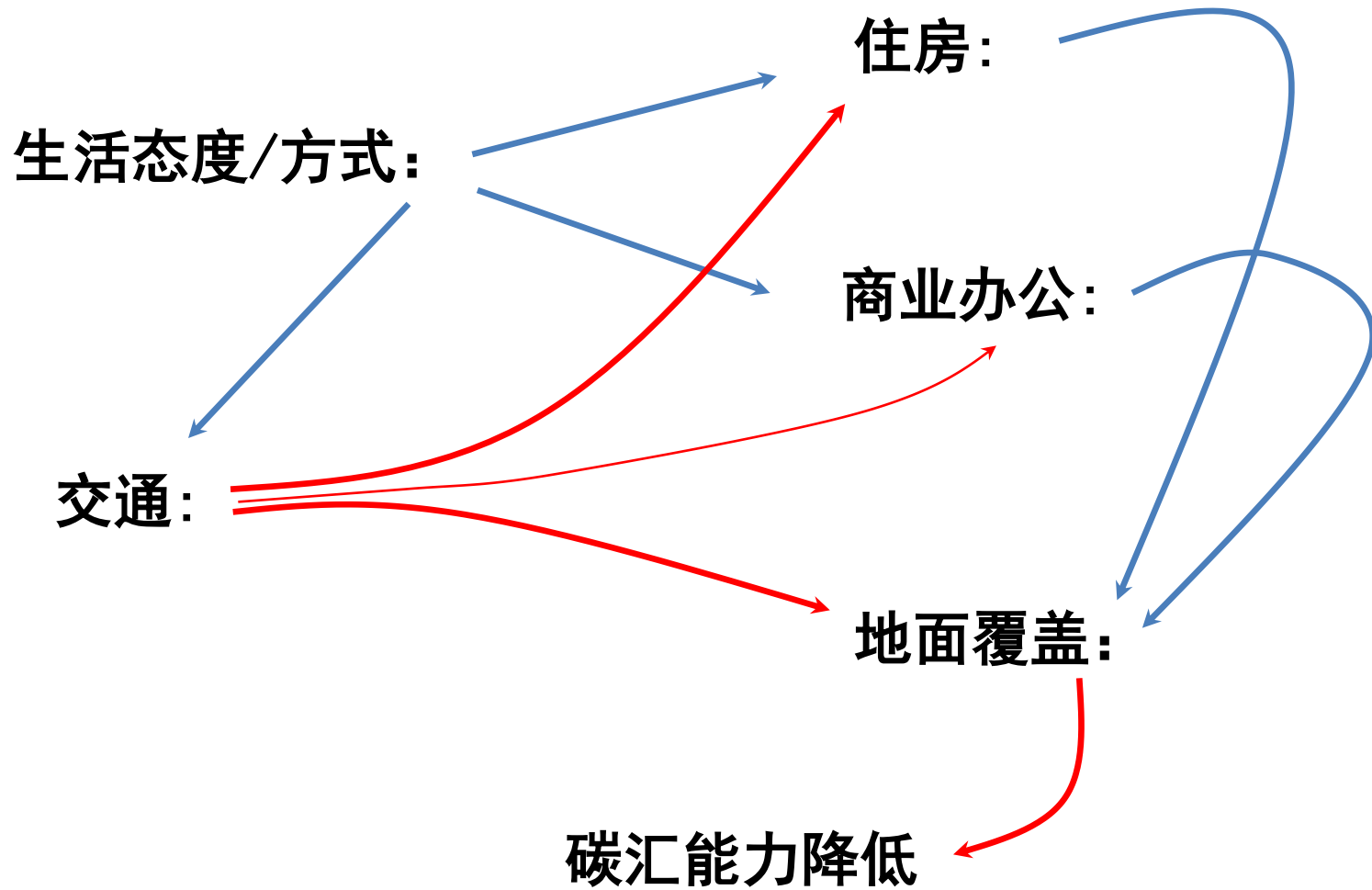


智慧城市的三个基本度量 Smart City

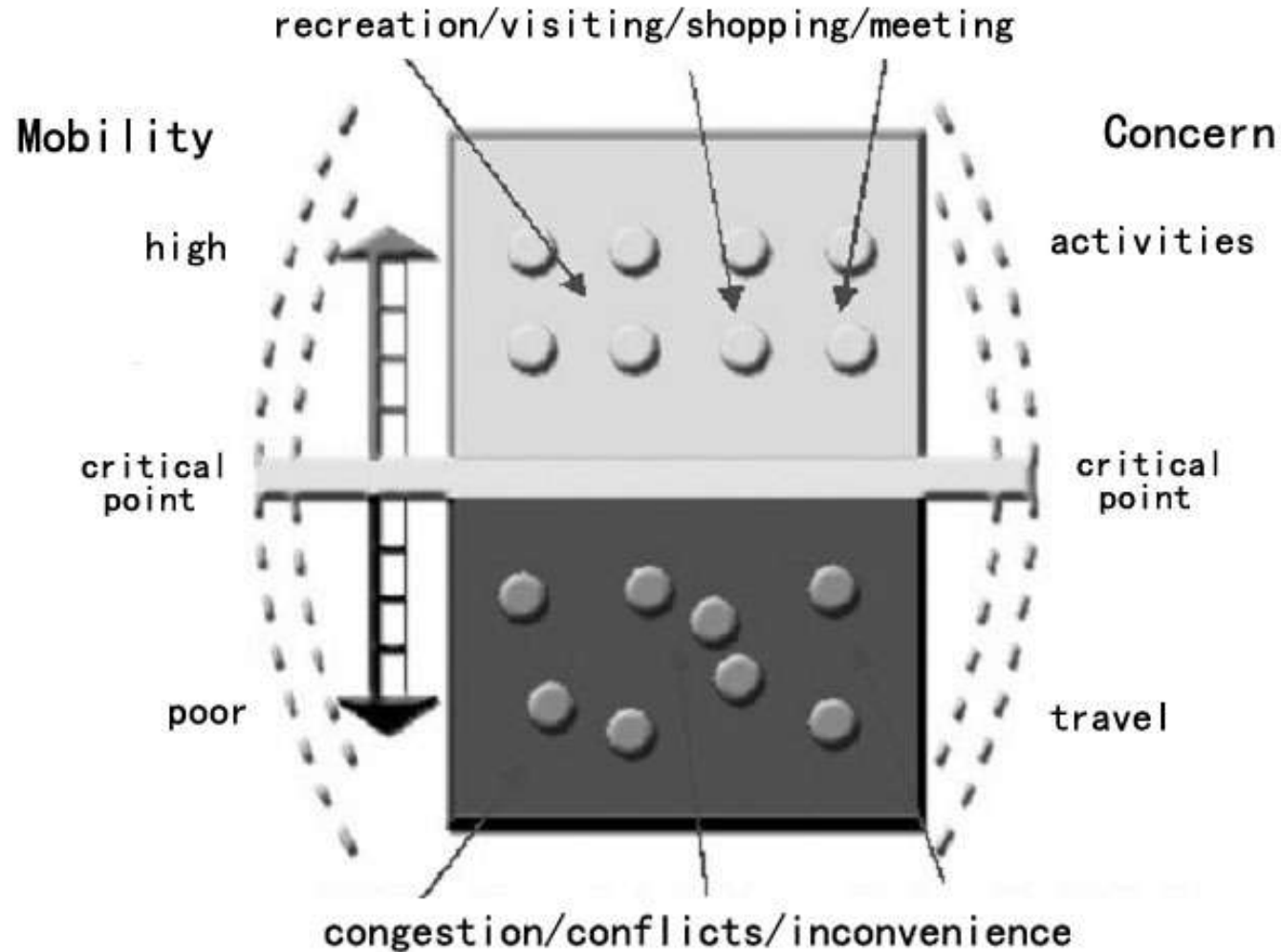
能量 Less Energy

热量 Less heating

重量 Less weight



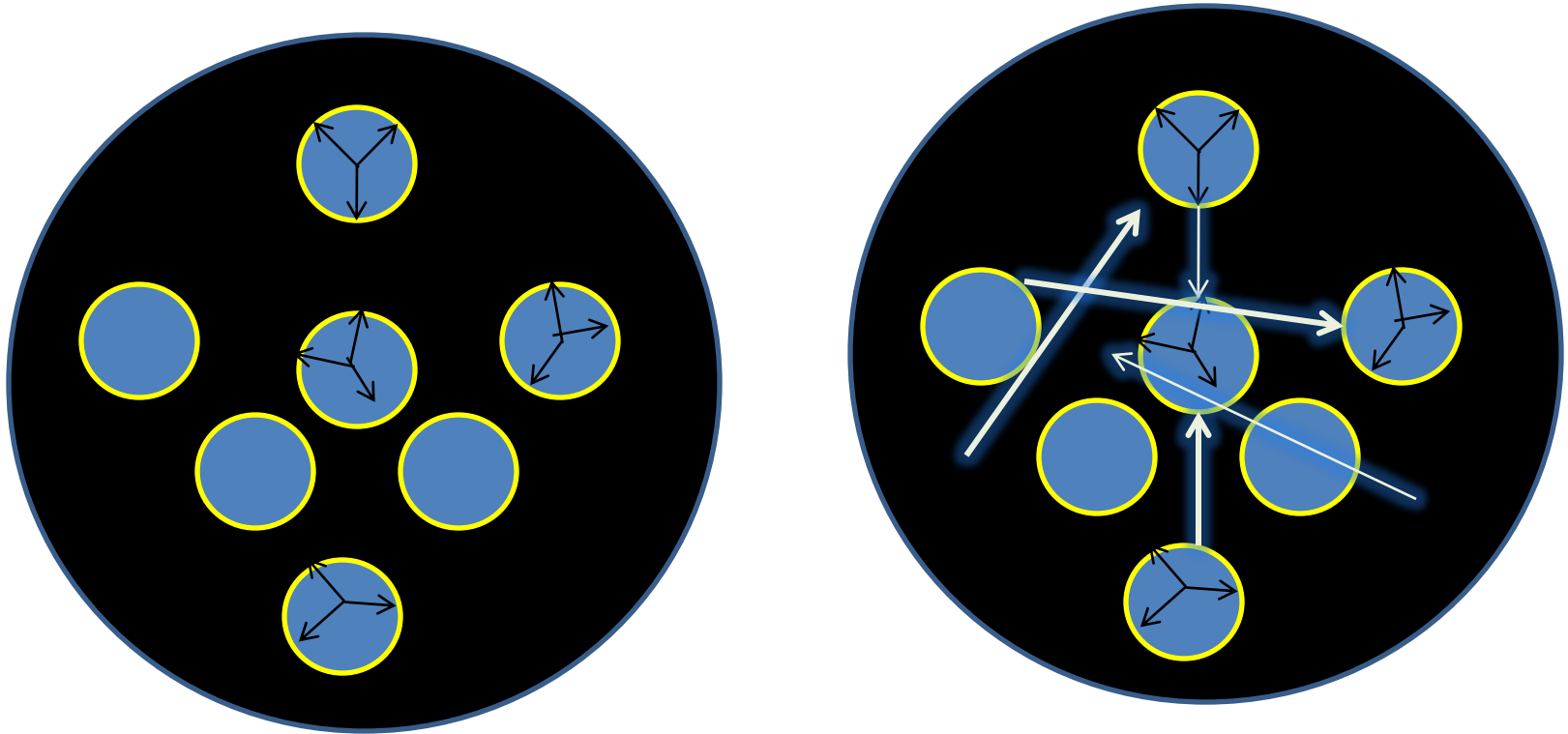
Critical Point of Mobility and Activity



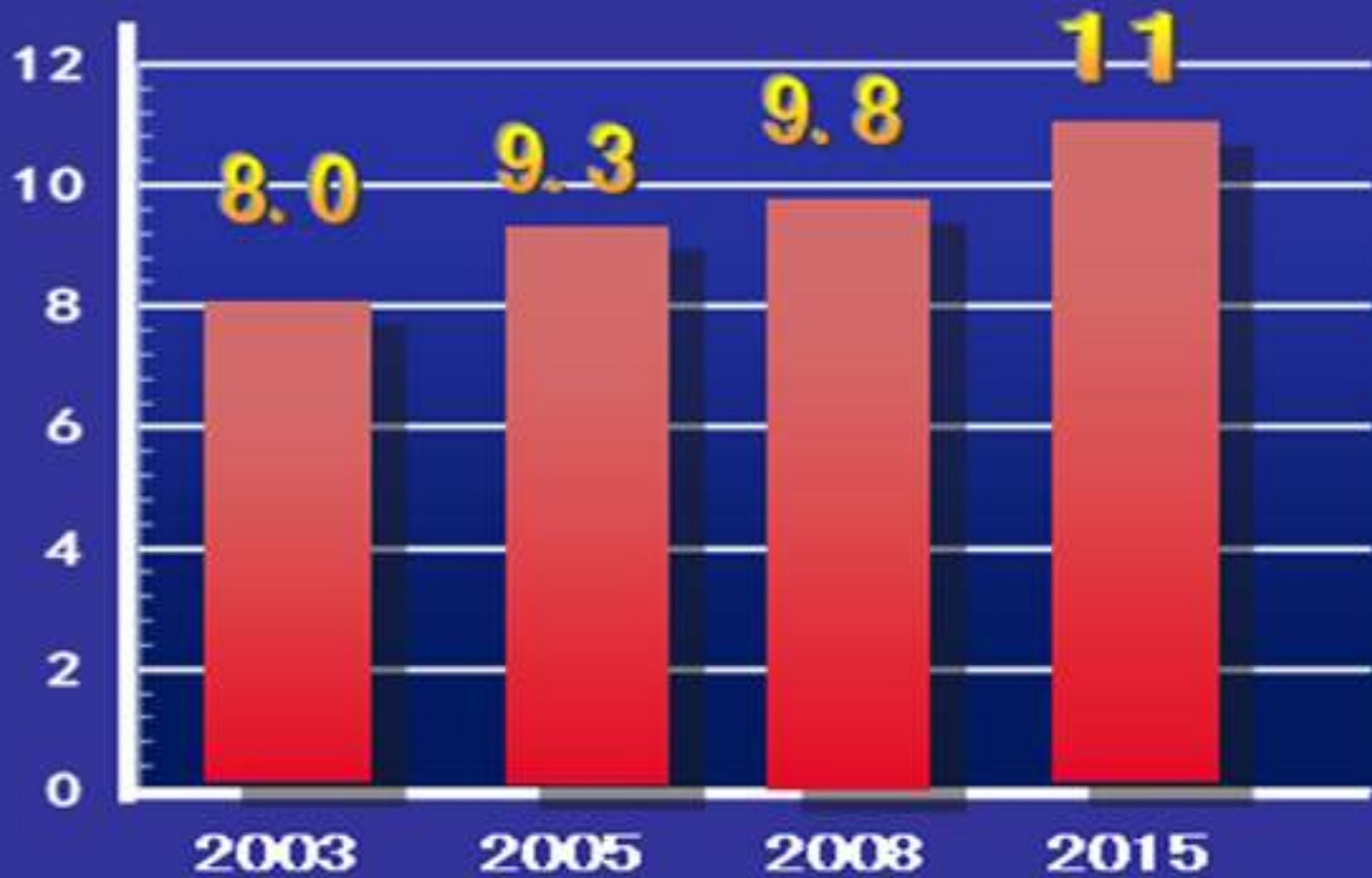
Transport infrastructure also has the function of catalyst
induce new socio-economic activities.

交通和机动性是社会发展变化的触媒

Major cities used to be heavily depend on foot and bicycle , basic services and facilities was allocated near by, but not more choice.

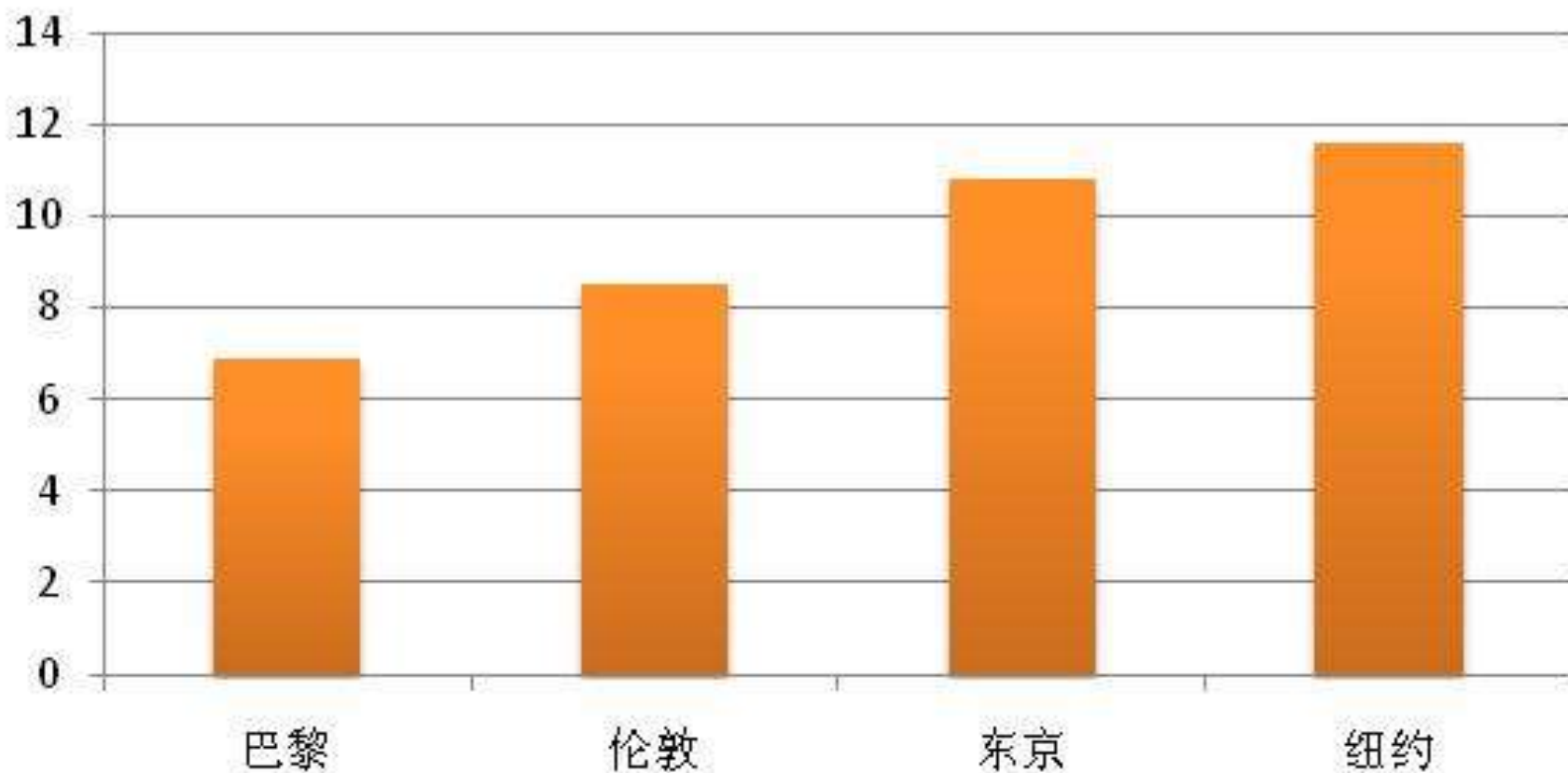


出行距离(单位: 公里)



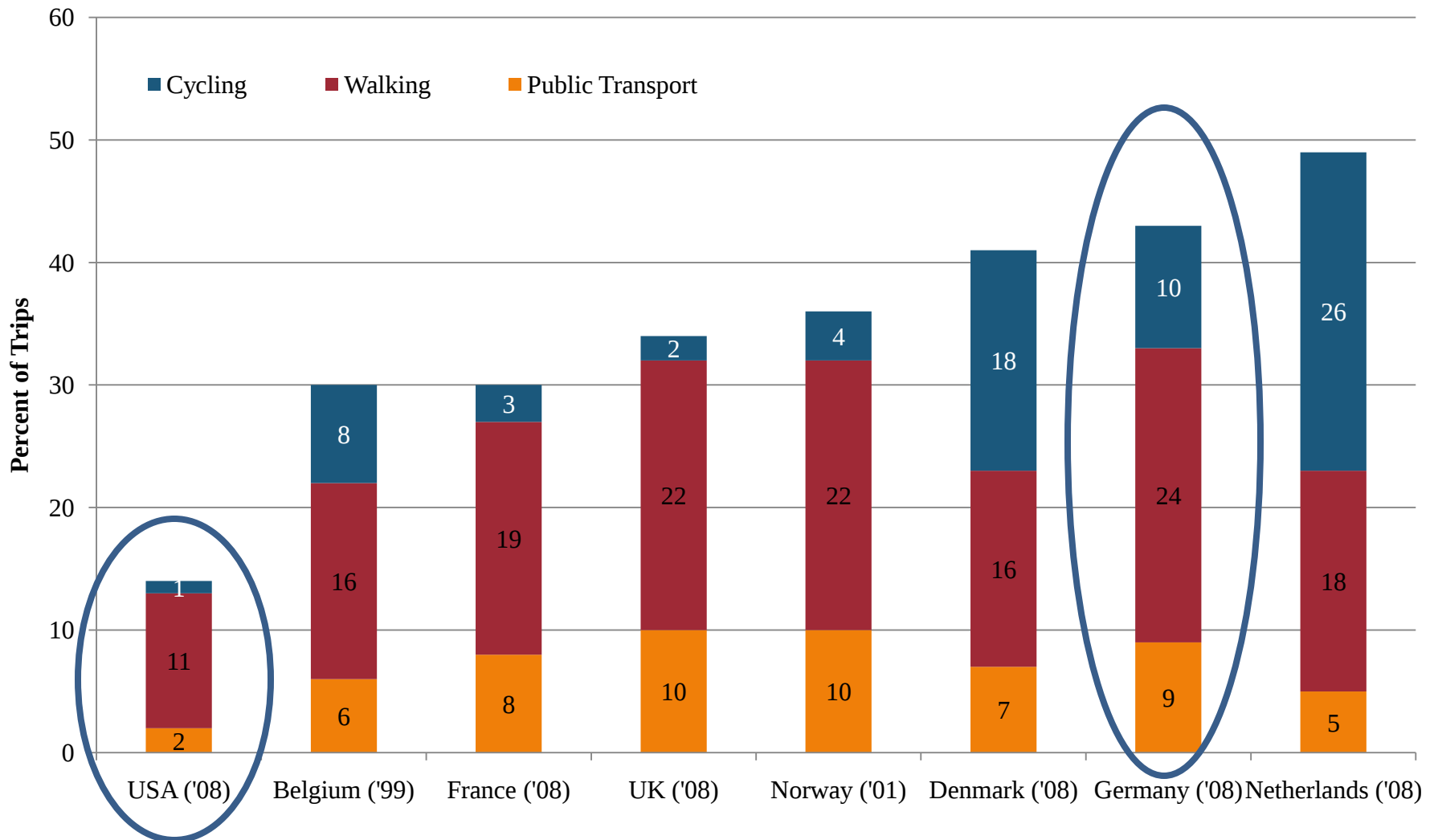
北京居民出行距离, (北京交通中心) **Average travel distance**

平均出行距离 (KM)



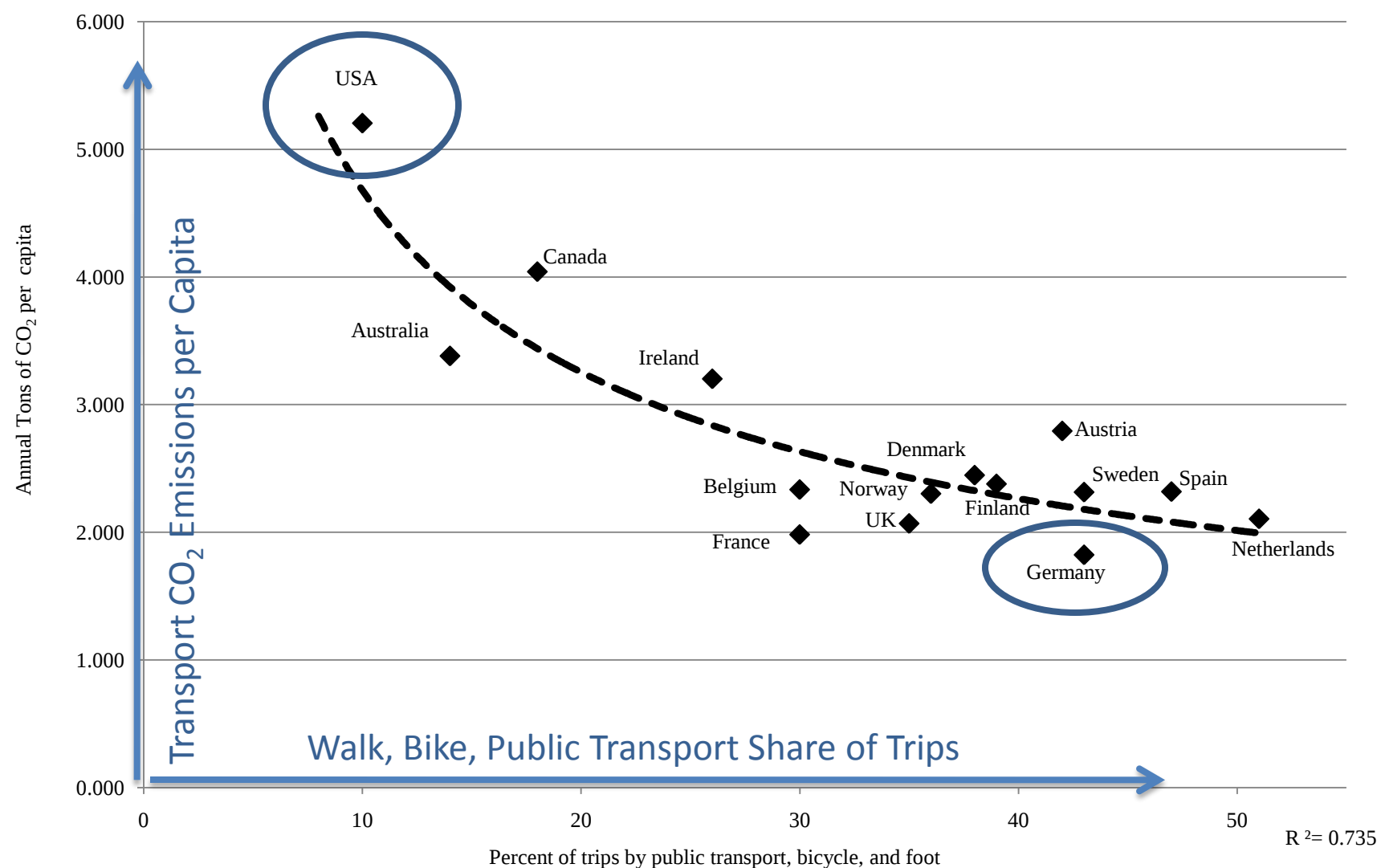
Average Commuting Travel Distance in Paris, London, Tokyo, New York

Walking, Cycling, and Public Transport Share of Trips in Europe and USA 1999– 2008



Source: Data collected by author from recent national travel surveys.

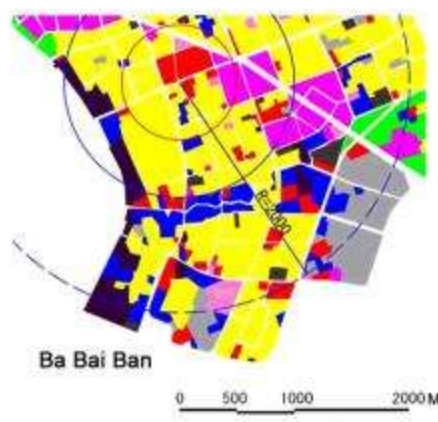
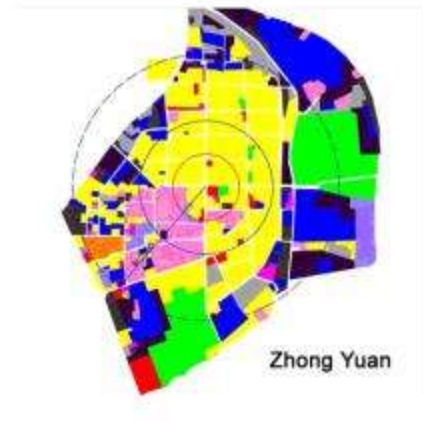
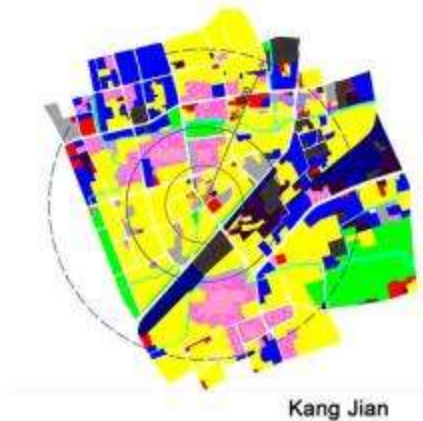
Walking, Cycling, and Public Transport Contribute to Reduced CO₂ Emissions Per Capita



Source: Buehler, R., Pucher, J. 2011. "Sustainable Transport in Germany: Lessons from Germany's Environmental Capital," International Journal of Sustainable Transportation, Vol. 5, 49-50.

Mixture of Land Use 土地使用的混合

Urban Form Characteristics in the Land Use Configurations and Street Network



Sample Modal Shares in Four Selected Neighborhoods

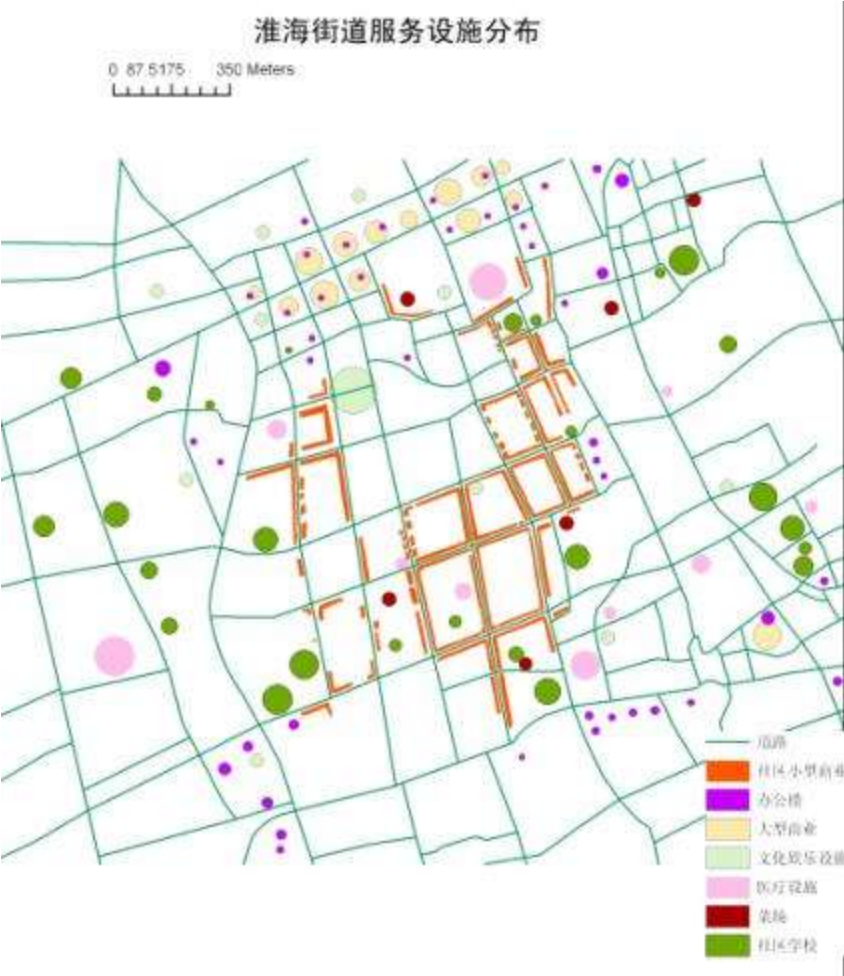
	Kang Jian (康健)		Lu Wan (卢湾)		Zhong Yuan (中原)		Ba Bai Ban (八百伴)	
Mode	Counts	%	Counts	%	Counts	%	Counts	%
Non-Motorized 非机动车	166	36.97	399	71.51	344	53.17	69	42.33
Transit公交	225	50.11	121	21.68	265	40.96	74	45.40
Driving开车	58	12.92	38	6.81	38	5.87	20	12.27
Total	449	100	558	100	647	100	163	100

Non-Motorized Modes: Walk, Bicycle, E-Bike

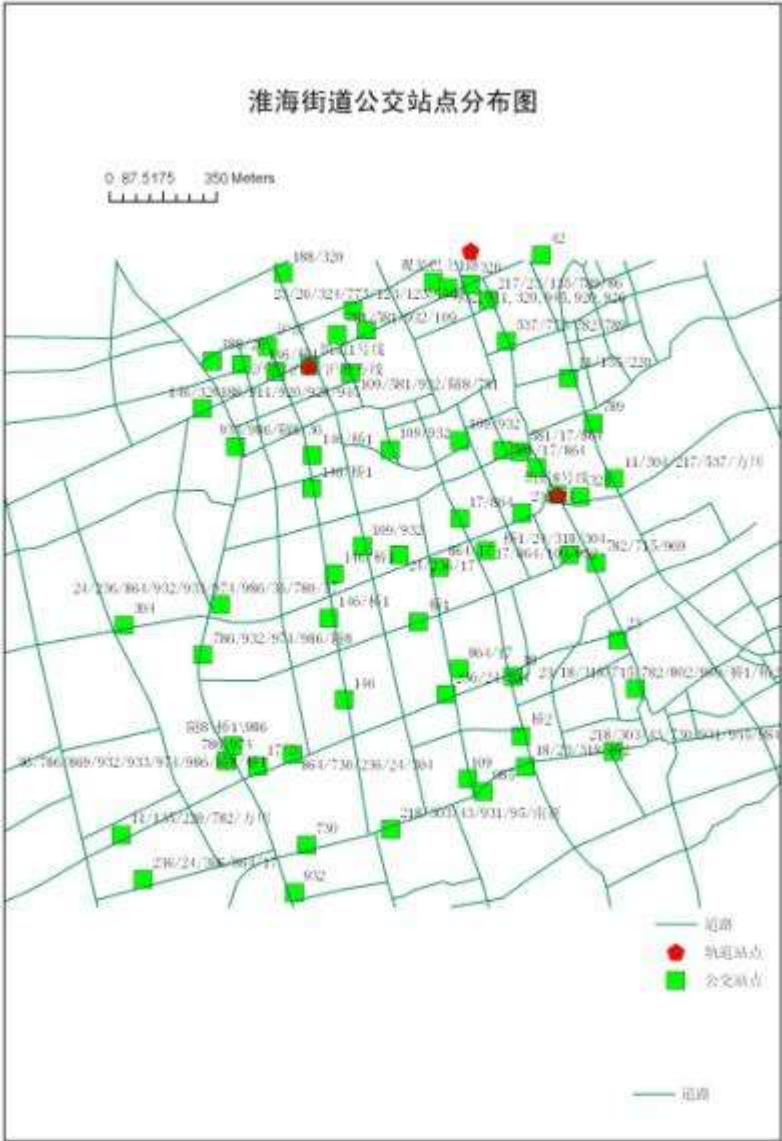
Transit: Bus, Metro

Driving: Motorcycle, Taxi, Car

Land Use



Transport



Commuting Modal Choice for Green Transport

Variable	B	Sig.	Exp (B)
Sex	-0.984	0	0.374
Income	-0.299	0	0.741
Bike	0.659	0	1.934
Car	-2.138	0	0.118
P-Bike	-1.815	0	0.163
Bus	-0.004	0.738	0.996
Metro	0.514	0.064	1.672
Office	0.13	0.016	1.139
Constant	3.67	0	39.237

Normal Bus not significant 常规公交没有作用

Office significant 土地使用的混合作用很大

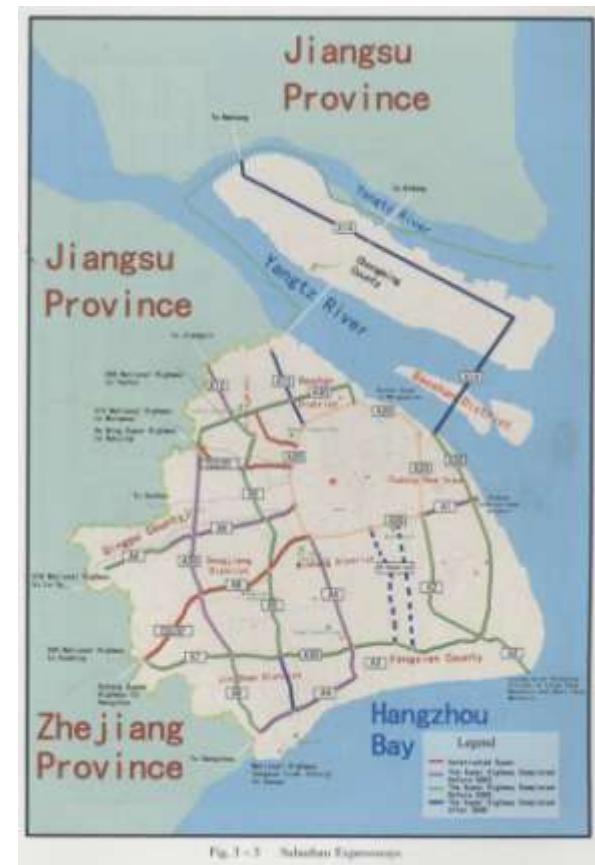
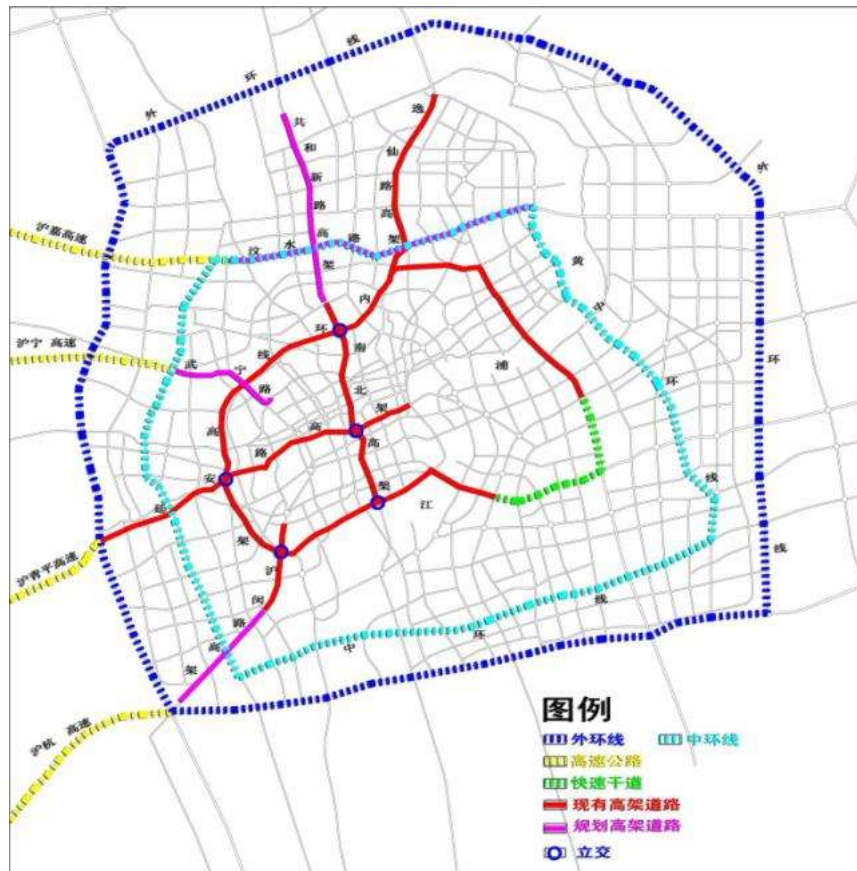
Key city factors: Car ownership in Beijing and Shanghai

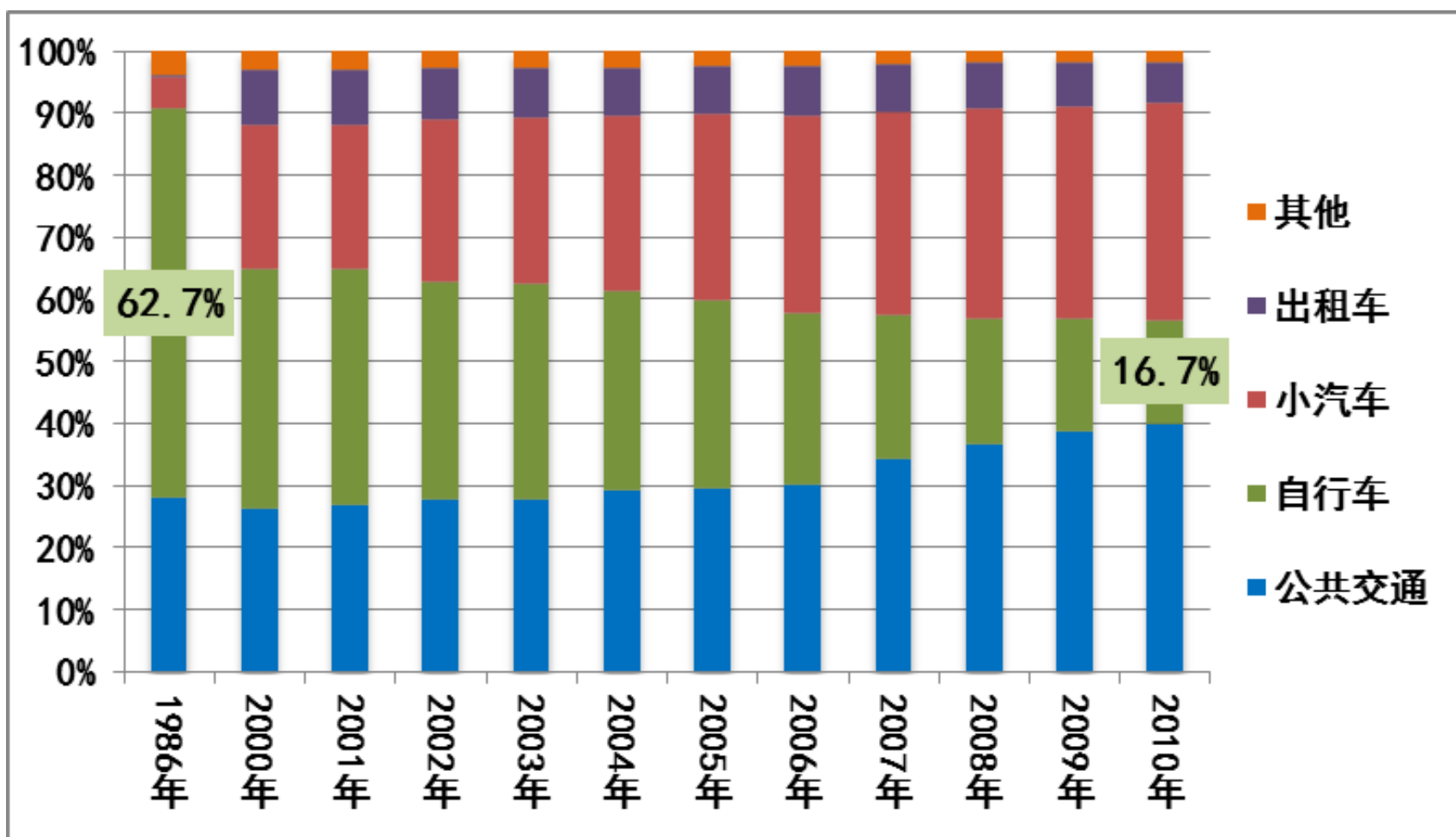
Population : Shanghai > Beijing
Income : Shanghai > Beijing
Urban Area: Beijing > Shanghai



Lasted for eight years, Shanghai has finally built a “申” shaped system of elevated motorway . It take ten years for Shanghai to complete the out-ring road with a total length of 99 km. Recently the middle ring

上海“申”字型快速路，“三纵三横”，“井字”型通道





北京交通结构的变化

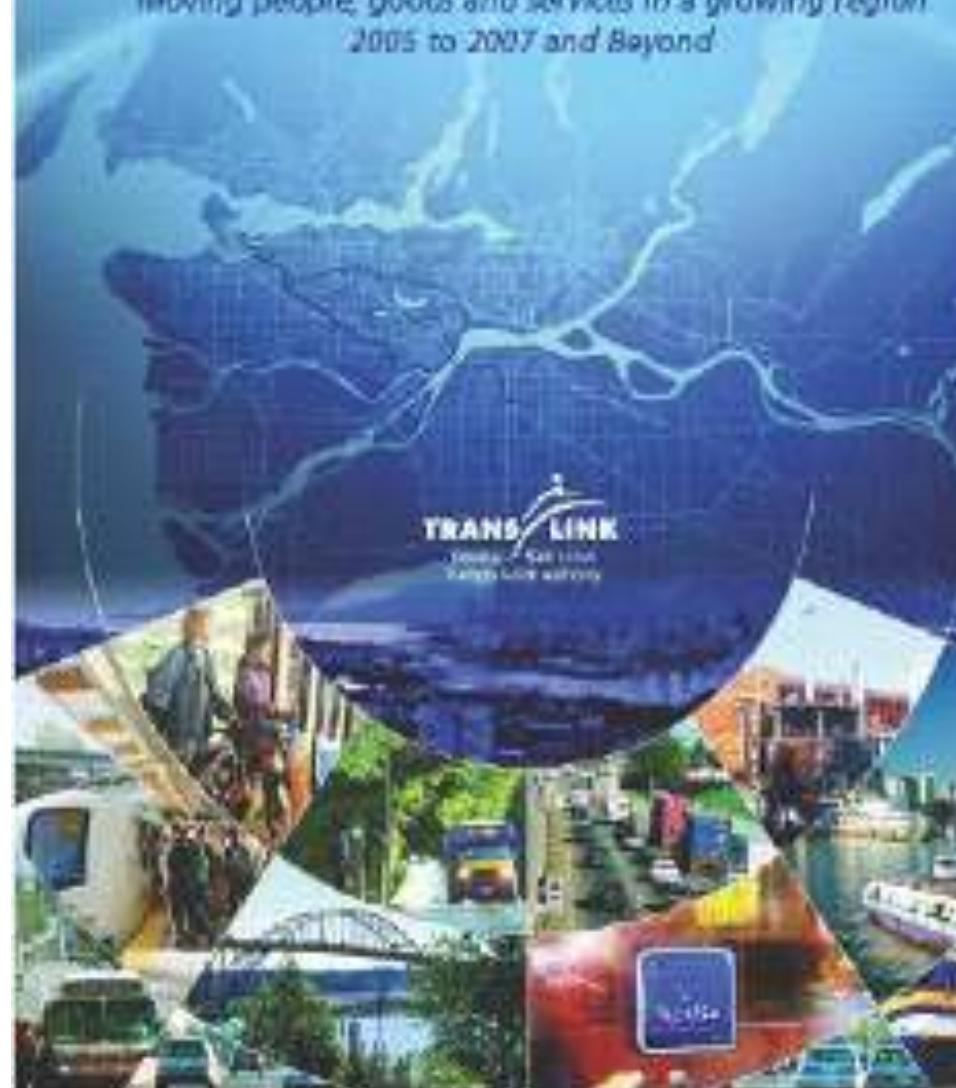


The city of Vancouver plan TRANSPORTATION

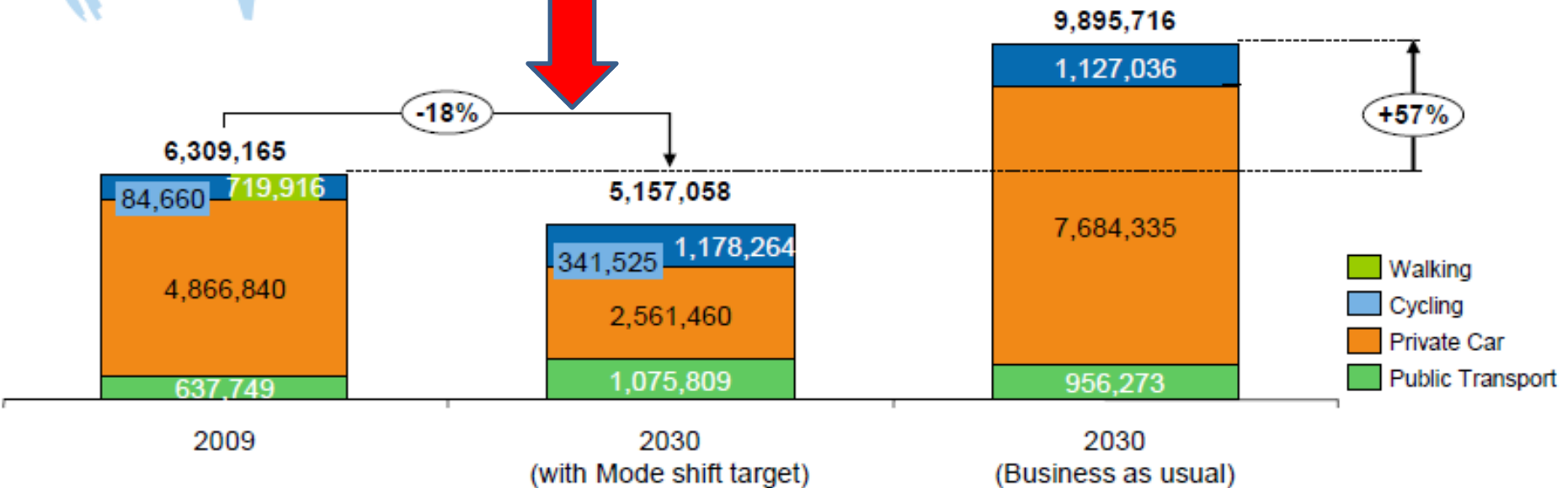
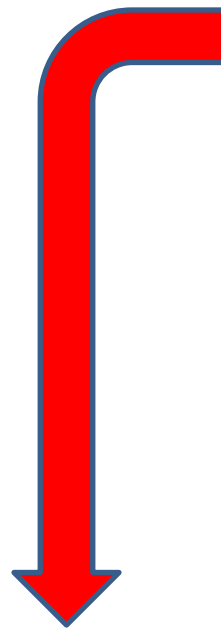


KEEPING GREATER VANCOUVER MOVING

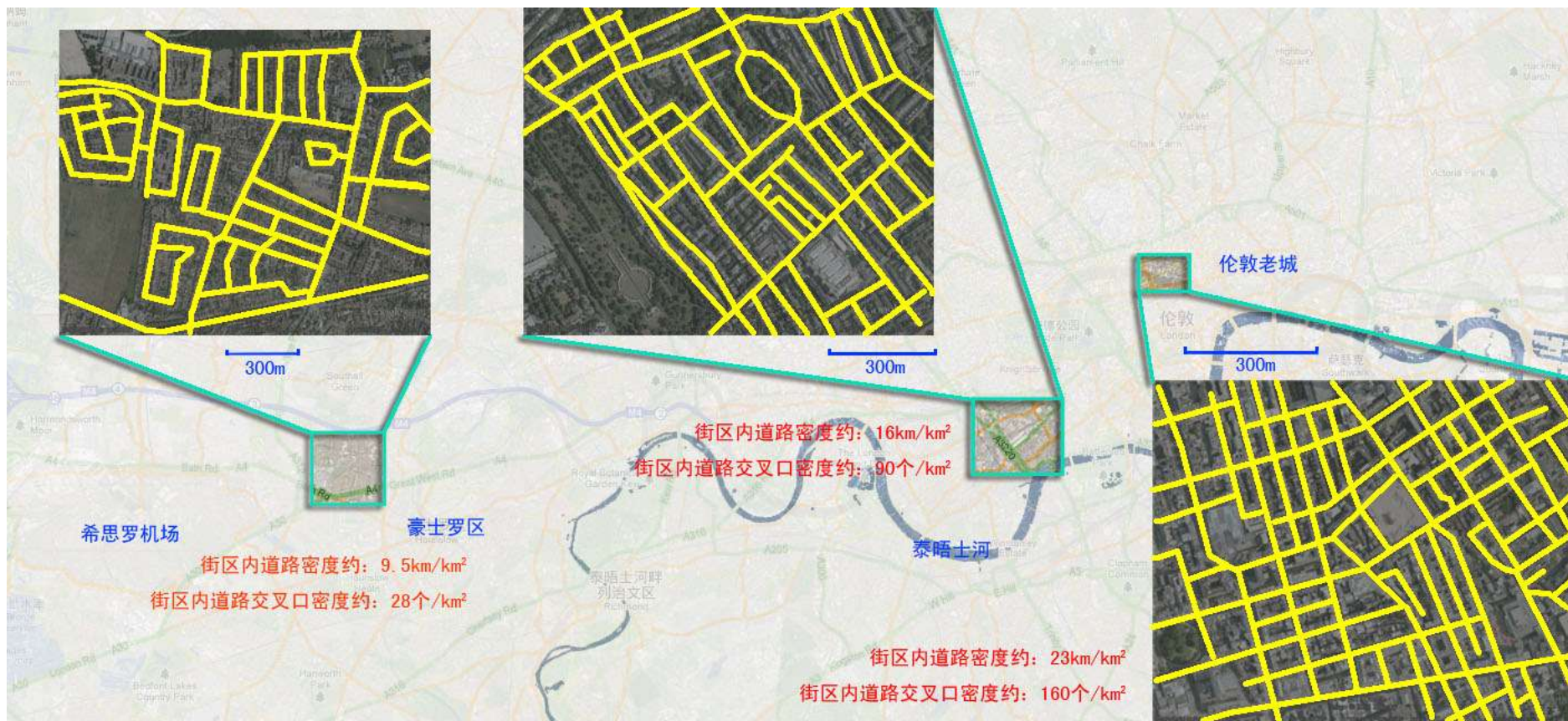
*Moving people, goods and services in a growing region
2005 to 2007 and Beyond*



我们到底需要多少基础设施，
房屋， 道路， ? 墨尔本的
研究可以减少 18% 或者增
加57% ， 有75%的差别



小街区设计



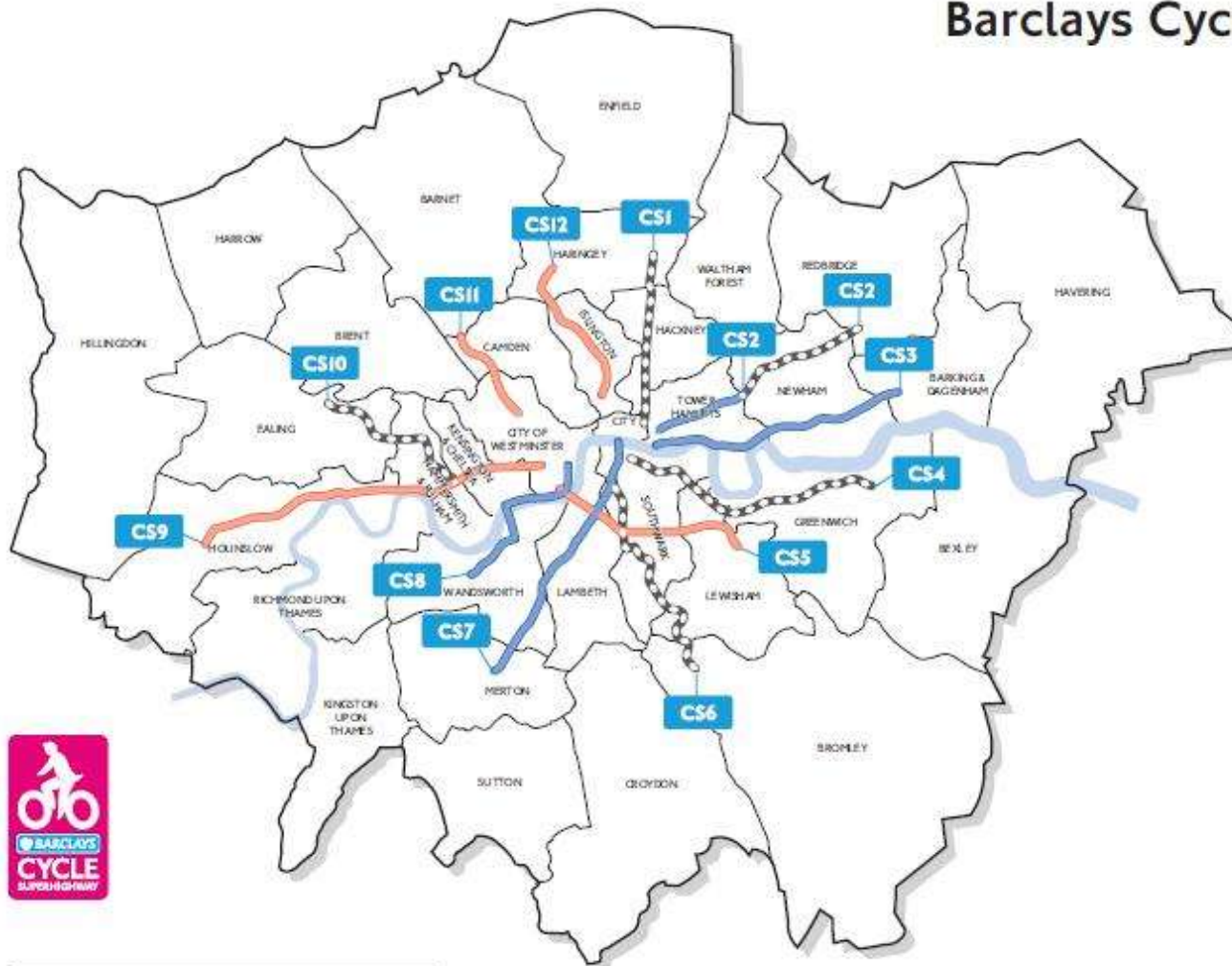
伦敦



Image © 2012 Bluesky

Barclays Cycle Superhighways

Indicative Routes Map



- CS1** Tottenham to City (A10)
- CS2** Bow to Aldgate (A11)
Ilford to Bow (A118-A11)
- CS3** Barking to Tower Gateway (A13)
- CS4** Woolwich to London Bridge (A206 - A200)
- CS5** Lewisham to Victoria (A20-A202)
- CS6** Penge to City (Borough roads)
- CS7** Merton to City (A24-A3)
- CS8** Wandsworth to Westminster (A3205-A3216-A3212)
- CS9** Hounslow to Hyde Park (Borough roads)
- CS10** Park Royal to Hyde Park (A40-borough roads)
- CS11** West Hampstead to Marylebone (A41)
- CS12** Muswell Hill to Angel (A1)

0 2 4 6 8 10 Kilometres





中国城市交通与土地使用的新模式

Land Use/Transport New Model in China

POD>BOD>TOD>XOD>COD

三小

1. 小路网
2. 小单元
3. 少车位

二短

1. 短生活圈
2. 短工作圈

一优先

1. 公共交通走廊优先

三变

1. 交通方式的转变
2. 生活方式的转变，健康有活力的生活方式
3. 生产方式转变

一个行动

政府部门的行动





结语

今天，城市交通领域研究的一个根本性的转变就是从强调小汽车畅通的“以车为本”转向以提高人们机动性的和交通出行“及时性”的“以人为本”。

我国正处于城市空间结构和新交通体系建立的关键时期，绿色城市化的实现需要整体的技术和策略